APPLICATION OF

SCHEDULING PROGRAM

TO

DATA AND CONFIGURATION MANAGEMENT

DELIVERABLES

Prepared by

WILKINS ENTERPRISE INC.

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It was produced for Newport News Shipbuilding Co.. by Wilkins Enterprise Inc. (WEI) under the sponsorship of Panel SP-4, Design/Production Integration of the Society of Naval Architects and Marine Engineers. WEI was represented on the panel by Dr. James E Wilkins Jr.

The content of this report was developed by Dr. Wilkins, as an extension of work that had been done earlier for Ingalls Shipbuilding Division of Litton Industries and reported in NSRP Report 0293. The original intent of this effort was to add Configuration Data to the program that had already been developed and to provide an operating manual to provide instructions on how to use the relational data base program that had been developed in that earlier work. In addition to adding ILS elements into the items that are scheduled and tracked the computer programs were completely rewritten to bring them up to current data base language conventions. This document provides the explanations for using the program. No attempt has been made herein to repeat the material in NSRP Report 0293 that describes the logic behind the program.

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TABLE OF CONTENTS

TABLE OF CONTENTS continued

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1. INTRODUCTION

1.1 GENERAL

1.1.1 BACKGROUND

NSRP Report 0293[1] describes the development of a computer program that provides a shipyard with integrated schedules for developing the drawings and for ordering the equipment necessary for a shipbuilding program. The program integrates these schedules with one another and with the block erection schedule that controls the construction process. This document describes how to use the application program to generate each required schedule.

"Integrated" means not only that the schedules which are generated by the program take into account all of the interrelationships between the several steps involved in the drawing development process and the many steps involved in the equipment procurement process, but also means that these schedules ensure that the appropriate drawings, equipment inforrnation and equipment are available inadequate time to support each element in the construction planning and implementation process.

The program can also be used to produce the schedule for constructing and erecting blocks, if that data is not available through other means for entry into the program.

1.2 PROGRAM ELEMENTS/MANAGEMENT

1.2.1 GENERAL

The computer program is a Relational Data Base Application program, using R:Base 4.5. There are a total of twelve individual data bases utilized for storing data of various types. Since each data base can be visualized as a Table, containing rows and columns of related information, the term Table wilI be used throughout this document to refer to a database. There are three different levels of operatio,or types of operators, of this application.

1.2.2 SYSTEM MANAGEMENT LEVEL

The first is the top level manager, who controls the overall operation of the System who will be identified herein as the System Manager. This person is the onl;y person who needs to know anything about R.Base and R:Base programming. One of the Tables contains only the name of the ship program and its contract award date. Only the System Manager needs access to this table. Before the actual award of a contract, a projected award date can be entered and schedules can be developed based upon that date. Afler award this date can be changed to the actual date. AU schedule dates developed in the program are computed based on the award date in this table. This table should be reserved for use by the System Manager. Chapter 5 describes the elements of the Program that have been provided for the use of the System Manager.

1.2.3 INITIAL DATA ENTRY AND UPDATING

The next level of operation involves the entry and subsequent updating of data about the systems and equipment to be installed in the ship and the durations of the many steps of the design planning and fabrication processes. Seven tables are used for storing data relating to the

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[1] NSRP Report 0293, "The Inforrnation Flow Requirements for Integrating Schedules for Drawing Development and Equipment Procurement in Shipbuilding Programs", June 1989

systems, equipment and construction blocks of the shipbuilding program. six of these are used for developing the required early and late start and completion dates for system calculations, drawings, equipment information and hardware delivery based upon the seventh which contains the block assembly and erection schedule.

These type of data are best entered directly by engineers or designers from the shipyard's engineering and production planning departments. Certain of the inforrnation such as the durations for steps in the design development process, the equipment procurement process and the fabrication and assembly construction processes, will require a management input. The majority of the data of this level normally will not change, once entered. Thus this can be considered the initial data entry level. Once the initial data has been entered the program will be used to generate dates by which each of the actions of the various processes must be started and finished. In many cases both an early and late date can be determined for the start or finish of an event the early date being the earliest date that the event can take place, based on the other events which precede it, and the late date being the latest date that the process can start or fish and still meet the schedule requirements of the events which follow it. These dates, which are generated from the scheduling program itself will be identified in this document as the 'Required" dates. Chapter 2 describes the actions involved in entering initial data relating to systems, equipment and processes and obtaining the required dates for the process elements

In practice, however, not all of the initial data will be available at the same time. It will be necessary, therefore, to update the initial data tables, adding new information as it becomes available, and recalculating the required schedule dates. The actions involved in updating initial data tables are slightly dfferent than those for initial entry of data and these will be described in Chapter 3. The updating of data tables requires the same type of personnel as those entering initial data.

1.2.4 CURRENT ESTIMATED DATES AND ACTUAL DATES

The third level of data entry involves entering the Current Estimated Date and the Actual Date for start and completion of each of the events tracked by the program. These, with the Required Dates, are then used to generate Schedule Reports. The tables used for storing Current Estimated and Actual dates are separate tables from those used for initial data. Since the entry of current estimates and actual start or finish dates will be accomplished much more frequently than the entry of data defining the systems, equipment and processes, a separate series of menus has been provided for these activities, as described in Chapter 4.

1.3 CONVENTIONS

Throughout this Manual, much of the instructional information will be presented in the first person with the expectation that this will make it easier to follow the steps described. Information which is to by typed by an operator will be presented in Bold Capitals with a different font from the remainder of the text. If the "Enter" key is to be pressed after typing in the inforrnation you normally will just be asked to "enter" the information rather than to also press the**ENTER** key. It will be assumed that, as described in Chapter 5, RB:ASE 4.5 has been installed in the Directory C:\RBFILES and that the scheduling program and related files have been installed in C:\SKEDPROG. Although R:BASE 4.5 can be run in a LAN environment all descriptions herein will assume use of a single PC for all activities.

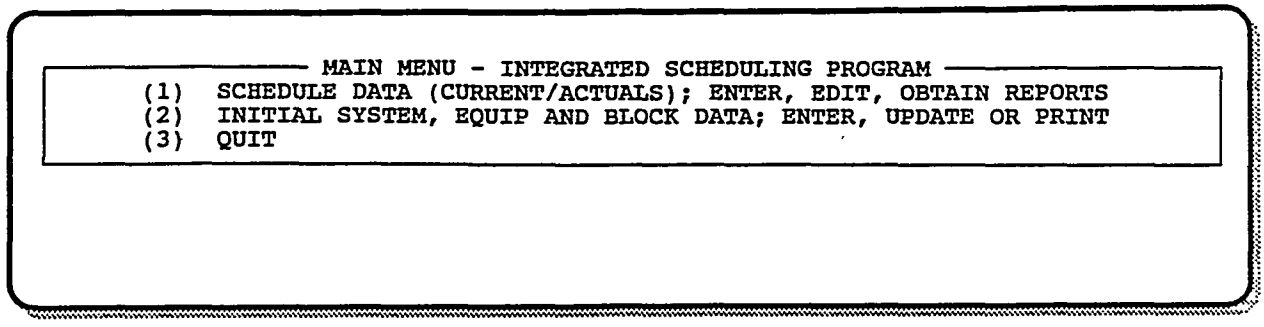

Figure 1 - 1

1.4 STARTING UP

1.4.1 FROM DOS

To start the Program from the **DOS** Prompt you must first change to the Directory in which the scheduling program is located. For instance, if the program (and database) is in C:\SKEDPROG, you may enter C: (if you are not already in the C Directory) and then enter **CD\SKEDPROG.**

If the startup path does not already include the directory where the RBASE 4.5 files are located, then enter **PATH = C:\RBFILES.**

Next, enter RBASE. The Menu shown in Figure 1-1 will appear.

1.4.1 FROM WINDOWS

If the System Manager has already installed the application program on a Windows screen with ICOn move the cursor to the icon and press **ENTER.** The Menu shown in Figure 1-1 wilI appear.

1.5 START UP MENU

The application program uses a series of menus that allow the operators great flexibility in selection of actions desired. Figure 1-1 is the initial menu which will appear upon starting the program. This menu presents three choices, numbered (1) to (3), and the cursor will be on the first item. You can move the cursor to an alternate selection by use of the arrow keys, by use of a mouse or by entering the number of that choice. Typically, the last choice of each menu screen will be “QUIT”. Selecting that choice will normally bring back the preceding menu screen. In the case of the menu in Figure 1-1, however, the choice “QUIT" will end the program.

The selection of other choices from a menu will frequently result in another menu appearing on the screen. For instance, selection of choice (1) from Figure 1-1 will lead to a series of menus that will be used by individuals who are entering the currently estimated dates and actual dates for dfferent activities. This activity occurs much more frequently and over a much longer time than the initial system data entry actions, so it has been located as the first choice. For those who will be required to enter these data they need only hit the ENTER key when this menu appears and they will be led to the screens that are discussed in detail in Chapter 4.

To enter initial data concerning systems, their equipment and the blocks into which the systems and equipment will be installed, press **2,** and then press **Enter.** This will bring up the screen that will be discussed in the Chapters 2,3 and 5.

Chapter 5 will address actions that should be taken only by the System Manager. For instance, on the very first time that the system is used for any shipbuilding program or for a specific ship, the System Manager will enter a Project Name (Program Designator) and Contract Award Date into the Project Data Table.

1.6 PROGRAMMING DETAILS

Appendix A to this Manual provides a listing of the Tables, Views, Forms and Reports that make up the database used in this application program. Appendix B provides a more detailed description of the content of each of the database Tables, giving the names and descriptions of the columns of each of the Tables.

However, the detaiied statements that makeup each of the individual programs that together comprise the Integrated Scheduling Application program described in this Manual are not included in this Manual. These are considered of interest to only a very limited number of individuals and can easily be obtained by printing them out with conventional word processing programs, including the RBEdit program included with RBase 4.5.

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2. INITIAL SYSTEM RELATED DATA ENTRY

2.1 GENERAL

The program is set up with the expectation that the majority of system related data will be entered at onetime, at the beginning of a program. A separate menu and series of actions has been established for that initial data entry effort. This will be described in this Chapter.

However, since not all of the information of interest will be available at the time of initial data entry, and since changes to the initial data will be necessary as the ship design development ensues, additional menu choices are available for later entry of each of the various types of data that are to be provided. Chapter 3 will describe each of the Menu Screens and the actions necessary to update system related data.

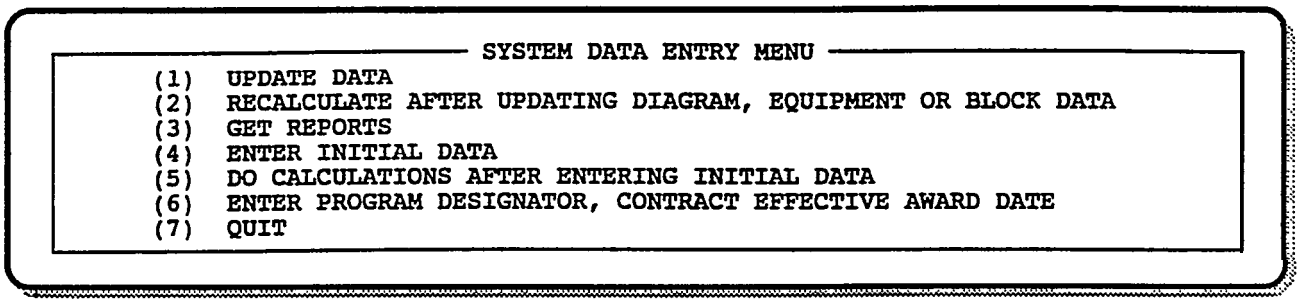

Figure 2-1

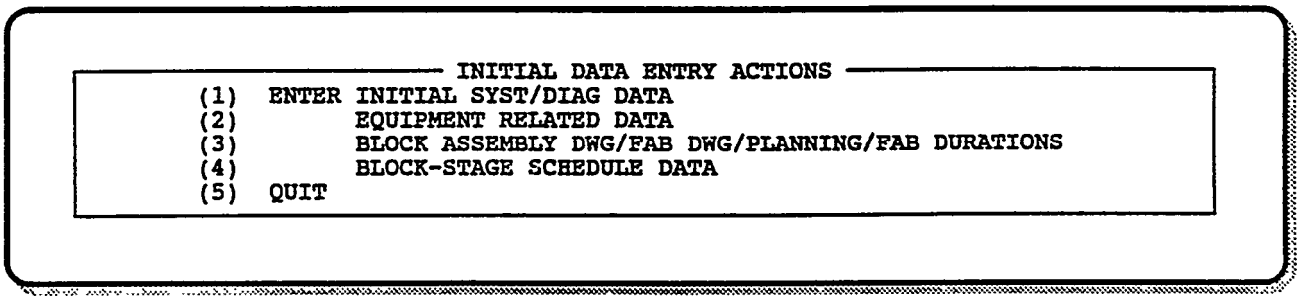

Figure 2 - 2

After having entered the numeral 2 in the Main Menu shown in Figure 1-1, the System Data Entry Menu, Figure 2-1, will appear on the computer screen.

2.2 INITIAL **DATA ENTRY**

2.2.1 GENERAL

The initial entry of data involves identification first of certain top-level system-oriented data and then subsequent entry of more detailed data concerning the various elements of each system. By entering choice number 4 from the menu shown in Figure 2-1, you will obtain the Initial Data Entry Actions Menu, Figure 2-2.

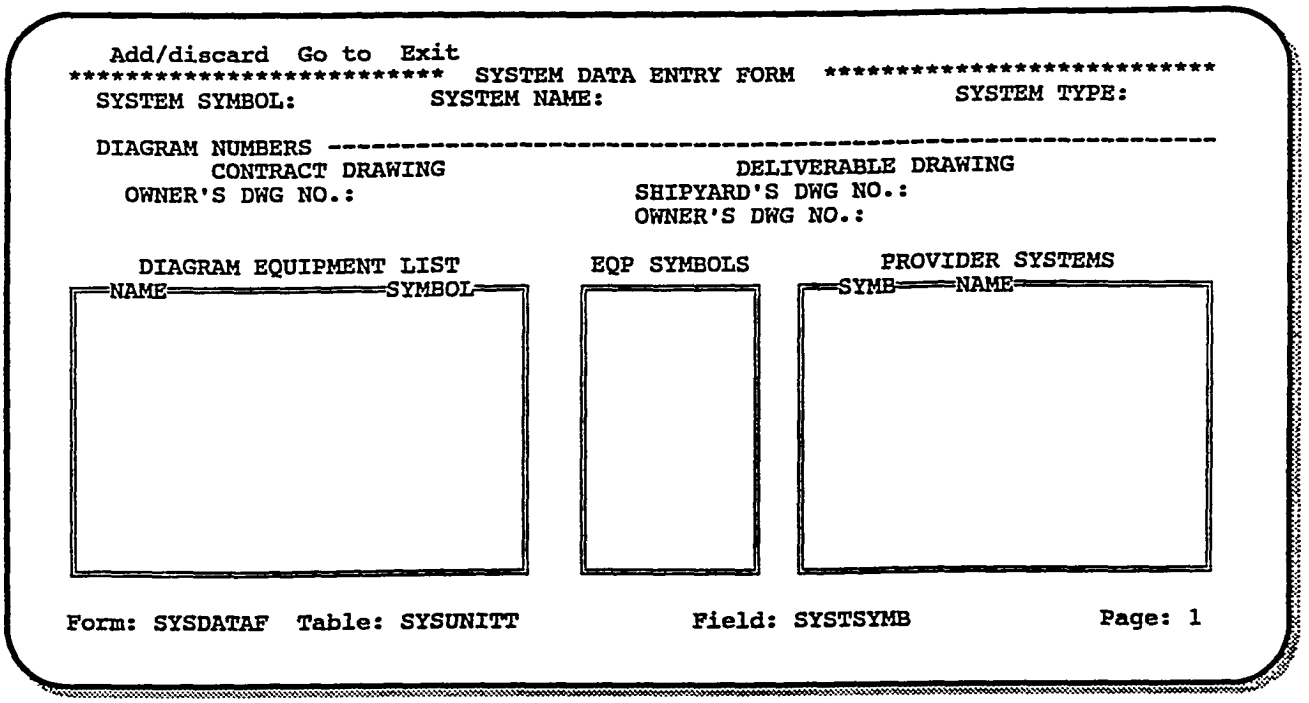

Figure 2-3

2.2.2 SYSTEM DATA ENTRY FORM

The first most basic, drawing which defines a piping system and all ofifis major cmponents is the system diagram. For **HVAC** systems, too, there are similar diagrams. The initial description of the electrical distribution systems for power, lighting and other discrete services, are contained in one-line diagrams of those systems. "At the onset of a shipbuilding program the shipyard may have system diagrams of major systems from the owner, contained in the procurement package. If so, these will be used as the basis for the data entered at this point. Otherwise, the shipyard will have to develop a list of systems and equipment based on the content of the specifications and other elements of the procurement package.

To enter data about individual systems, such as a piping system press **1 and Enter.** This will bring the System Data Entry Form shown in Figure 2-3, into view. This form is used to enter a certain amount of data into five different Tables. To do this, the form is configured to contain five "Regions". The field for entering the System Symbol is one region. The rest of the area of the top of the form is a second region. The other three regions are outlined by double lines.

The cursor can be moved between regions in severaI ways. It will move to the next region automatically if it is within the last field of a region and the Enter key is pressed except when the cursor is in the last position of that field. (In that exception, after the last character has been typed into the field the cursor will move back to the first field in the region. Continue to press the Enter key and the cursor will move through each of the fields of the region and then, from the last field, to the next region.) The cursor also can be moved to the next region either by clicking the mouse on the **Go to** field on the menu line at the top of the screen followed by the **Next Section** field, by entering **Alt-G** followed by **N**, or by pressing **Shift-F8.**

An example of how the form looks when filled in is given in Figure 2-4.

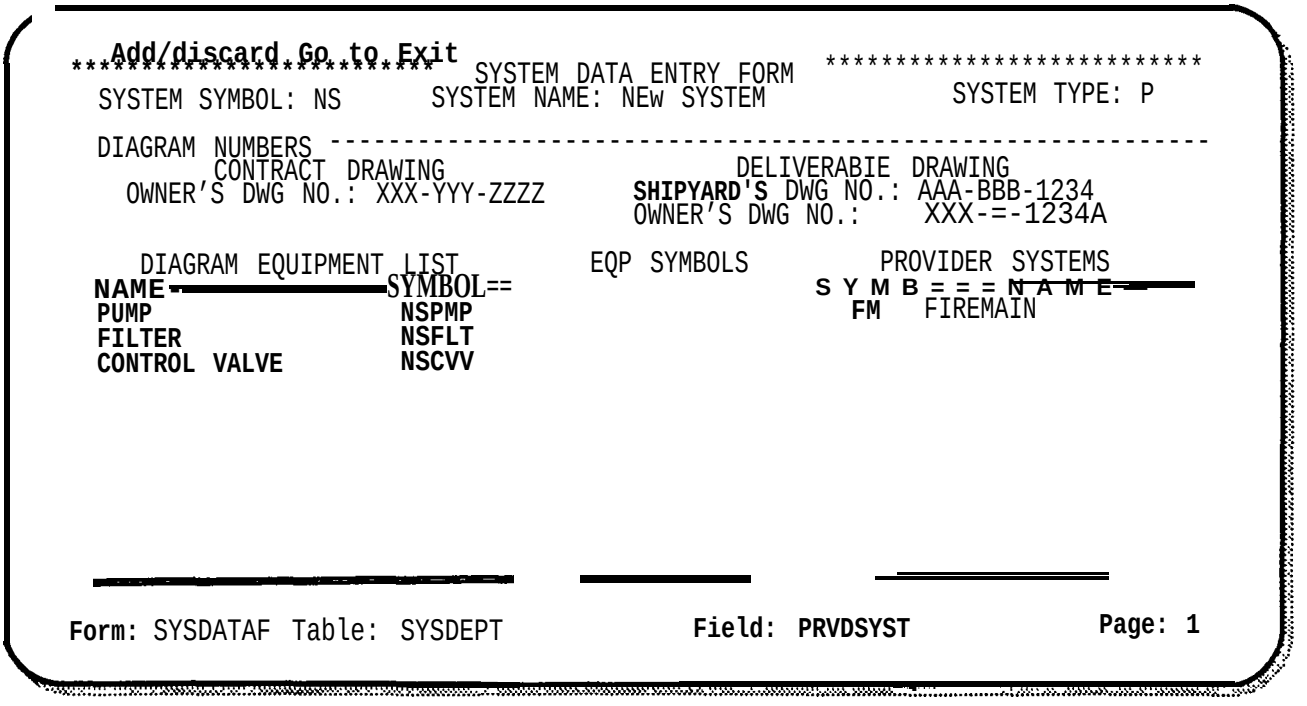

Figure 2-4

System Symbol - A two character field is provided for entering a symbol that is used to identify the system. For instance, for the Fire Main, the system symbol could be FM. The System Symbol used in Figure 2-4 is"NS" .The entry of a system symbol in thisfield establishes row with this symbol in five different tables. When the system symbolhasbeenentere& the cursor will move to the System Name field (in the next region).

System Name - A total of 15 characters can be entered into this field. In Figure 2-4, the name **"NEW SYSTEM" is** shown entered .After typing in the system name, press **Enter** and the cursor will move over to the System Type field.

System Type - A one character field is provided for entering a letter which describes the system type. P is used for piping V for HVAC, E for electrical etc. After a system type identifier has been typed into this field the cursor will move to the diagram number field.

Diagram Numbers - Three fields are provided for entering numbers for the diagrams. The first is the drawing number of the diagram provided by the customer in the procurement package. The second is for the shipyard's own number for the deliverable drawing reflecting the yard's own internal drawing numbering system. The final number is the customer number for the deliverable drawing. Any or all of these may be left blank at this point, since they are only used in the final schedule printouts, not in the calculation of dates.

After entry of the last drawing number, the cursor will move either to the next region (if the number did not fill alI of the available spaces in the field) or back to the System Name Field. In the latter case, press the Enter key five times or use any of the other techniques previously described for moving the cursor to anew region.

Diagram Equipment List - The cursor will be located in the top Ieft field of the region. Enter the name of the equipment, then an equipment symbol. Five digits have been allowed for

the equipment symbol. It is helpful to use the two letter System Symbol as the first two letters of the equipment symbol, but any format already in use by the shipyard can be used. After entering the equipment symbol the cursor will move back to the equipment name field. Press **Enter** twice or **F8** to proceed into the next row and enter the next equipment. Each unique equipmen~ such as a fire pump, is entered here only once, even though the same equipment may be located in several different locations in the ship. When all of the equipment has been entered move the cursor into the next region by any of the same methods used to get into this region.

Equipment Symbols - In the region in the lower center of the screen where the cursor should now be located the equipment symbols from the previous region must be entered again. These symbols are used to create rows of data in a table which contains a listing of each construction block in which a particular piece of equipment will be located. When all of these have been entered, proceed to the next region.

Provider System List - Some systems provide services to other systems. For instance, the firemain may provide salt water to another system. In this case, the Firemain is the "Provider" system and the other is the "User" system. This portion of the data entry form is provided for entry of the system symbol of any and all provider systems of the system covered in the rest of the form. Once the provider system symbol is entered, the name of that system will appear in the "Name" column if that system has already been listed in the system data table.. No action is necessary if it does not appear.

When finished entering data into this form for one system enter **Ctrl-A** to enter data for another system. The data in the form will be loaded into a row of each of the tables served by this form and the empty form will reappear. If finished entering data **Exit.**

2.2.3 SYSTEM DIAGRAM DURATION FORM

Upon exiting the Diagram Data Entry Form the program brings to the screen a form for entering the Durations of the four elements of the diagram development process, Figure 2-5. Anew row will exist for each of the systems which have been entered during the steps described above, with no entries in most of the columns of the form. All durations are in weeks. This form allows entry of the remaining data in each row. After entering data in the columns of this form **Exit** from the form.

2.2.4 SYSTEM DEPENDENCY TABLE DATA ENTRY

The program will then bring to the screen a form for entering durations of the finish-to-finish lags between the user and provider drawings. See Figure 2-6, where no lags exist for the NS system, which has just been entered. Note that the firemain symbol FM is shown as the Provider System having been entered in the bottom right region of Figure 2-4.

When the lag data has been entered and you have exited the form the computer program will peform an analysis and, if appropriate, modify the rows of this table to take account of the additional interdependencies which may exist if the provider system in this case is also a user system for some other system. In the case of the NS system for example, its provider system Fm is a user system of the SW system. Thus, the NS system completion dates may ultimately be controlled by the SW system. The calculations carried out by the built-in computer programs provided make the necessary adjustments when necessary, and the rows of the System Dependency Table will be modified as appropriate. Messages on the screen will advise that this calculation is being performed.

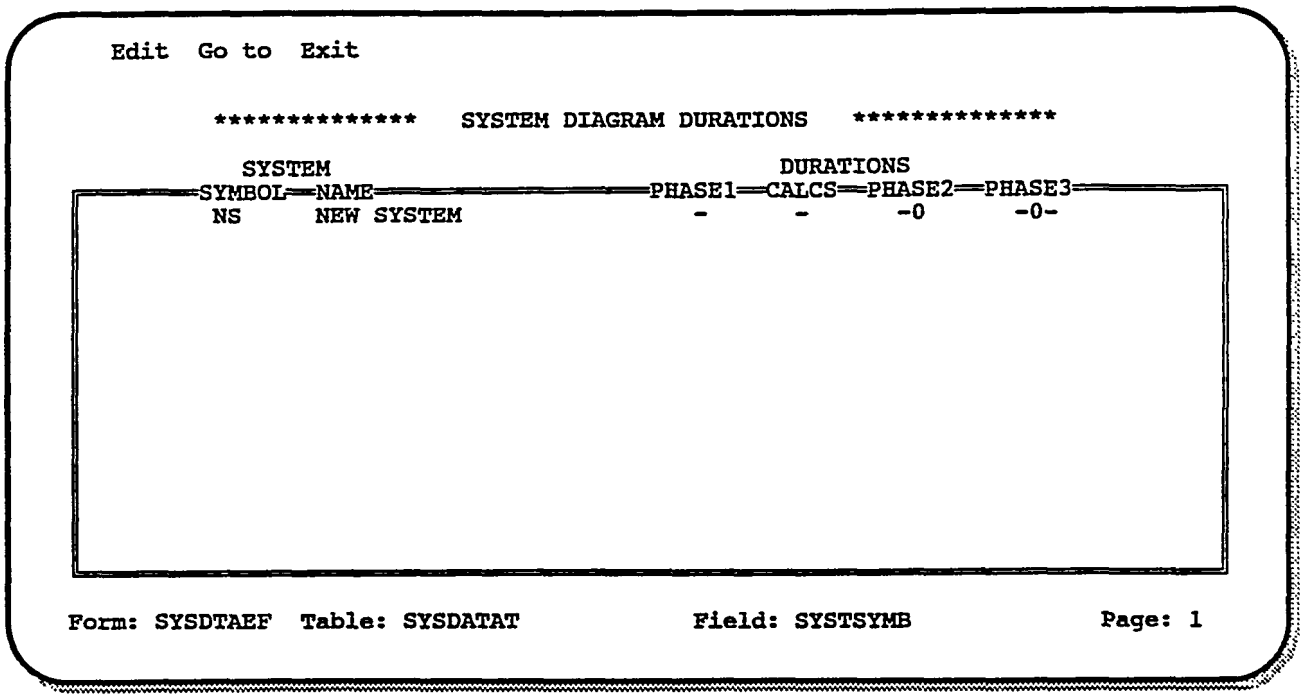

Figure 2 - 5

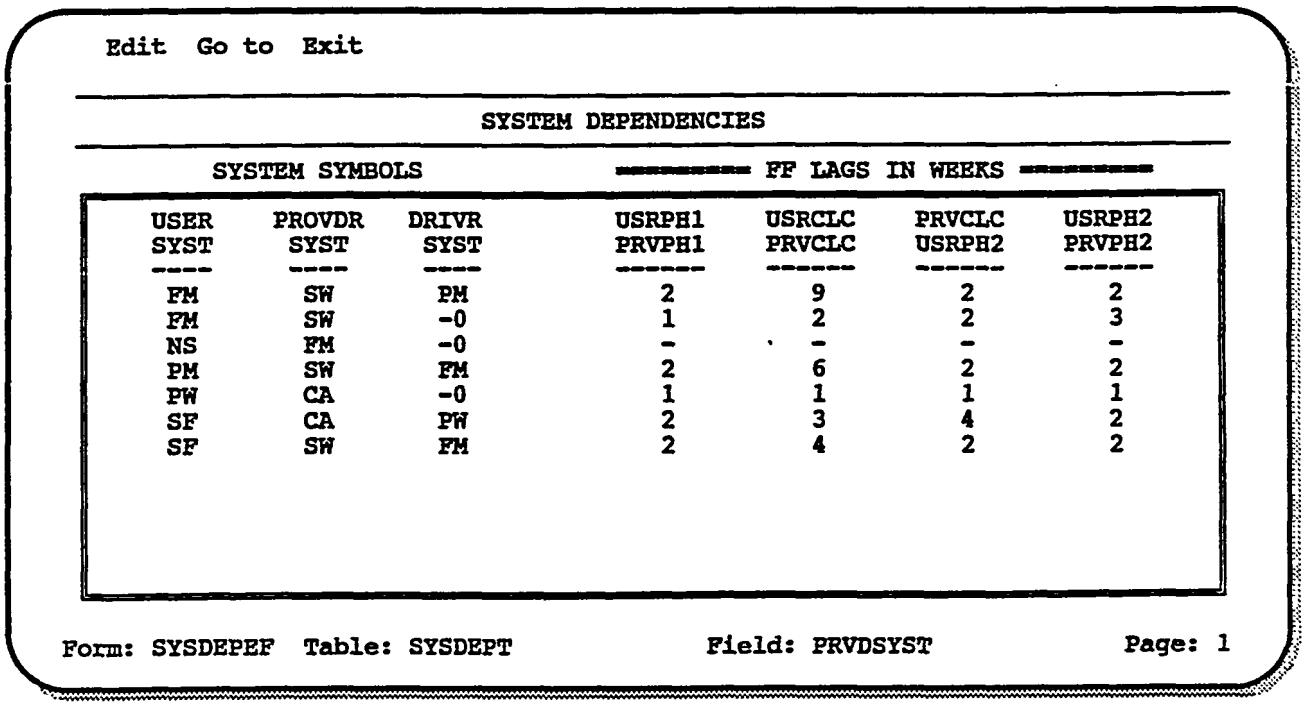

Figure 2 - 6

2.2.5 SYSTEM-BLOCK COMBINATIONS

The next screen to appear, as shown in Figure 2-7, is for the purpose of identifying each Block into which any portion of the system will be installed. For distributive systems, this will include every block through which the system passes, as well as every block into which the major

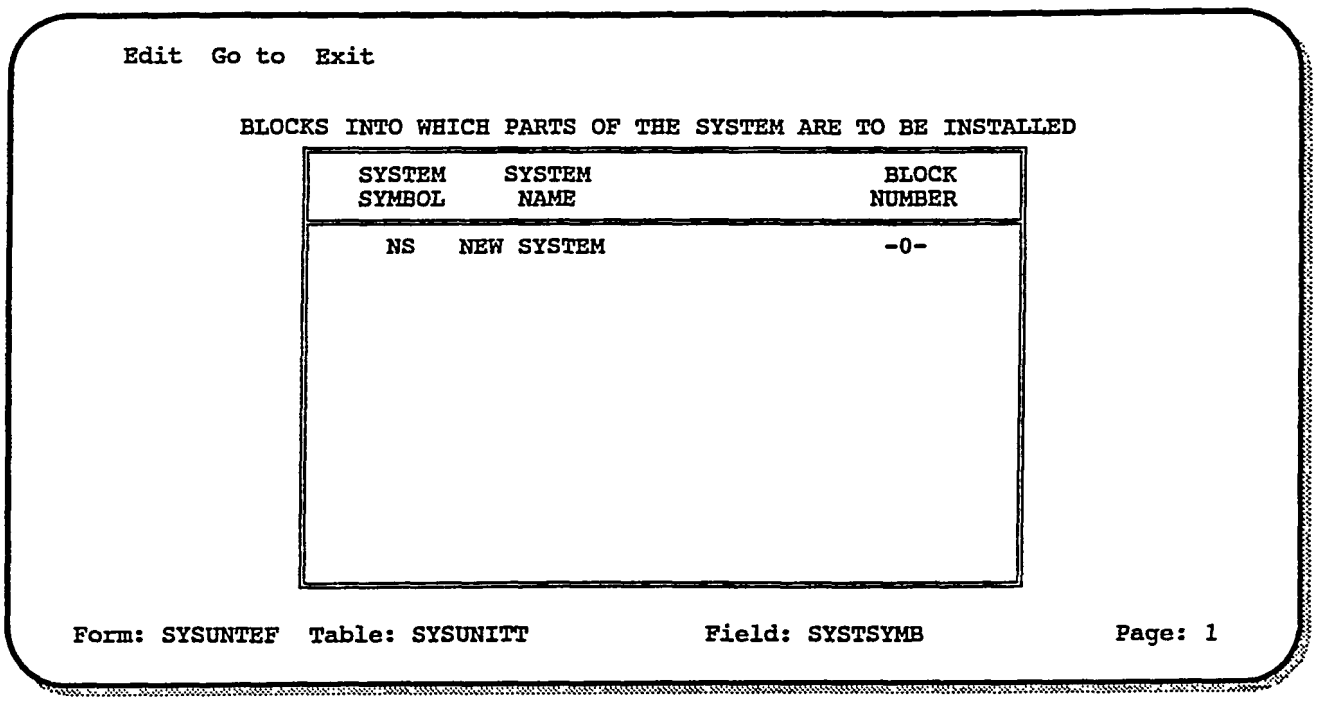

Figure 2 -7

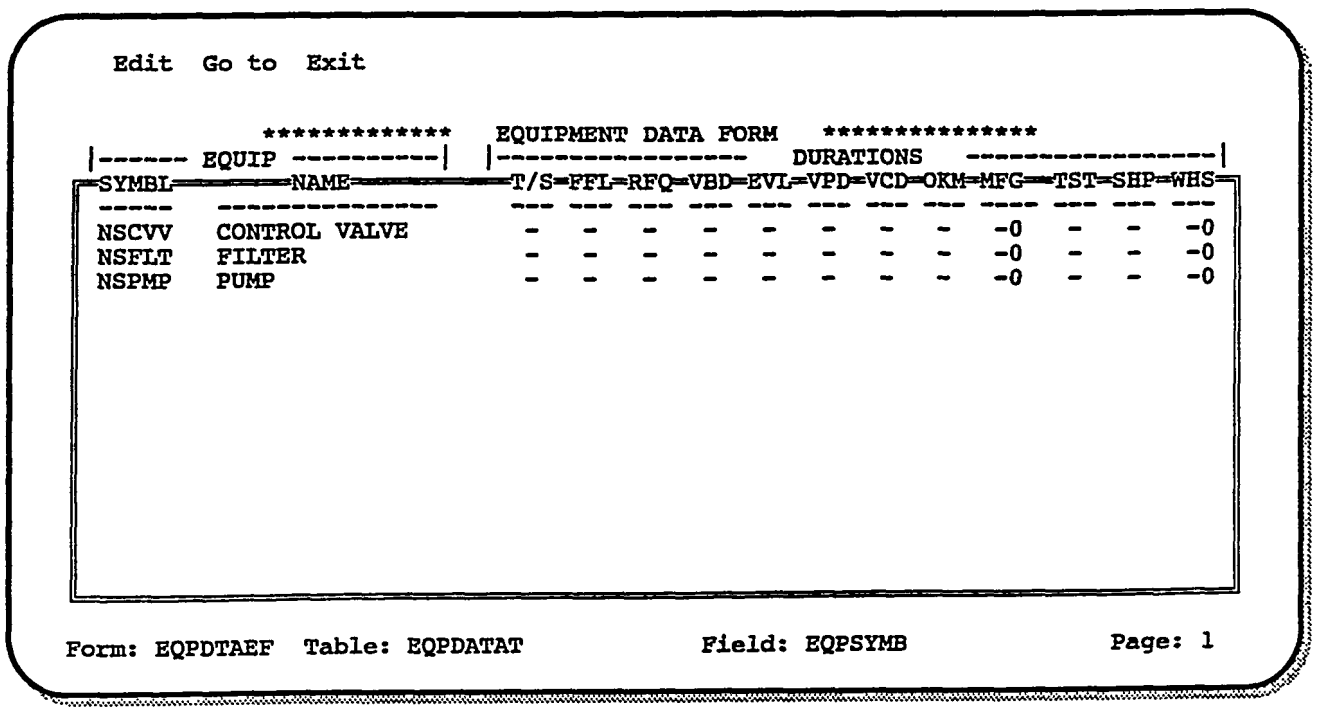

Figure 2 - 8

pieces of equipment will be installed. Add additional rows for the same equipment by using the Edit, Duplicate Row entry form the pull down menu, then fill in the block numbers.

2.2.6 EQUIPMENT PROCUREMENT PROCESS DATA FORM

Upon exiting the System-Block Combination Form, the Equipment Data Form will appear on the screen, as shown in Figure 2-8. Only the rows for newly entered equipment, where the

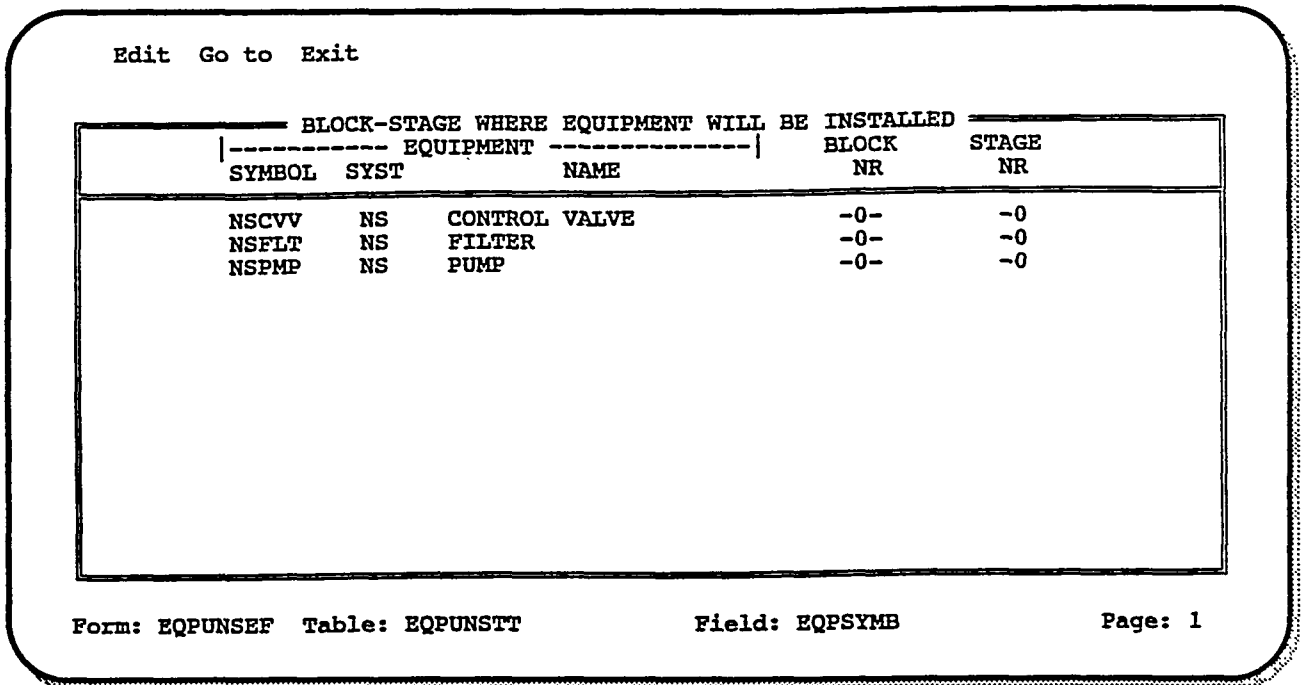

Figure 2-9

duration data will all be blanks, will appear on this form. The column abbreviations stand for Tech Spec Preparation (T/S), Finish-to-Finish Lag between the Tech Spec Preparation and the RFQ Issue Date (FFL), RFQ Preparation (RFQ), Vendor Bid Preparation (VBD), Shipyard Evaluation Time (EVL), the time for the Vendor to provide Performance Data (VPD) and provide Vendor Configuration Data (VCD), the time allowance for the shipyard to provide the Vendor with approval to proceed to manufacture (OKM), the duration of manufacturing (MFG), test duration (TST), shipping time (SHP) and the shipyard's inspection and preparation time after receipt in the yard (WHS), all of which are more filly discussed and defined in reference (I). These durations are all in weeks.

After entering all the data for this form exit.

2.2.7 EQUIPMENT BLOCK INSTALLATION DATA FORM

Figure 2-9 illustrates the form that will now appear. This allows identification of the blocks into which each piece of a system's equipment will be installed and the construction stage when the installation will be accomplished. For systems where several pieces of the same equipment are installed in different locations in the ship, as is the case, for instance, with f`ire pumps, there will be a separate row required in this table for each such combination of equipment and block.

Completion of entry of data into this form will complete the actions necessary for entering data relating to the system diagrams and related system equipment information. Upon exiting from this forrm you will be presented again with the Initial Data Entry Menu Figure 2-2.

2.3 INITIAL ENTRY OF EQUIPMENT RELATED DATA

When additional equipment requirements are identified for a system that has already been entered into the data base, rather than going through all the steps of the initial system data entry1

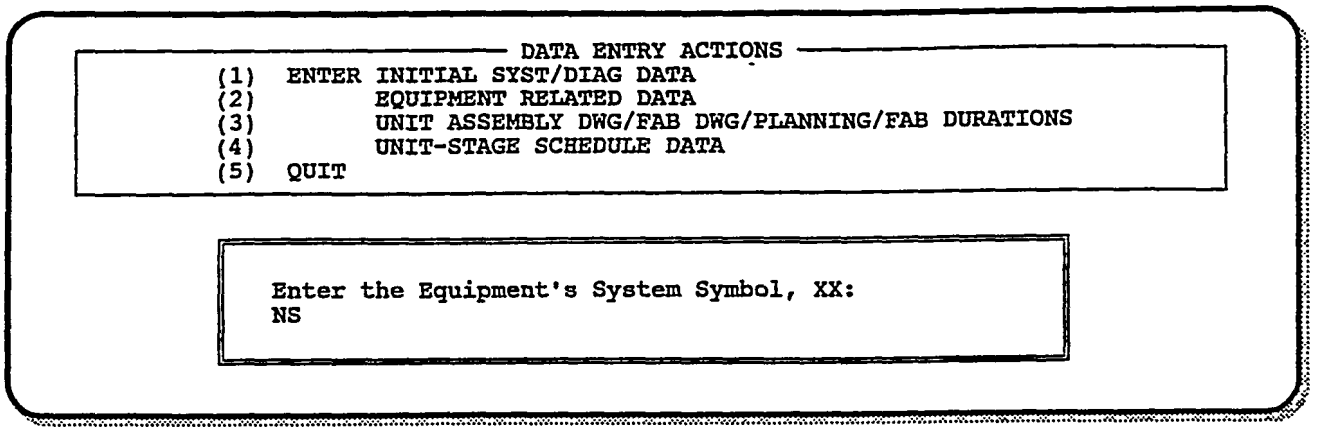

Figure 2 - 10

process, it is possible and preferable to select item number **2**, "Enter Equipment Related Data" from the menu in Figure 2-2. You will be presented with an insert, shown in Figure 2-10, asking for entry of the System Symbol for the system of which the equipment is a part. The system symbol "NS" has been entered for purposes of illustration.

Upon entry of the equipment's system symbol, you will be presented with the Equipment Procurement Data Form, similar to that shown in Figure 2-8, for entering the durations of the steps in the procurement process.. Only the equipment of the specific system selected will appear. By using the Pull Down Menu obtained by entering **Edit** from the top line menu, add an additional row for each equipment to be added. Then provide the durations in each column of the added row(s). When finished entering the durations, press **Exit** .

2.3.1 EQUIPMENT-BLOCK IDENTIFICATION

This will bring up the Equipment-Block combination data entry form, Figure 2-9. Using the same methods as in other forms, add additional rows as necessary for each new Equipment-Block combination and then fill in the data in the related columns.

2.4 SYSTEM TYPE - BLOCK DRAWING, PLANNING, FABRICATION DURATIONS

2.4.1 GENERAL

In addition to scheduling system diagrams, it is necessary to schedule the development of the Assembly and Installation drawings for each system. In current shipbuilding practice, it is common to develop these drawings by Block, rather than by system. Furthermore, it is common to show the installation requirements for all system-type (Piping, for example) material and equipment for an individual block on a separate drawing or on separate pages of a drawing. To enter the schedule related information for assembly and installation drawings, for the production planning efforts which relate to those drawings, and for the actual fabrication and assembly efforts, enter **3** from the Initial Data Entry Menu, Figure 2-2. .

2.4.2 BLOCK DRAWING AND FABRICATION DURATIONS

This will cause the Form shown in Figure 2-11 to appear on the screen, with the cursor in the Block Number field. After filling in the Block or Machinery Package Unit Number and System Type, fill in the stage number of the first stage in which any portion of the system will be installed in this block. For structure, this will normally be stage 20, Panel Assembly. For most

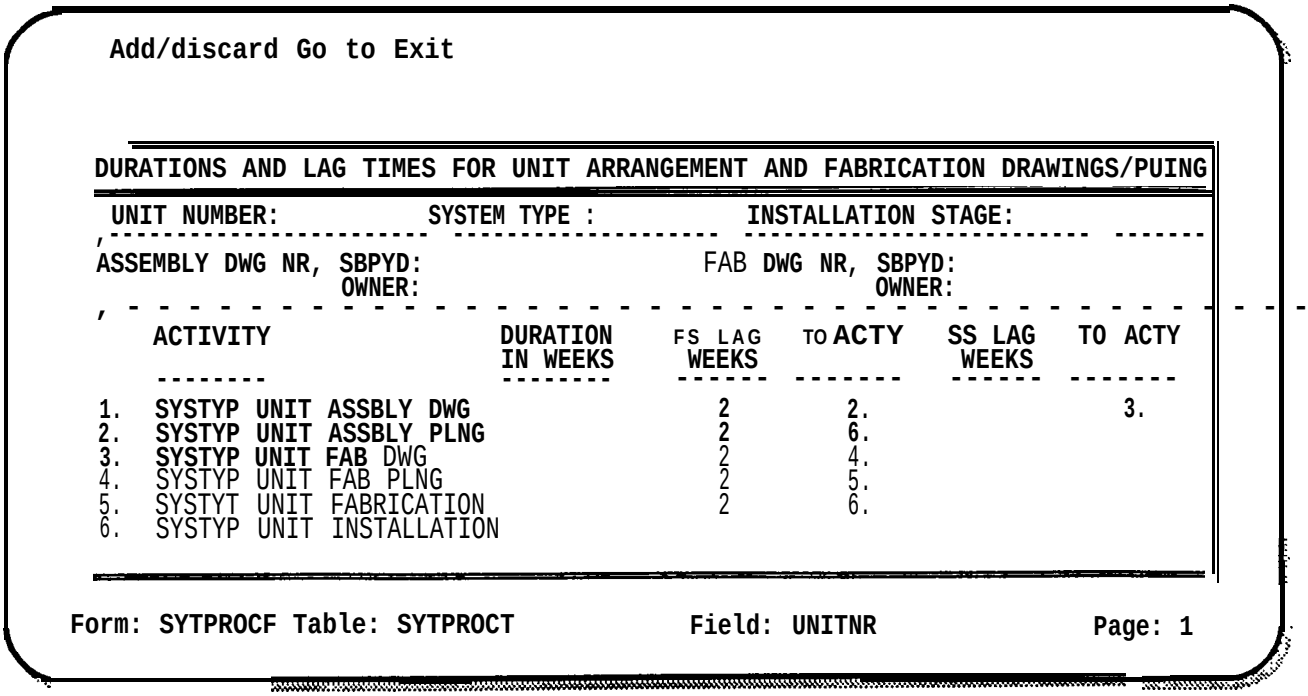

Figure2-11

non-structural system types this will be the Pre-Paint Block Outfitting Stage, stage 50. For Machinery Package elements, this will be stage 40. Stage Nunber definitions are as given in Reference 1.

Then proceed to fill in the drawing numbers. Fields are provided for entering both the shipyard's number and the owner's number for each of the two drawing types.

Enter the duration in weeks for the Block Assembly Drawing. The next field to be filled is the start-to-start lag between the Assembly Drawing and the Fabrication Drawing. This recognizes that the Fab Drawing cannot realistically be started before some work has been done on the Assembly Drawing. Enter the remaining durations and **Exit** the form. Figure 2-2 will return to the screen.

A finish-to-start lag of two weeks between related activities has been included as a default, as shown in the two columns in the center of the form.

2.5 BLOCK-STAGE SCHEDULE DATA

The final action item on the Initial Data Entry Menu is used for entering schedule information relatiig to the block construction schedules. The form that will be used for this purpose, Figure 2-12, is obtained by selecting number **4** on the menu.

The cursor will be in the Block number field. After he block number has been entered, the cursor will move to the field for the start week of Stage 20. Enter. the number of weeks from the contract award date to the start of work on tage 20 of this block. The cursor will move to the field below this, where you will enter the duration of stage 20 for this block. The start date will then automatically appear in the start date field for this stage and the cursor will then move to the field for the start week of Stage 30. The start dates shown for the first block are the shipbuilding contract award date, since the durations have not yet been entered. When the start week

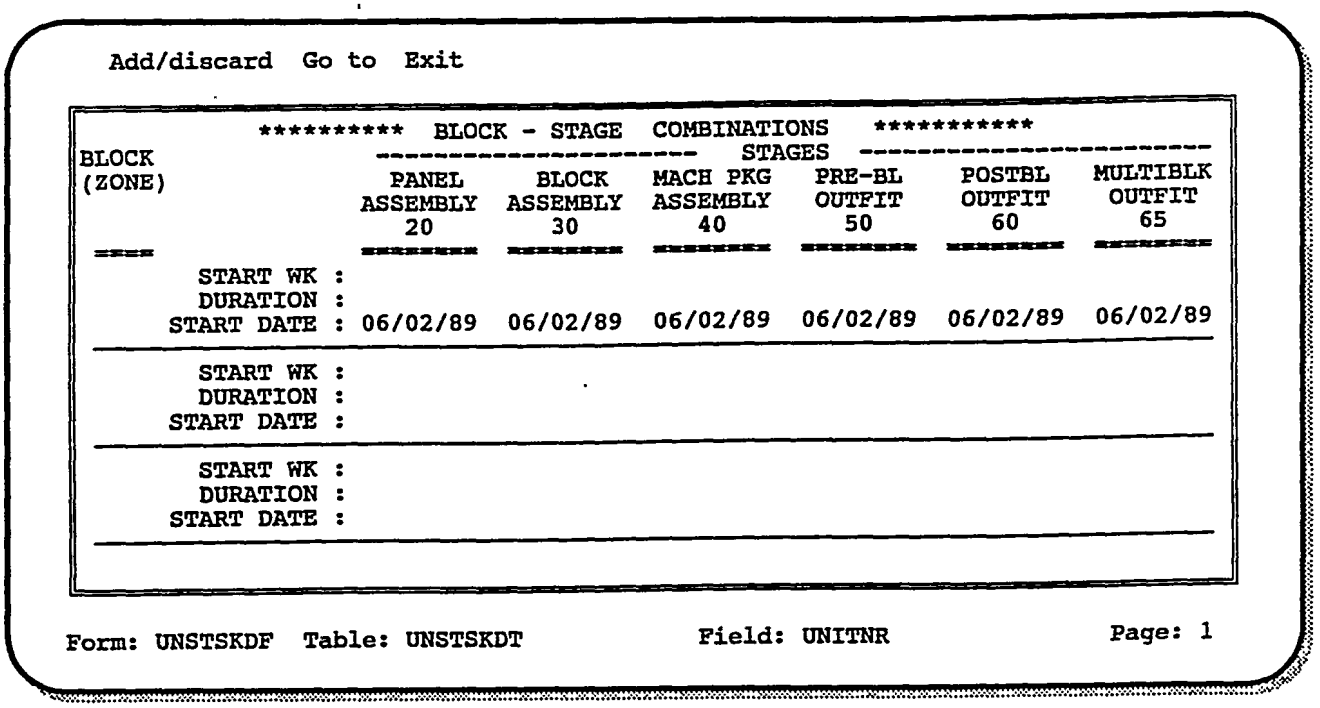

Figure 2-12

and durations have been entered the correct start dates will be calculated and shown in these fields.

Enter the number of weeks from the contract award date to the start of work on each stage and the duration of that effort. Continue until the information for this block is complete, and then continue on entering data for the remaining blocks.

Upon completion, **Exit.** Figure 2-2 will reappear. Enter **5** or **Escape** to return to the Ship System Data Entry Menu.

2.6 CALCULATIONS

After completing the steps of initial system data entry, it is necessary to carry out a number of calculations to determine the early and late start dates of each of the elements of the design procurement and construction processes. To do the necessary calculations, enter choice **5** from Figure 2-1. This will bring to the screen the menu shown in Figure 2-13.

Select item **1** from this menu if only certain specific calculations are required or if you wish to effect each calculation step individually. This will yield the menu shown in Figure 2-14, from which the desired calculation can be selected.

Select item **2** on this menu and all of the calculations will be accomplished without further action on your part.

When complete, select item **3** on this menu.

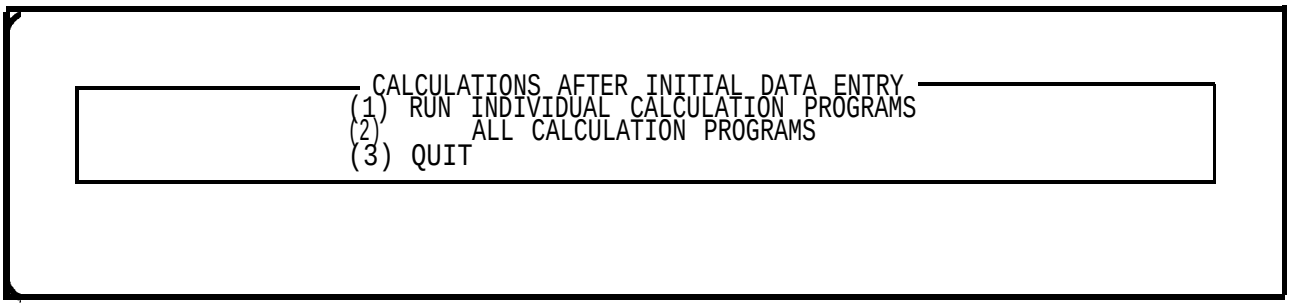

Figure 2-13

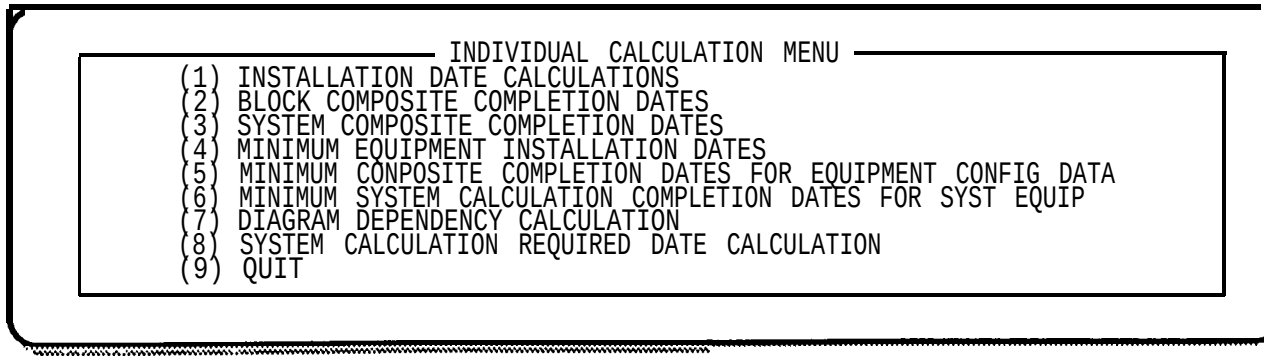

Figure 2-14

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3. UPDATING SYSTEM - RELATED DATA

3.1 GENERAL

As additional information relative to the systems, their equipment, the construction sequencing and/or scheduling of the program is available, it will be necessary to add to or modify some of the data that has already been entered into the data bases. This effort will occur more frequently than the initial data entry efforts. Therefore, the steps which may be required have been listed as the first items in the System Data Entry Menu, which has been reproduced in Figure 3-1. This Menu will appear after you have entered the numeral **2** in the Main Menu shown in Figure 1-1.

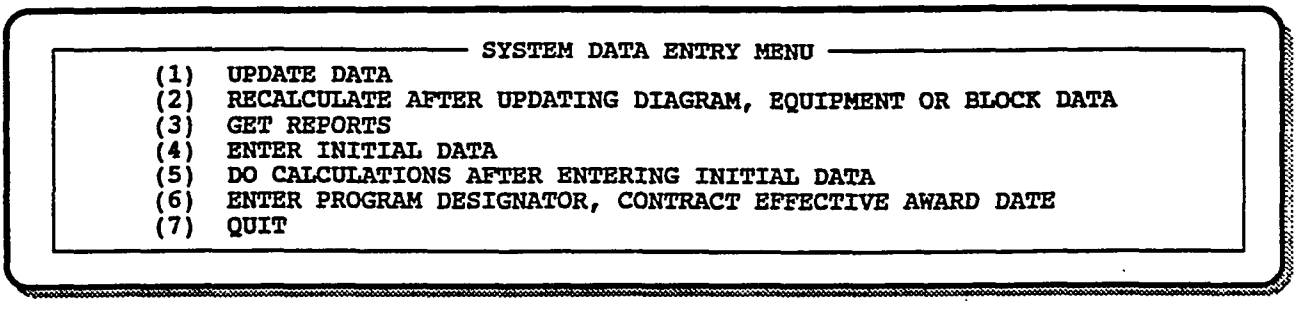


Figure 3 - 1

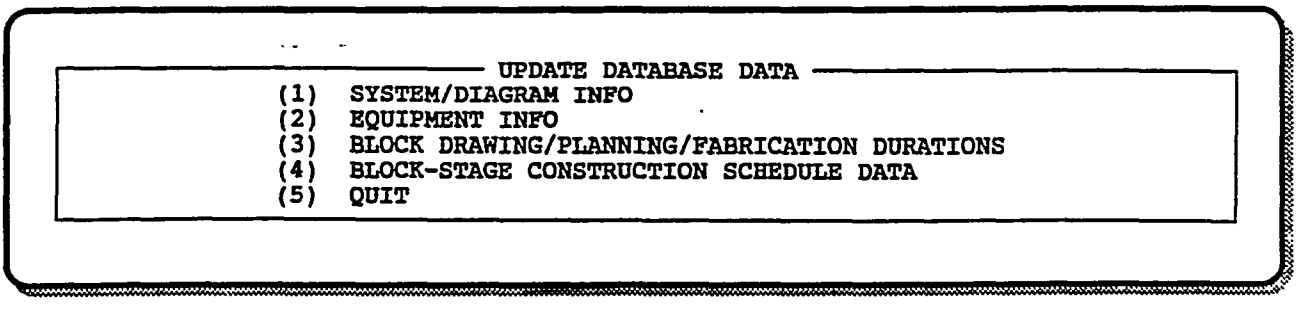


Figure 3 - 2

3.2 UPDATE DATA

3.2.1 GENERAL

Selecting the first choice from the menu shown in Figure 3-1 will cause the menu shown in Figure 3-2 to come to the screen. The choices given in this menu are intended to be self explanatory, and to cover any of the information that has already been stored or that will need to be added to the existing data.

3.2.2 SYSTEM/DIAGRAM DATA

3.2.2.1 General

Selection of menu choice **1** from the Update Database Data Menu will yield another menu, shown in Figure 3-3, which provides the operator with the several choices of action, depending on what information about a system needs to be updated.

```
—————— SYSTEM RELATED DATA TABLES UPDATE MENU ——————
   (1)  TO EDIT ALL SYSTEM DIAGRAM DURATION DATA
   (2)          A SINGLE SYSTEM'S DURATION DATA
   (3)          SYSTEM-BLOCK TABLE
   (4)          A SINGLE SYSTEM'S BLOCK COMBINATIONS
   (5)          SYSTEM INTERDEPENDENCY TABLE
   (6)          ONE SYSTEM'S INTERDEPENDENCIES
   (7)  QUIT
```

Figure 3 - 3

```
Edit  Go to  Exit

     ***************   SYSTEM DIAGRAM DURATIONS   ***************

   SYSTEM                                   DURATIONS
 SYMBOL  NAME                    PHASE1  CALCS  PHASE2  PHASE3
   AF    AFFF DISTRIBUTN            2      4       8       8
   AS    AUX SW COOLING             4      5      10      13
   CW    CHILLED WATER              2      3      10      12
   CA    COMPRESSED AIR             3      4       8       5
   DB    DRAIN & BALLAST            4      4      10      12
   FM    FIREMAIN                   3      4      14      12
   HS    HYDRAULIC STRG             1      1       5       5
   SW    MAIN SW COOLING            4      5      10      13
   NS    NEW SYSTEM                 2      5      10      12
   PW    POTABLE WATER              2      4      12      13
   PM    PRAIRIE MASKER             3      3       8       8
   SF    SANITARY FLUSHG            4      5      10      10

Form: SYSDTAEF  Table: SYSDATAT          Field: DURPHAS3          Page: 1
```

Figure 3 - 4

```
—————— SYSTEM RELATED DATA TABLES UPDATE MENU ——————
   (1)  TO EDIT ALL SYSTEM DIAGRAM DURATION DATA
   (2)          A SINGLE SYSTEM'S DURATION DATA
   (3)          SYSTEM-BLOCK TABLE
   (4)          A SINGLE SYSTEM'S BLOCK COMBINATIONS
   (5)          SYSTEM INTERDEPENDENCY TABLE
   (6)          ONE SYSTEM'S INTERDEPENDENCIES
   (7)  QUIT

     Enter the System's Symbol, XX :
```

Figure 3 - 5

3.2.2.2 Edit all System Diagram Durations

Choosing item 1 from the menu in Figure 3-3 will produce a form for editing any data in the system diagram data base. This form, shown in Figure 3-4, is intended for use in

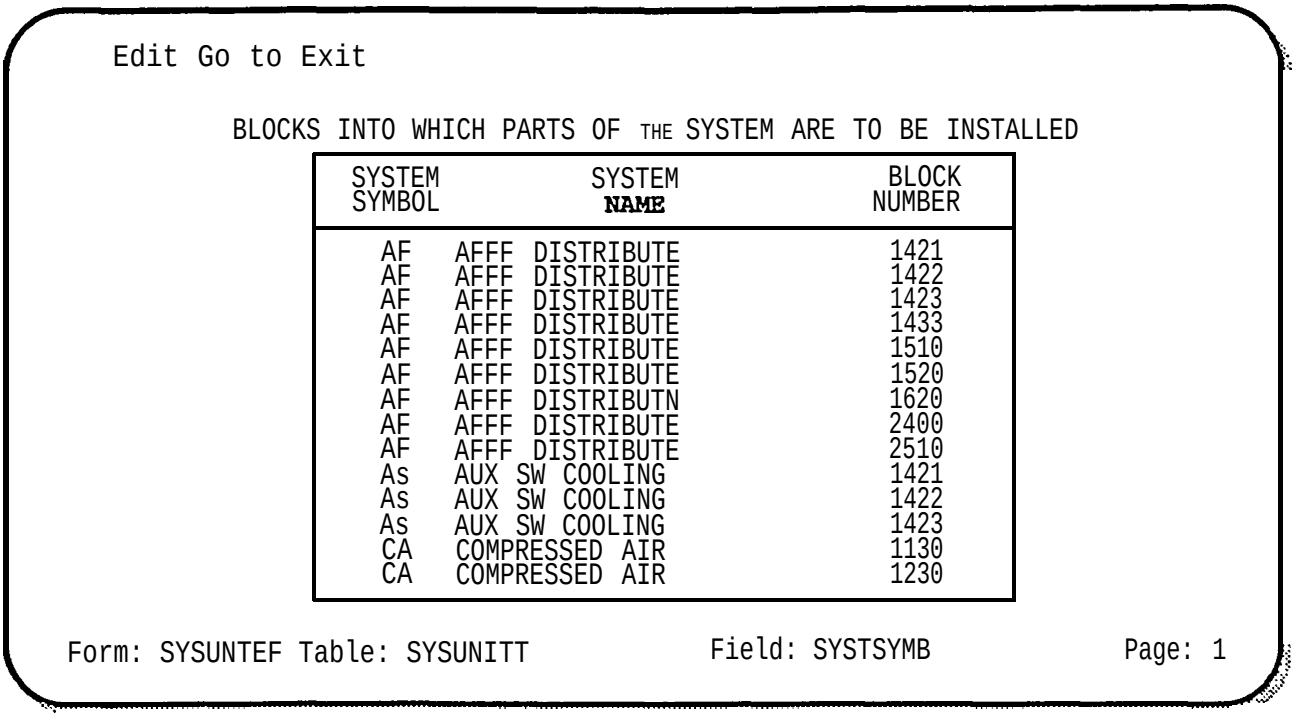


Figure3-6

changing existing scheduled duration estimates for any of the four phases of diagram development. These values should be changed only when authority is given to modify an existing schedule. Thus it might be appropriate to restrict use of this menu choice to a iimited number of authorized personnel.

Figure 3-4 could be used to add systems to the system diagram database, by adding new rows, but this will not add the new system to any of the other databases. It would be much more efficient to use the approach described in the preceding chapter for adding new system information.

3.2.2.3 Edit a Single System's Diagram Durations

Choosing item 2 from the menu in Figure 3-3 will produce a request to identify the system whose diagram phase durations are to be changed. See Figure 3-5. The form in Figure 3-4 will reappear on the screen but showing only the data for the identified system.

3.2.2.4 Edit System Block Combinations

Item 3 on the menu in Figure 3-3 will generate a form, shown in Figure 3-6, which provides a list by system of all the blocks into which parts of that system will be assembled. To add or delete blocks from this form use the **F-8** key to move the cursor down (or **F-7** to move the cursor up) to the row below which a new row is to be added or to the row which is to be deleted and then use the choices given in the Edit pull down Menu which is illustrated in Figure 3-7.

3.2.2.5 B1ocks for a Single System

Selection of item **4** from the menu in Figure 3-3 will provide the operator with the opportunity to identfy a single system whose block listing needs to be modified. A form identical to that shown in figure 3-6 will be provided listing the blocks that have been identified

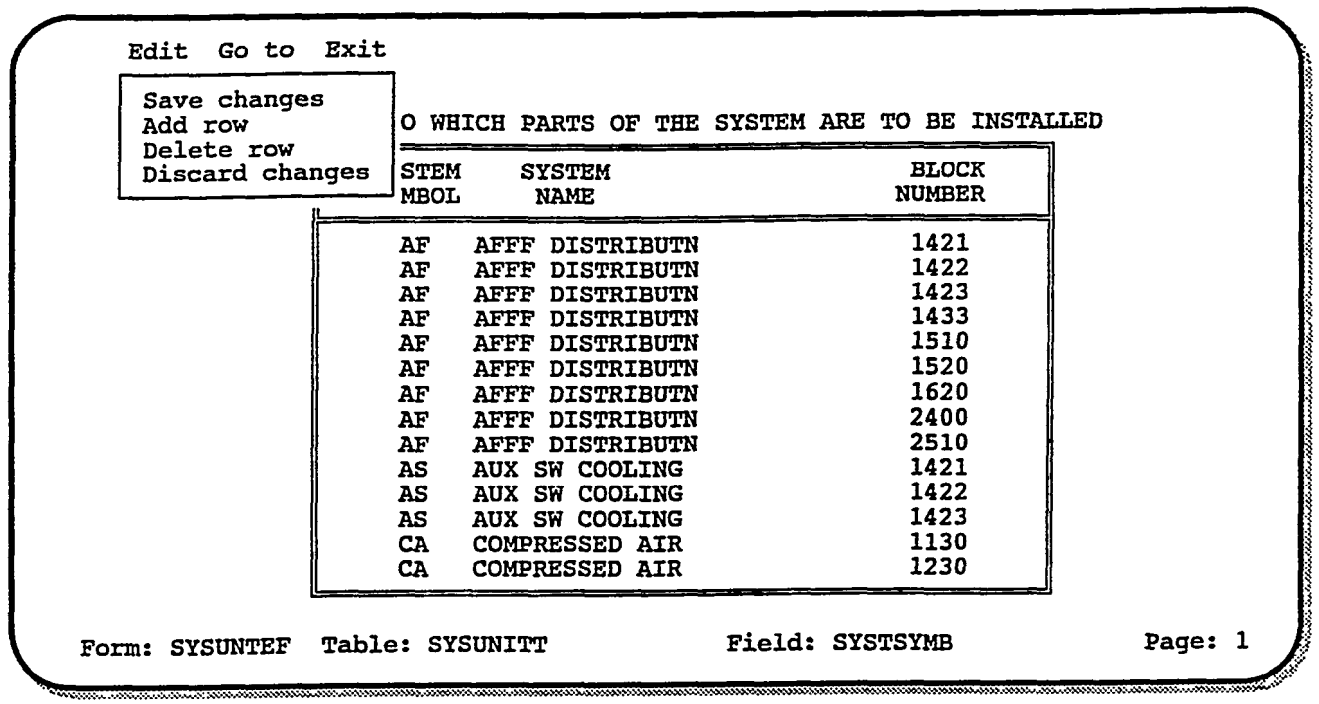


Figure 3 - 7

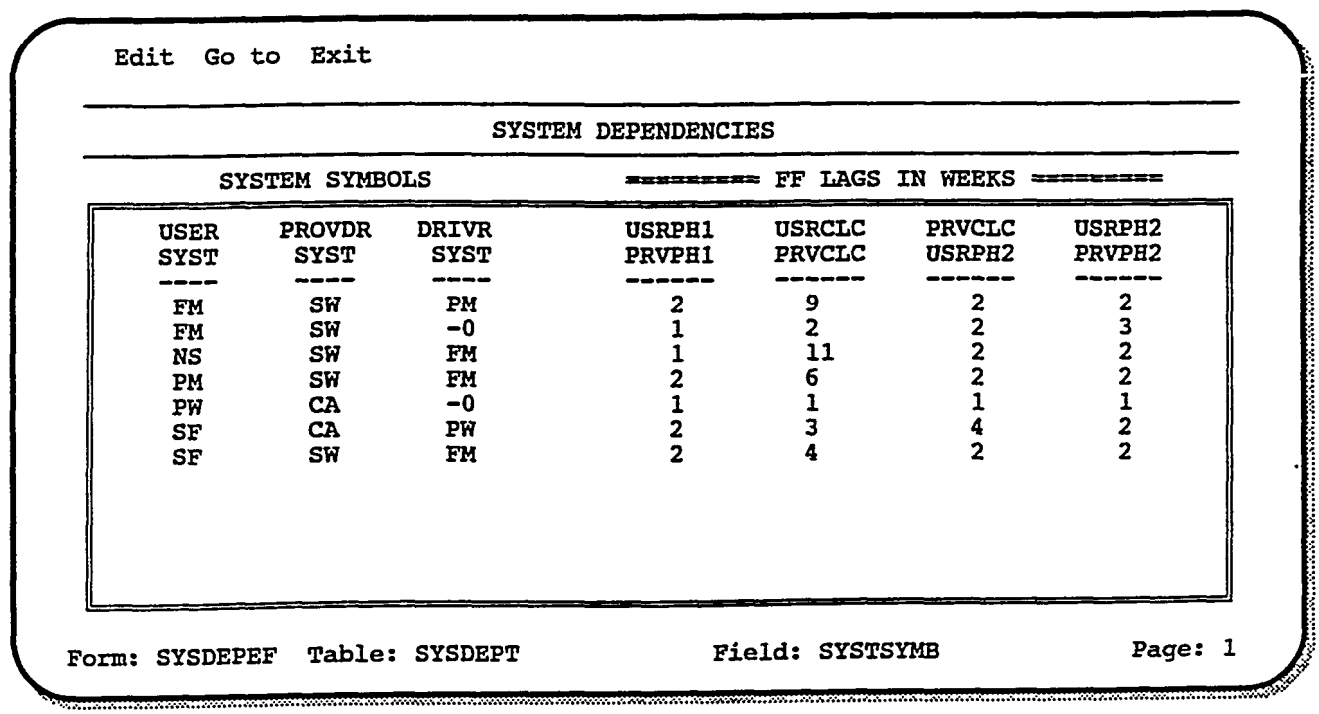


Figure 3 - 8

as containing some element of that one selected system. The list of blocks may be added to or deleted from using the same editing techniques as described in paragraph 3.2.1.3.

3.2.2.6 System Diagram Interdependency Durations

A listing of all "User" systems, i.e., those that receive services from other, "Provider", systems, with the durations of the lags that interconnect the start and completion of

```
                    EQUIPMENT INFORMATION UPDATE MENU
      (1)  TO EDIT OR ADD TO ONE EQUIPMENT's PROCUREMENT DURATIONS
      (2)                     ALL EQUIPMENT PROCUREMENT DURATIONS
      (3)                     ONE EQUIPMENT's ILS DELIVERABLE DURATIONS
      (4)                     ALL EQUIPMENT ILS DURATION DATA
      (5)                     EQUIPMENT BLOCK-STAGE COMBINATIONS
      (6)                     ONE EQUIPMENT's BLOCK-STAGE COMBINATIONS
      (7)  QUIT
```

Figure 3 - 9

```
Edit  Go to  Exit

            **************   EQUIPMENT DATA FORM   ***************
|------ EQUIP ----------|  |-----------------   DURATIONS   -----------------|
SYMBL=======NAME==========T/S=FFL=RFQ=VBD=EVL=VPD=VCD=OKM=MFG==TST=SHP=WHS=
-----  ---------------   --- --- --- --- --- --- --- --- ---- --- --- ---
AFHRK  AFFF HOSERACKS     3   2   4   5   3   6   8   2   12   1   2   3
AFPMP  AFFF CONC PUMP     4   2   4   5   4   7   9   3   26   3   3   3
AFPRP  AFFF PROPORTNR     2   3   3   5   2   4   5   1   25   2   3   3
AFTNK  AFFF CONC TANK     3   2   4   5   2   3   6   3   12   2   3   3
ASACC  A/C COMPRESSORS    4   3   5   5   3   6   9   2   18   3   3   3
ASCPM  REFRIG COMPRPMP    4   2   5   5   3   6   9   2   18   3   3   3
ASMAC  MSKRAIR COOLER     2   3   3   5   4   4   6   2   12   2   4   3
ASMCP  MSKRAIR CLG PMP    4   2   4   5   4   6   8   1   15   2   3   3
ASMOC  MSKROILCLRCOMPR    4   3   5   5   3   6   8   2   13   2   3   3
ASPAC  PRARYAIR COOLER    2   2   3   5   4   4   6   2   12   2   4   3
ASPCP  PRARYAIR CLGPMP    4   3   4   5   4   6   8   1   15   2   3   3
ASPMP  AUX SW PUMP        4   2   4   5   4   6   8   1   15   2   3   3
ASPOC  PRAIROILCLRCMPR    4   2   5   5   4   6   8   2   13   2   3   3
ASRCL  REFR COMPR CLR     2   2   3   5   4   6   8   2   16   2   3   3
ASRCP  REFRIG COMPRPMP    4   2   4   5   4   6   8   2   19   3   2   3

Form: EQPDTAEF  Table: EQPDATAT          Field: EQPSYMB          Page: 1
```

Figure 3 - 10

the diagram phases of the two systems, is obtained by selecting item **5** from the menu shown in figure 3-3. Figure 3-8 illustrates this form.

3.2.2.7 One System's Diagram Interdependency Durations

Item **6** from Figure 3-3 will yield a request for a System Symbol, after which the same form as Figure 3-8, with only a single system listed, will be provided for review and/or change.

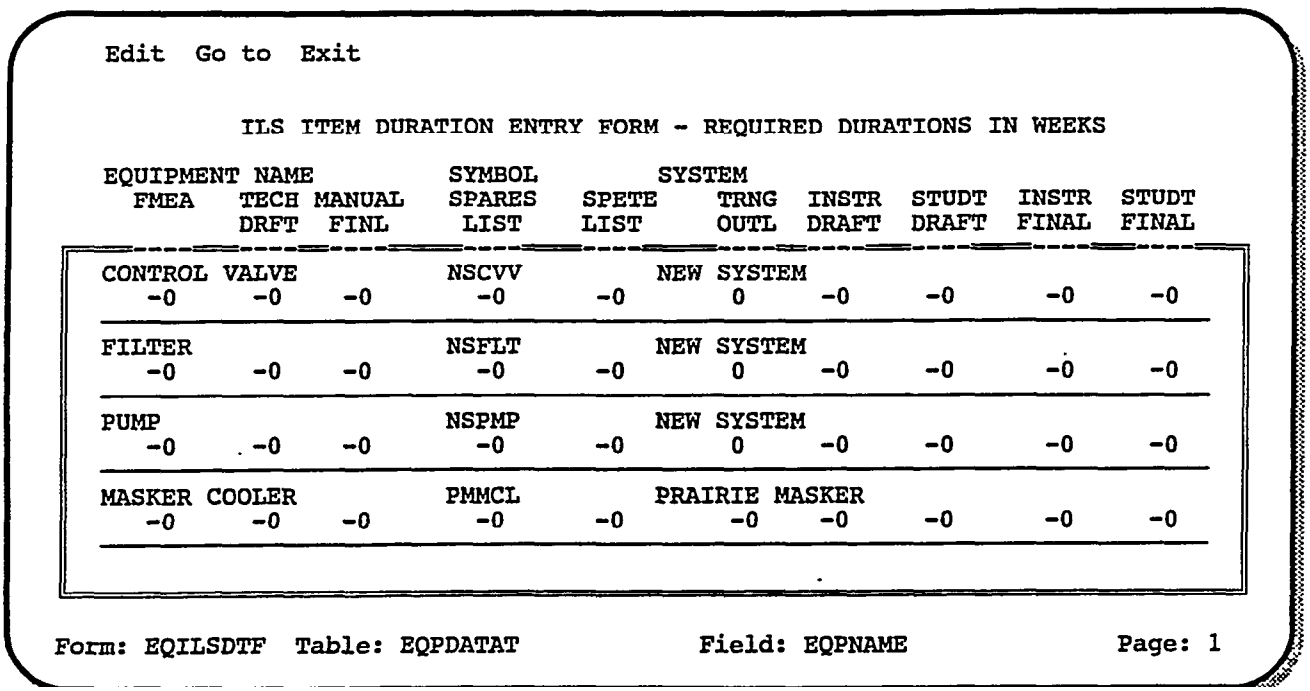
3.2.3 EQUIPMENT DATA

3.2.3.1 Menu

Selection of Item **2** from the Update Database Menu, Figure 3-2, will bring the Equipment Information Update Menu, Figure 3-9, to the screen.

3.2.3.2 Equipment Procurement Process Durations

Selection of item **1** from the menu in Figure 3-9 will generate a list of every equipment, sorted by system and equipment, showing the durations of each element of the procurement process for that equipment. See Figure 3-10. This screen is provided in order that



Edit Go to Exit

ILS ITEM DURATION ENTRY FORM - REQUIRED DURATIONS IN WEEKS

EQUIPMENT NAME			SYMBOL		SYSTEM				
FMEA	TECH DRFT	MANUAL FINL	SPARES LIST	SPETE LIST	TRNG OUTL	INSTR DRAFT	STUDT DRAFT	INSTR FINAL	STUDT FINAL
CONTROL VALVE			NSCVV		NEW SYSTEM				
-0	-0	-0	-0	-0	0	-0	-0	-0	-0
FILTER			NSFLT		NEW SYSTEM				
-0	-0	-0	-0	-0	0	-0	-0	-0	-0
PUMP			NSPMP		NEW SYSTEM				
-0	-0	-0	-0	-0	0	-0	-0	-0	-0
MASKER COOLER			PMMCL		PRAIRIE MASKER				
-0	-0	-0	-0	-0	-0	-0	-0	-0	-0

Form: EQILSDTF Table: EQPDATAT Field: EQPNAME Page: 1

Figure3-11

any of the scheduled durations can be changed for any equipment This screen is useful for changing the duration of one element for many pieces of equipment should that be necessary.

3.2.3.3 Single Equipment Procurement Durations

The choice of item 2 from the Equipment Information Update MemquFigure 3-9, Will bring to the screen a prompt similar to that shown in Figure 3-5 except that it will ask for the five digit Equipment Symbol. Entry of the symbol will bring to the screen the same form as shown in Figure 3-10, but with only the data for the one designated equipment.

3.2.3.4 One Equipment's ILS Deliverable Durations

Item 3 on the menu shown in Figure 3-9 is provided for making changes as necessary to the durations related to the ILS elements of a single equipment. Selection of this item will generate a prompt for the Equipment Symbol. When that has been entered, The form shown in Figure 3-11 will appear on the screeN but with only one row, containing the data for the selected equipment.

3.2.3.5 ILS Durations for All Equipment

The selection of item **4** from the menu in figure 3-9 will generate the form shown in Figure 3-11, allowing any of the durations shown to be entered or modified. The data is shown sorted by system.

3.2.3.6 Equipment B1ock-Stage Combinations

This menu item number **5,** is provided in order that all of the Block and Stage combinations for each equipment listed in the equipment/stage table may be reviewed and/or modified. Figure 3-12 illustrates the form that will be provided when this item is selected from the menu illustrated in Figure 3-9.

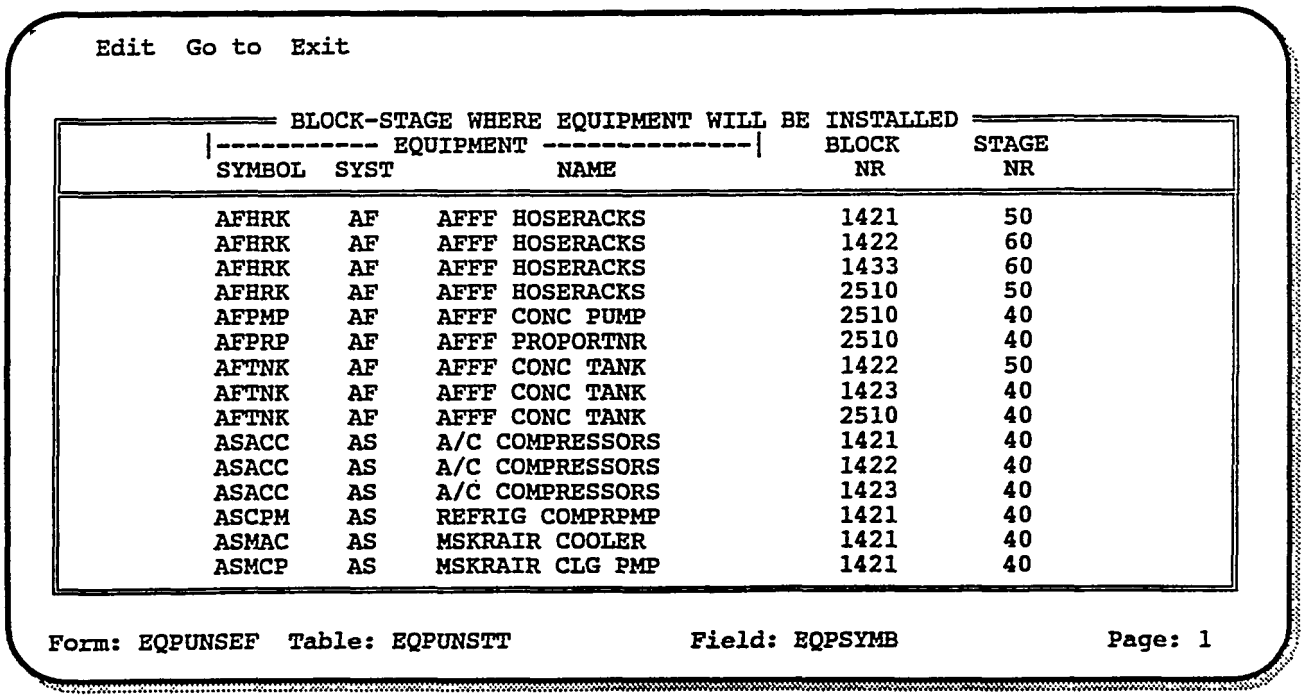


Figure 3 - 12

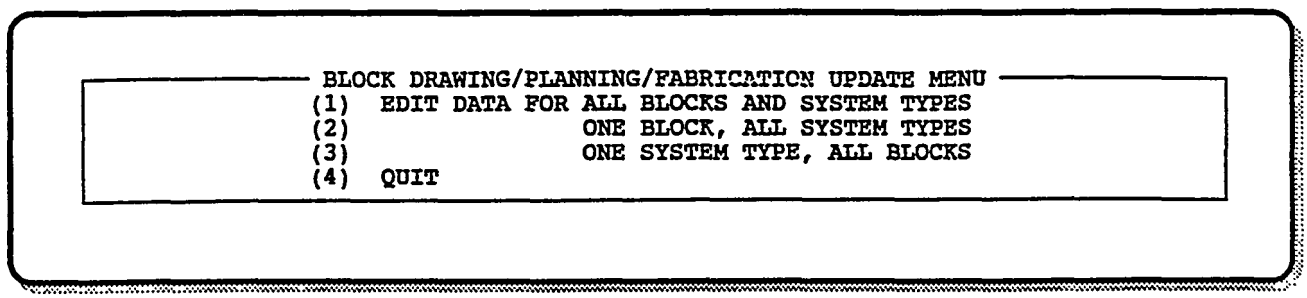


Figure 3 - 13

3.2.3.7 Block-Stage Combinations for One Equipment

The next menu item, number **6** in Figure 3-9, will provide the same information shown in Figure 3-12, but only for one equipment the symbol of which must be entered in response to the prompt that will appear when this menu item is selected. The form will show one row for every block in which the specified equipment is to be installed.

3.2.4 BLOCK FABRICATION AND ASSEMBLY SCHEDULE DURATIONS

3.2.4.1 Menu

Selection of item **3** from the Update Database Data Menu Figure 3-2, will cause the menu shown in Figure 3-13 to appear. This menu provides the opportunity to select the most useful sort of the data in the database that contains the durations for developing fabrication and assembly drawings and for planning the fabrication and assembly efforts related to each system type for each block.

Edit Go to Exit

DURATIONS FOR BADs, BFDs, Block Assembly Planning & Parts Fabrication

BLOCK	SYST TYPE	DURATIONS - WEEKS							INSTALLATION STAGE
		BAD	SS	BFD	BAP	BFP	FAB	TOT	
1110	P	8	2	7	4	4	6	29	50
1110	S	6	2	4	3	3	3	22	20
1110	W	8	2	6	3	3	2	23	50
1120	P	8	2	7	4	4	6	29	50
1120	S	6	2	4	3	3	3	22	20
1130	P	8	2	7	4	4	6	29	50
1130	S	6	2	4	3	3	3	22	20
1210	P	8	2	7	4	4	6	29	50
1210	S	6	2	4	3	3	3	22	20
1220	P	8	2	7	4	4	6	29	50
1220	S	6	2	4	3	3	3	22	20
1230	P	8	2	7	4	4	6	29	50
1230	S	6	2	4	3	3	3	22	20
1310	P	8	2	6	4	4	6	28	40

Form: SYTPRCEF Table: SYTPROCT Field: UNITNR Page: 1

Figure 3 - 14

UPDATE BLOCK-STAGE SCHEDULING DATA

(1) EDIT (OR ADD TO) BLOCK-STAGE DURATIONS/BLOCK ERECTION DATES
(2) EDIT ONE BLOCK'S STAGE SCHEDULE DATA
(3) QUIT

Figure 3 - 15

3.2.4.2 All Blocks and System Types

Selection of any of the choices in the menu in Figure 3-13 will yield the form shown in Figure 3-14. Selection of the first choice will provide a listing of all of the durations stored in the System Type Process database, as shown in that figure.

The abbreviations in the headings of the columns under the heading "Durations - Weeks" stand for Block Assembly Drawing (BAD), Block Fabrication Drawing (BFD), start to start lag between the start of the BAD and the BFD (SS), Block Assembly Planning (BAP), Block Fabrication Planning (BFP) and Fabrication (FAB). The durations of each of these processes are needed for each system type for each block.

3.2.4.3 One Block, All System Types

This menu choice, item **2**, will provide the data relating to one block, allowing changes to be made to the data when changes to a specific block must be made.

Edit Go to Exit

******** BLOCK - STAGE SCHEDULING DATA ********

BLOCK NR		STAGES PANEL ASBLY 20	BLOCK ASBLY 30	UNIT O/F 40	BLOCK O/F 1 50	BLOCK O/F 2 60	GRBLK ASBLY 65
1110	Wks ACED:	148	151	148	153	156	160
	Duration:	3	4	5	2	4	6
	Start Day	04/03/92	04/24/92	04/03/92	05/08/92	05/29/92	06/26/92
1120	Wks ACED:	144	147	144	149	152	156
	Duration:	3	4	5	2	4	6
	Start Day	03/06/92	03/27/92	03/06/92	04/10/92	05/01/92	05/29/92
1130	Wks ACED:	142	146	142	148	151	156
	Duration:	4	4	6	2	5	6
	Start Day	02/21/92	03/20/92	02/21/92	04/03/92	04/24/92	05/29/92

Form: UNSTSKEF Table: UNSTSKDT Field: UNITNR Page: 1

Figure 3 - 16

3.2.4.4 One System Type, All Blocks

Selection of menu item **3** will provide the contents of the database for the indicated sort, allowing changes to be made when necessary to all of the blocks into which any portion of a system of a single type will be installed.

3.2.5 BLOCK-STAGE CONSTRUCTION PROCESS DURATIONS

3.2.5.1 Menu

The choice of item **4** from the Update Database Data Menu, Figure 3-2, will bring the Block-Stage Scheduling Data Menu, Figure 3-15, to the screen.

3.2.5.2 All Blocks

Selection of item **1** from the menu in Figure 3-15 will generate the form shown in Figure 3-16.

3.2.5.3 One Block

The choice of item **2** in Figure 3-15, and the subsequent entry of a block number in response to the prompt that will appear on the screen, will produce the form shown in Figure 3-16, but with only the data relating to the block number that was entered.

3.3 RECALCULATE AFTER UPDATE

3.3.1 MENU

After data has been changed, there can be no assurance that the schedules which have been generated based on the original data are still valid. Menu choice number **2** from the System Data Entry Menu, Figure 3-1, will allow the recalculations that are necessary as a result of any changes that have been made. Entry of this choice will yield the Recalculation Menu, Figure 3-17.

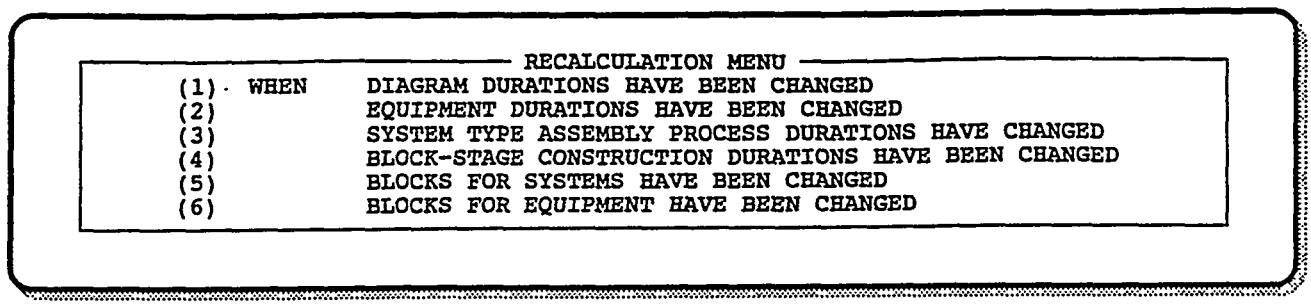


Figure 3 - 17

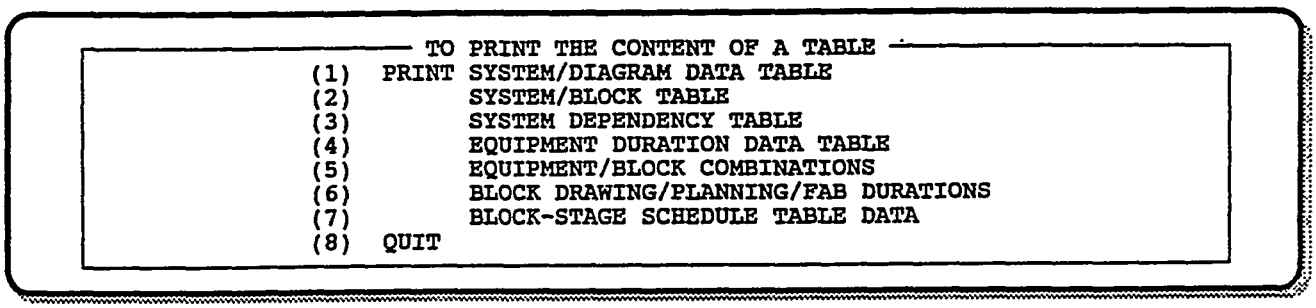


Figure 3 - 18

The choices from this menu are related to the changes that were made during the updating process. The selections will cause the processing of all calculations which are necessary in order to account for the possible influence of the changes made to the data identified in the menu item. Thus, selection of menu item 1 will cause all calculations to be made that could result in schedule changes due to changes made to diagram durations. A series of messages will appear on the screen during the calculation processes. If, during the calculation process, missing data is found, the operator will be asked to record the information provided on the screen so that the data base records can be corrected.

If changes were made to more than one of the types of data listed in the menu items, then a recalculation should be accomplished for each of them, starting with the first type listed. Thus, for example, if changes were made to system diagram durations and to the blocks in which some of a system's material or equipment are located, it would be necessary to select item **1** and item **5**, in that order, but no other items on this menu.

3.4 REPORTS

Select item **3** from the System Data Entry Menu, Figure 3-1, when you want to obtain hard copy printouts of the data in the various databases of this program. Figure 3-18 will result from this menu choice. Copies of the printouts for each of these choices are included in Appendix C.

4. SCHEDULE REPORTS AND UPDATES

4.0 INTRODUCTION

This Chapter describes the actions to be taken in order to produce schedule reports. This includes entry and updating of the Current Estimated dates for starting and completing various activities of interest, the entry of Actual dates and the generation of hard copy printouts of the schedules. The schedules included in the program as delivered are believed to be those of greatest interest to the shipyard and/or the ship owner. Modification of the forms and reports can be accomplished easily by persons knowledgeable with use of the R:BASE 4.5 program.

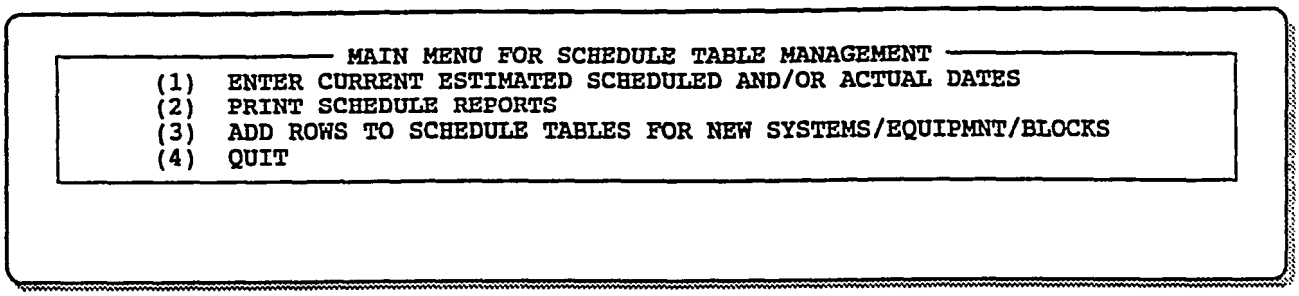


Figure 4 - 1

4.1 MAIN MENU FOR SCHEDULE TABLE MANAGEMENT

From the Main Menu, Figure 1-1, select item **1** to obtain the Main Menu For Schedule Table Management, shown in Figure 4-1. Selection of items **1** or **2** will generate menus for selecting the specific information dates to be entered or reports to be printed, respectively. Selection of item **3** will only be necessary when new systems, equipment or blocks have been entered into their respective data tables since the last use of items **1** or **2**.

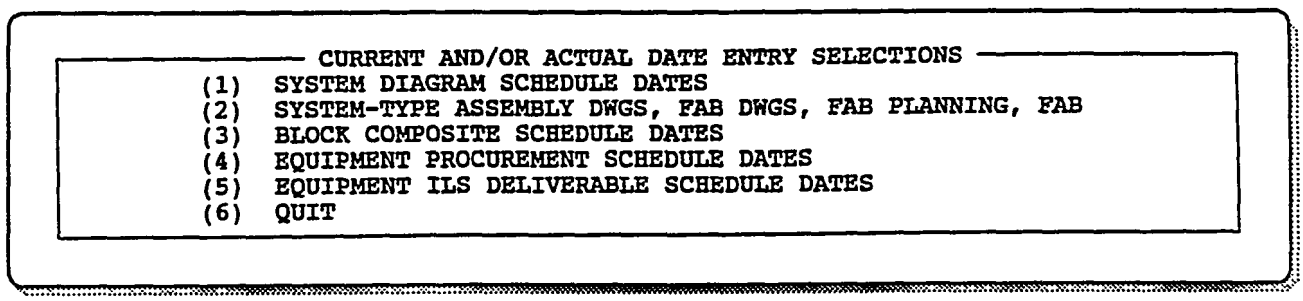


Figure 4 - 2

4.2 ENTRY OF CURRENT ESTIMATED DATES AND ACTUAL DATES

Entry of the first selection from the menu shown in Figure 4-1, will generate the menu shown in Figure 4-2. Each of the six menu options in Figure 4-2 will produce an additional menu, allowing updating of scheduling information related to different products or processes. Each of these additional menus is suited specifically to the actions required to add or update the start and finish dates related to a specific type of product or process.

```
SYSTEM DIAGRAM CURRENTLY ESTIMATED AND ACTUAL DATE ENTRY
        (1)  FOR ALL SYSTEMS SORTED BY SYSTEM SYMBOL
        (2)  FOR ONE SPECIFIC SYSTEM
        (3)  QUIT
```

Figure 4-3

```
[illegible]

SYSSYMB  SHIPYARD DWG NO           CUSTOMER DWG NO          CONTR DES DWG NO
           PHASE ONE            CALC            PHASE TWO          PHASE THREE
         ----------------- ---------------- ---------------- ----------------
         START    FINISH   START    FINISH   START    FINISH   START    FINISH
         ======== ======== ======== ======== ======== ======== ======== ========
  AF     SYDNR XXXXXXD              555-12345678D              MM053D180
Early:                                       09/21/90 11/13/90 11/16/90 01/08/91
Late  : 08/10/90 08/21/90 08/24/90 09/18/90 12/28/90 02/19/91 02/22/91 04/16/91
Curr  : 05/05/89 05/16/89 05/20/89 06/14/89 06/17/89 10/18/89 10/21/89 12/07/89
Act   : 06/09/89 06/23/89 06/23/89 -0-      -0-      -0-      -0-      -0-
--------------------------------------------------------------------------------
  AS     SYDNR YYYYYYE              520-23456789E              MM055D16D
Early:                                       09/10/90 11/16/90 11/19/90 01/25/91
Late  : 07/09/90 08/03/90 08/06/90 09/07/90 12/24/90 03/01/91 03/04/91 05/10/91
Curr  : 08/12/89 09/10/89 09/13/89 09/14/89 09/30/89 12/07/89 01/14/90 03/22/90
Act   : -0-      -0-      -0-      -0-      -0-      -0-      -0-      -0-

Form: DIACRACF  Table: DIACRACT          Field: SYSTSYMB              Page: 1
```

Figure 4-4

4.2.1 SYSTEM DIAGRAM SCHEDULE DATES

Selection of the first of the six options in Figure 4-2 will generate the menu shown in Figure4-3. Normal updating of the schedule data will presumably be accomplished by choosingitem 1 from Figure4-3, but the alternate selection is provided for updating one diagram at a time should that be found to be necessaryor desirable.

The choice of selection 1 will generate the form shown in Figure4-4. The form in cludes data for two different systems at a time, as illustrated there. The system symbol, drawing numbers and early and late dates given in the form are obtained from the system data table and cannot be changed on this form. The early and late dates are provided primarily as guidance for selection of the initial estimate of the start or finish dates of each of the phases of the diagram development effort. In normal practice, it is Unlikely that all of these dates Will actually be tracked. The fields are provided in this programe however, should they be found useful in given situations.

Selection of item **2** from the menu shown in Figure 4-3 will yield a block, shown in Figure 4-5, which asks for the entry of the two digit System Symbol. Upon entry of that information the same data entry form, Figure 4-4, will be provided, but with information pertaining only to the one system selected.

SYSTEM DIAGRAM CURRENTLY ESTIMATED AND ACTUAL DATE ENTRY

(1) FOR ALL SYSTEMS SORTED BY SYSTEM SYMBOL
(2) FOR ONE SPECIFIC SYSTEM
(3) QUIT

Enter the System Symbol (XX) :

Figure 4 - 5

SCHEDULE DATES FOR ASSEMBLY AND FAB DWGS AND PROCESSES

(1) ENTER DATES FOR ONE SYSTEM TYPE - ALL BLOCKS
(2) ENTER DATES FOR ONE BLOCK - ALL SYSTEM TYPES
(3) QUIT

Figure 4 - 6

Edit Go to Exit

Add or Revise the Currently Scheduled and Actual Completion Dates :

	BLOCK SYSTYPE BAD START	BAD FINISH	ASSEMBLY DRAWING NR. BFD START	BFD FINISH	FABRICATION DRAWING NR. BFP START	BFP FINISH	BFF START	BFF FINISH
	1110 P		1110-PI-50--			1110-PF-50-A		
Early:	11/01/91	12/24/91	11/15/91	12/31/91	01/17/92	02/11/92	02/28/92	04/07/92
Late :	11/18/91	01/10/92	11/29/91	01/14/92	01/31/92	02/25/92	03/13/92	04/21/92
Curr :	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Act :	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
	1120 P		1120-PI-50-B			1120-PF-50--		
Early:	10/04/91	11/26/91	10/18/91	12/03/91	12/20/91	01/14/92	01/31/92	03/10/92
Late :	10/21/91	12/13/91	11/01/91	12/17/91	01/03/92	01/28/92	02/14/92	03/24/92
Curr :	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Act :	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-

Form: STPCRACF Table: SYTCRACT Field: UNITNR Page: 1

Figure 4 - 7

4.2.2 ASSEMBLY AND FABRICATION PROCESS SCHEDULES

Selection of item **2** from Figure 4-2 will generate the menu shown in Figure 4-6, which allows for entry of dates for all blocks of one system type or for one block at a time. Figure 4-7 is obtained from selection of the first choice, followed by entry of "P" for the System Type symbol

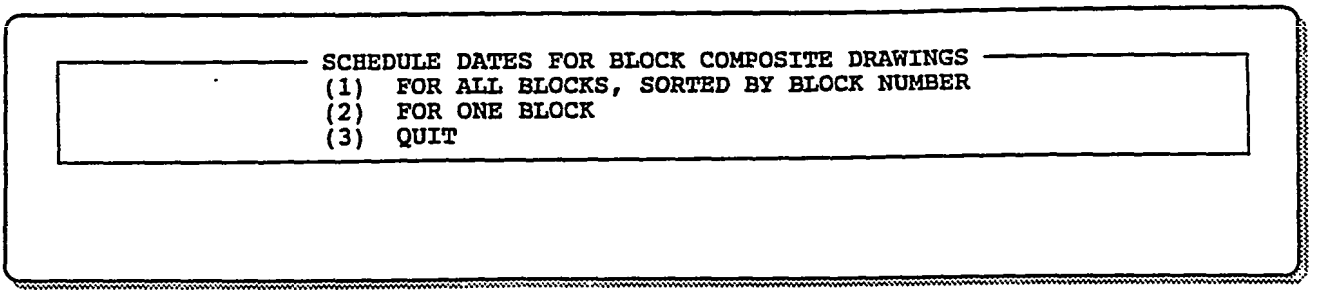


Figure 4 - 8

Edit Go to Exit

Enter the Current Scheduled Completion Dates and Actual Dates for BCD's below:

BLOCK	BCD NUMBER	CURRENT EST START	CURRENT EST FINISH	ACTUAL START	ACTUAL FINISH	LF SCHED
1110	-0-	-0-	10/01/91	-0-	-0-	10/15/91
1120	-0-	-0-	09/03/91	-0-	-0-	09/17/91
1130	-0-	-0-	08/28/91	-0-	-0-	09/10/91
1210	-0-	-0-	06/04/91	-0-	-0-	06/18/91
1220	-0-	-0-	06/11/91	-0-	-0-	06/25/91
1230	-0-	-0-	07/02/91	-0-	-0-	07/16/91
1310	-0-	-0-	04/09/91	-0-	-0-	04/23/91
1320	-0-	-0-	04/09/91	-0-	-0-	04/23/91
1330	-0-	-0-	05/07/91	-0-	-0-	05/21/91
1411	-0-	-0-	01/29/91	-0-	-0-	02/12/91
1412	-0-	-0-	01/15/91	-0-	-0-	01/22/91
1413	-0-	-0-	02/28/91	-0-	-0-	03/12/91
1414	-0-	-0-	04/09/91	-0-	-0-	04/23/91
1415	-0-	-0-	04/16/91	-0-	-0-	04/23/91
1421	-0-	-0-	04/12/91	-0-	-0-	03/15/91

Form: UCDCRACF Table: UCDCRACT Field: UNITNR Page: 1

Figure 4 - 9

in response to a prompt on the computer screen similar to that shown in Figure 4-5. The abbreviations BAD, BFD, BFP and BFF stand for the Block Assembly Drawing, Block Fabrication Drawing, Block Fabrication Planning and Fabrication, respectively, of the given System-Type elements for the Block. Since each of the processes being addressed through this menu item are related to a single system type (piping, HVAC, electrical or structural), the first choice is expected to be the normal selection from the menu in Figure 4-6.

4.2.3 BLOCK COMPOSITE DRAWING SCHEDULE DATES

The third choice from the menu illustrated in Figure 4-2 will generate the menu shown in Figure 4-8. Again, you have the choice of entering dates for all blocks or for a single block selected in response to a prompt on the screen similar to that in Figure 4-5. The form for entering BCD dates, shown in Figure 4-9, is different in general format than the other schedule data entry forms because there is less information to enter for each block.

EQUIPMENT PROCUREMENT SCHEDULE DATA ENTRY MENU

(1) UPDATE DATES FOR ALL EQUIPMENT, SORTED BY EQUIPMENT SYMBOL
(2) UPDATE DATES FOR A SPECIFIC EQUIPMENT
(3) UPDATE DATES FOR ALL EQUIPMENT OF A SINGLE SYSTEM
(4) QUIT

Figure 4 - 10

Edit Go to Exit

Enter Current Scheduled and Actual Dates For Equipment Below:

EQPMT SYMBOL NAME

	TECH SPEC START	TECH SPEC FINISH	PO AWARD	PD RECEIPT	CD RECEIPT	HARDWARE IN YARD
AFHRK	AFFF HOSERACKS					
Early	09/21/90	10/09/90	12/18/90	01/29/91	02/12/91	
Late	09/21/90	10/09/90	12/18/90	02/19/91	02/12/91	12/30/91
Current	10/16/89	11/03/89	12/15/89	02/16/90	03/02/90	-0-
Actual	-0-	-0-	-0-	-0-	-0-	-0-
AFPMP	AFFF CONC PUMP					
Early	09/21/90	10/16/90	01/01/91	02/19/91	03/05/91	
Late	09/21/90.	10/16/90	01/01/91	02/19/91	05/28/91	12/06/91
Current	10/16/89	11/10/89	01/15/90	03/02/90	03/16/90	-0-
Actual	-0-	-0-	-0-	-0-	-0-	-0-

Form: EQPCRACF Table: EQPCRACT Field: EQPSYMB Page: 1

Figure 4 - 11

4.2.4 EQUIPMENT PROCUREMENT SCHEDULE DATES

Figure 4-10 is the menu for entering the current estimated date and the actual date for processes related to equipment procurement. This menu is obtained by entering choice **4** in the menu shown Figure 4-2. The three choices available in the menu in Figure 4-10 provide maximum flexibility in entering data based upon the amount of information available for entry at any specific time. Figure 4-11, the result of having selected the first choice in Figure 4-10, is the form for entering the current estimated and actual dates for starting and finishing the Technical Specification, for the Purchase Order Award Date, for the receipt of Vendor's statement of Performance Data, for the date of receipt of the equipment's Configuration Data (normally the Vendor Drawings) and for receipt of the equipment in the shipyard. Other choices for the dates to be tracked may easily be substituted for those shown in this form.

4.2.5 ILS SCHEDULE DATES

Since ILS elements relate to specific equipment, the various sorts in the data entry menu shown in Figure 4-12, obtained by selecting choice **5** from the menu shown in Figure 4-2, are sorts related to equipment. Routine updating of ILS data for all equipments can be done using the

```
ILS CURRENT ESTIMATED AND ACTUAL SCHEDULE DATES
(1)  FOR ALL EQUIPMENT, SORTED BY EQUIPMENT SYMBOL
(2)  FOR ONE EQUIPMENT
(3)  FOR ALL EQUIPMENT OF ONE SYSTEM
(4)  QUIT
```

Figure 4 - 12

```
   Edit  Go to  Exit

                  ILS SUBMITTAL SCHEDULE DATE ENTRY FORM

EQP SYMBOL      NAME                     MANUFACTURER              MODEL NR.
                      TECHMANUALS         SPARE                    COURSE   INSTRUCTN
         FMEA      DRAFT     FINAL        PARTS      SPETE         OUTLINE  MANUALS
       --------  --------  --------     --------   --------      --------  --------

 AFHRK    AFFF HOSERACKS                  -0-                          -0-
 SCHED POA DATE: 12/18/90   CURRENT EST POA: 12/18/90  ACTUAL POA:  12/18/90
 SCHED    -0-      -0-       -0-       -0-       -0-       -0-       -0-
 CURRNT   -0-      -0-       -0-       -0-       -0-       -0-       -0-
 (Change)    -0       -0        -0        -0        -0        -0        -0
 ACTUAL   -0-      -0-       -0-       -0-       -0-       -0-       -0-

 AFPMP    AFFF CONC PUMP                  -0-                          -0-
 SCHED POA DATE: 01/01/91   CURRENT EST POA: -0-       ACTUAL POA:  -0-
 SCHED    03/26/91 04/09/91  05/21/91  04/09/91  05/07/91  05/14/91  08/13/91
 CURRNT   -0-      -0-       -0-       -0-       -0-       -0-       -0-
 (Change)    -0       -0        -0        -0        -0        -0        -0
 ACTUAL   -0-      -0-       -0-       -0-       -0-       -0-       -0-


Form: ILSCRACF  Table: ILSCRACT           Field: CUPOADAT              Page: 1
```

Figure 4-13

frist menu choice. Updating of a specific equipment'slLS schedule data will be quicker using the second choice. Should information become available on a system-wide basis, the third choice would be preferred.

See Figure 4-13 for the format of the data entry form which covers the development of the Technical Manual the receipt of the Failure Modes and Effects Analysis (FMEA), Spare parts identification Special Parts and Test Equipment List (SPETE) and the various training manual submittals.

4.3 PRINTING SCHEDULE REPORTS

Selection of Item **2** from the menu shown in Figure 4-1 will produce the Schedule Reports Menu shown in Figurere 4-14. This is a listing of the types of schedules that can be generated. Each selection on this menu will lead to another menu, identifying the different sorts that can be obtained. The five different menus that will be obtained are shown in Figures 4-15 through 4-19.

Figure 4-15 shows the prompt that will appear on the screen after entering any of the choices on the menus shown in Figures 4-15 through 4-19. After selecting one of these choices, by entering the first letter of the line (P for Printer, for instance) or by using the up or down arrow

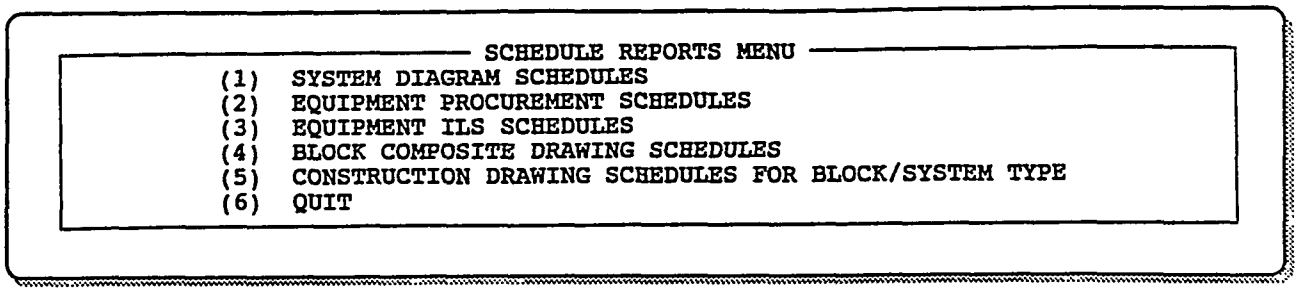


Figure 4 - 14

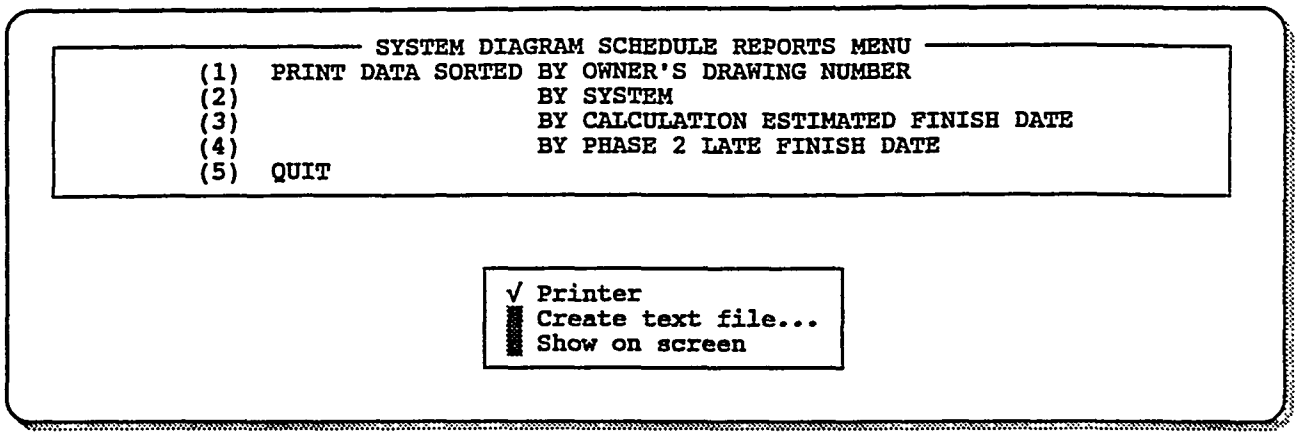


Figure 4 - 15

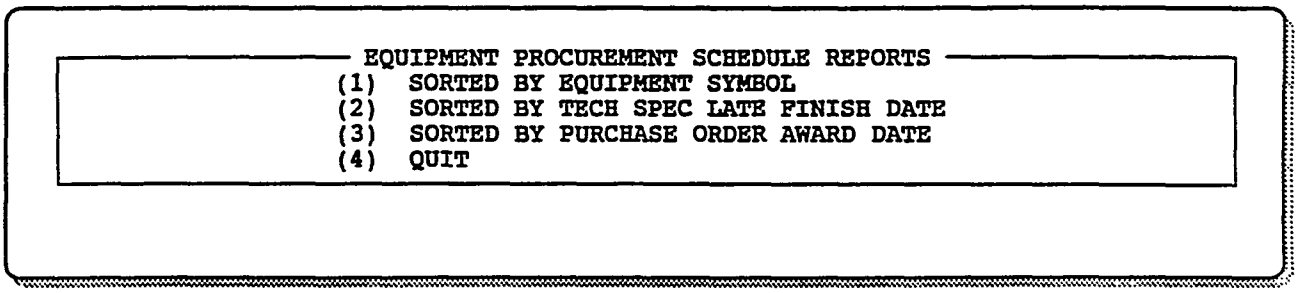


Figure 4 - 16

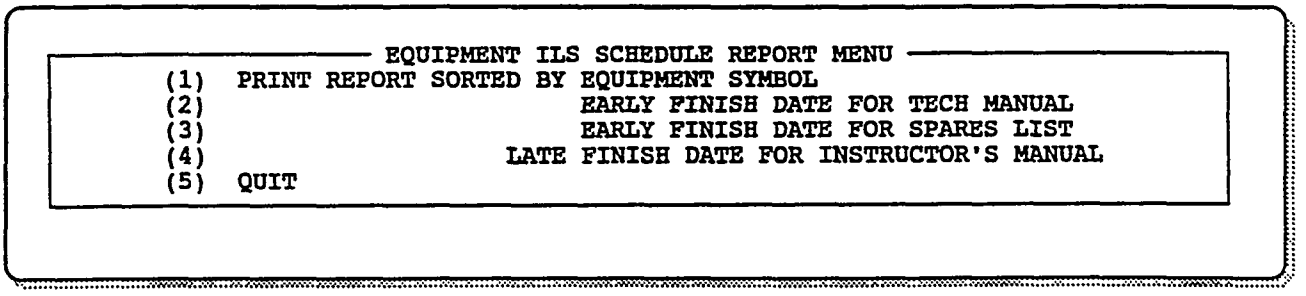


Figure 4 - 17

keys on the keyboard or by clicking on one with a mouse, a check mark will appear as in Figure 4-15. Selection of the "Create text file" choice will lead to a prompt for the file path and name. To complete the action, enter **F2.**

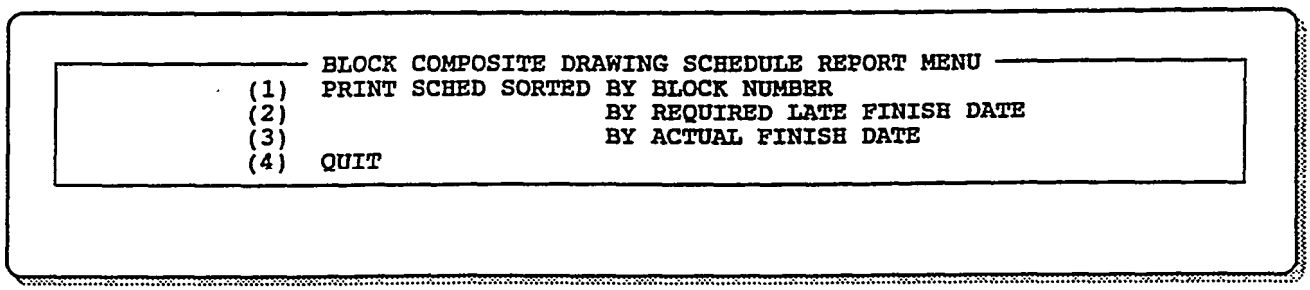


Figure 4 - 18

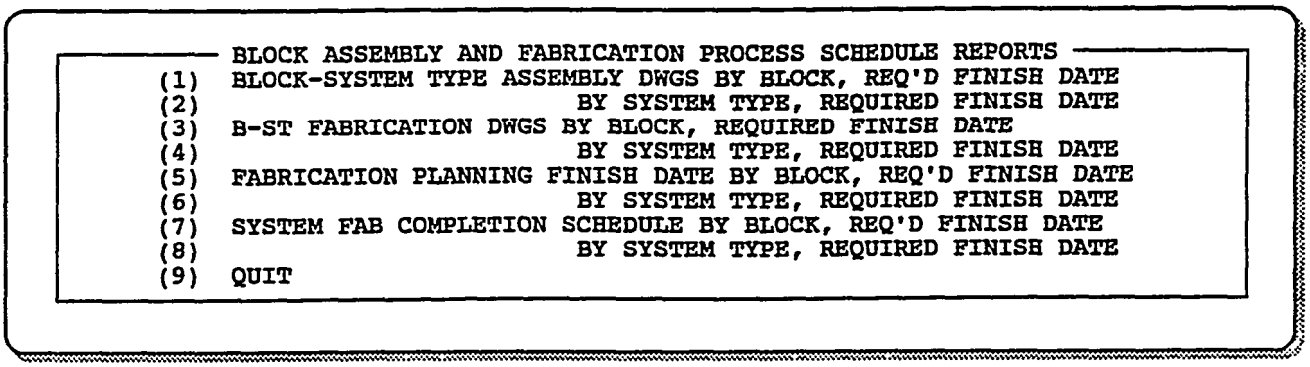


Figure 4 - 19

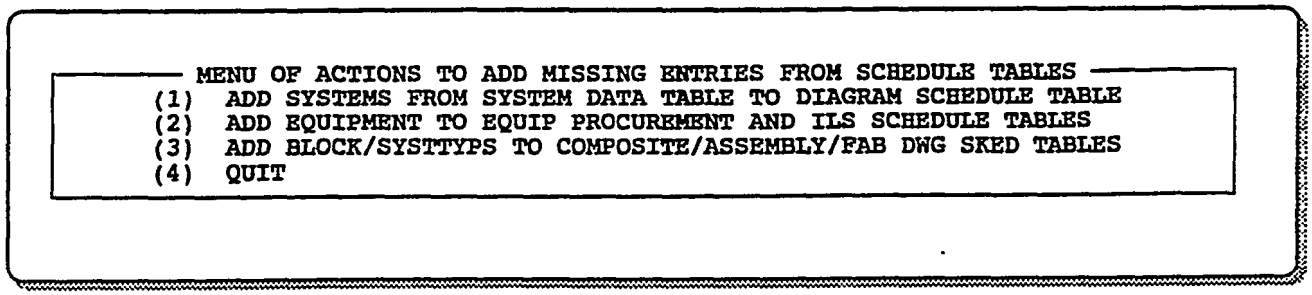


Figure 4 - 20

4.3 ADDING MISSING ENTRIES

Selection of item **3** in Figure 4-2 will result in the menu shown in Figure 4-20. The options provided in this menu allow the operator to modify the tables of schedule data when systems, equipment or blocks are added to the schedule during the shipbuilding process after the original entries for these entities have been made and the schedules generated. The entries for each item in the menu are fully descriptive of what they do.

5. SYSTEM MANAGEMENT

5.1 GENERAL

This chapter provides information for managing the overall application program. The actions discussed in this chapter are expected to be accomplished by the System Manager, with a limited number of personnel and in only particular situations. Specifically, some actions are necessary to initially install the system for application to each ship in a shipbuilding program, including setting limitations on who can access various parts of the program. Once that has been accomplished, system management efforts can be limited to checking the data that exists in each of the database tables and making changes when necessary. The most probable system management efforts other than these will be to make changes to the format and content of output reports or to the forms which appear on the screen as an aid to data entry. In addition, training will be necessary for the various individuals who will be involved in the several types of data entry.

It will be assumed that the system manager will have sufficient familiarity with R:Base 4.5 to use the menus and programs of that system to run and modify application programs, including development of tables, views, forms and reports. No effort will be made herein to cover the use of R:Base 4.5 for application modification. R:Base 4.5 is not included with this manual. It will be assumed that the R:Base 4.5 files are in a directory labeled **RBFILES.**

5.2 PROGRAM CONTENTS

The floppy disk included with this manual contains all of the files and programs needed to run the scheduling application but contains no data. That is, all of the structure is provided for the database tables, forms and reports which have been discussed in the preceding chapters, but all of the rows of every table are empty. A separate, backup copy of the entire floppy disk content should be made, although copies will be available through the NSRP.

Among the files which are provided on the floppy disk included with this manual are the three files **ip.rb1, ip.rb2** and **ip.rb3,** which define the database and which will ultimately contain all of the data as well.

In addition there are nine files which contain the application programs, which generate all of the screen menus, control the actions which send data to the database tables and produce the reports which are the ultimate product of the program. These nine files consist of three principal files, named **ipskmask ipskmod1** and **ipskmod2;** each of which has been stored in three different formats, the different formats being indicated by the suffixes **.api, .apx** and **.app.** As in all R:Base application programs, the .apx program is in ASCII format and can be modified by word processor programs or the RBedit programe, the **.apx** program is in binary format and is the program that is actually run during operation and the **.api** program is generated by the RBase Application Express program and cannot be modified except by use of Application Express.

The file **rbase.dat** is used to automatically initiate the scheduling program upon startup. The **rbase.exe** program in the **RBFILES** directory "looks for" the **rbase.dat** file in the working directory and uses it to start the application program if it is found.

All of the other programs on the disk carry out calculations of one sort or another and are used as necessary by the application programs. They all need to be in the same directory as the application programs.

5.3 SYSTEM INSTALLATION

The entire set of "empty" files from the floppy disc provided with this manual should be copied to a separate directory for each ship whose schedules are to be developed and maintained. The directories for individual ships should all be separate from the directory in which the R:Base 4.5 files are kept.

5.3.1 DOS STARTUP

To start up the program from **DOS,**

1. Ensure that the Path includes the directory which contains the R:Base 4.5 files,
2. Ensure that the active, working directory is that in which the application and database files are located. For instance, if they are in a directory named **SHIP000l** on the **B** Drive, enter **B:** and then enter **CD \SHIP0001.**
3. Enter **RBASE.**

The first menu screen shown in Figure 5-1, will appear.

5.3.2 WINDOWS STARTUP

To set, up the program so that it can be started from Windows, create a Program Group for the scheduling programs and then create a Group Icon for each ship to be scheduled.

1. To create a Program Group, from the Program Manager Window select **File,** then **New.** In the New Program Object Group Box that appears, select the Program Group option, and then choose the OK button. In the Description field of the Program Group Properties Box which appears, type a description for the Group that you wish to create. The name of the shipbuilding program, such as **XYZ Program,** would be appropriate. Leave the Group File box blank and choose the OK button.
2. With that Program Group selected in the Program Manager Window, again select File. Then select Properties from the drop down menu. In the Program Item Properties dialog box fill in the ship's hull number or other unique identifier, **XYZ-001** for instance, for the Description. In the Command Line, fill in the path to the RBASE.EXE file in the RBase 4.5 directory. The RBase 4.5 default directory is \RBFILES. Thus, if this is on the C Drive, enter **C:\RBFILES\RBASE.** In the Working Directory Box, identify the directory where the individual ship database files have been located, such as **B:\SHIP0001.** To use the RBase 4.5 Icon, select the Change Icon button and enter the filename **C:\RBFILES\RBASE.lCO** in the File Name box. Choose OK.

Now, when the cursor is placed on this icon and either the Enter key is pressed or the mouse is double clicked, the menu shown in Figure 5-1 will appear.

5.3.3 SHIP PROGRAM DATA INITIAL ENTRY

All of the schedules developed using this application program are based upon the effective date of award of the shipbuilding contract. The program can be used to develop schedules during the bid process by entering an estimated contract award date and later can be used to develop the final schedules by upgrading that date to the actual contract award date. Since this date

```
MAIN MENU - INTEGRATED SCHEDULING PROGRAM
(1)  SCHEDULE DATA (CURRENT/ACTUALS); ENTER, EDIT, OBTAIN REPORTS
(2)  INITIAL SYSTEM, EQUIP AND BLOCK DATA; ENTER, UPDATE OR PRINT
(3)  QUIT
```

Figure 5 - 1

```
SYSTEM DATA ENTRY MENU
(1)  UPDATE DATA
(2)  RECALCULATE AFTER UPDATING DIAGRAM, EQUIPMENT OR BLOCK DATA
(3)  GET REPORTS
(4)  ENTER INITIAL DATA
(5)  DO CALCULATIONS AFTER ENTERING INITIAL DATA
(6)  ENTER PROGRAM DESIGNATOR, CONTRACT EFFECTIVE AWARD DATE
(7)  QUIT
```

Figure 5 - 2

```
The Program Designator is                                    :  -0-
The Contract Award Date is                                   :  -0-
Are these Correct? <Y>/N  :  N

Enter the Program Designator (L to Leave it the same)        :  SHIP0001
Enter the correct date (MMDDYY or 111111 to keep it the same) :  122292

The Program Designator is                                    :  SHIP0001
The Contract Award Date is                                   :  12/22/92
Are these Correct? <Y>/N  :  Y
```

Figure 5 - 3

needs to be entered only one time for each schedule being developed, it should be done by the System Manager. To do this, take the following steps:

1. Select choice **2** from the main menu, shown in Figure 5-1, which will generate the menu shown in Figure 5-1.

2. Select choice **6** from the initial data entry menu shown in Figure 5-2.

Questions on the screen will ask you to enter the name of the Program Designator, say SHIP0001, and the Contract Effective Date. After these have been entered, they will be repeated and can be changed if necessary. Figure 5-3 shows the screen as it will appear after the values **SHIP0001** and **122292** have been entered.

5.4 DATA TABLE CONTENTS

The System Manager may want to review the contents of the several data base tables. Selection **3** from the System Data Entry Menu, shown in Figure 5-2, will yield the menu shown in Figure 5-4. The choices given in this menu each will provide a hard copy printout of the data in

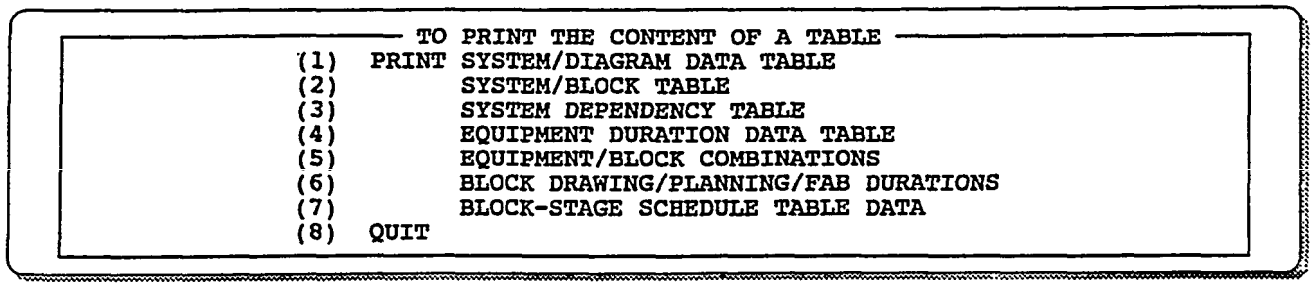


Figure 5 - 4

the respective table. These listings can be scrutinized for omissions, and for the "obviously" incorrect dates that may be created during the scheduling calculations.

Samples of the printouts are included in Appendix A.

5.4.1 OBVIOUSLY INCORRECT DATES

During some of the calculations carried out by the program after initial system and equipment information has been entered (see Paragraphs 2.6 and 3.2), the dates for several events will be compared and the earliest of these dates will be selected for subsequent calculations. If, as the several dates are being evaluated, the system finds that one of the dates is blank, i.e., that no information has been entered into that field, the program will not ignore that fact, but will generate a date that is clearly erroneous. A date having the last two digits of the year as, say 30, is clearly invalid for a ship system being built in the 1990's or early 21st century. This is provided as an error signal that a required date is missing from one of the data tables.

When the missing entries are found during calculations, a message will appear on the screen to alert the operator, describing what data is missing, and advising them to make a note of the information so that the missing data can be supplied later.

Because the calculation process requires a more thorough and basic understanding of the overalll application program and how it operates, it may be considered desirable for the calculation menu to be restricted to use by the System Manager.

APPENDIX

Table Symbol	Name/Contents
AWARDAYT	Award Date Table /Project Name, Award Date
SYSDATAT	System Data Table / System Diagram Durations, Dates
EQPDATAT	Equipment Data Table /Equipment, ILS Procurement Durations, Dates
SYSUNITT	System Block Combinations
EQPUNSTT	Equipment Block Combinations\ Stage Durations, Dates
UNSTSKDT	Block - System Type Assembly &Fabrication Drawing & Process Schedule Durations and Dates
SYTPROCT	System Block Assembly &Fabrication Drawing &Process Durations
DIACRACT	System Diagram Current and Actual Schedule Data Table
SYTCRACT	System Block Assembly &Fabrication Drawing &Process Current &Actual Schedule Data
EQPCRACT	Equipment Current and Actual Schedule Data Table
UCDCRACT	Block Composite Drawing Current and Actual Schedule Data Table
ILSCRACT	ILS Current and Actual Schedule Data Table
SYSDEPT	System Dependency Data Table

List of Data Base Tables

Form Symbol	Table/View	Form Description
SYSDATAF	SYSUNITT SYSDATAT EQPDATAT EQPUNSTT SYSDEPT	Used to enter initial system data into each of the five tables listed
SYSDTAEF	SYSDATAT	Used to add system diagram durations and edit table
EQPDTAEF	EQPDATAT	Used to enter equipment procurement process durations and edit table
EQILSDTF	EQPDATAT	Used to enter and edit equipment ILS activity durations
SYSUNTEF	SYSUNITT	Used to enter, edit system-block combinations
EQPUNSEF	EQPUNSTT	Used to enter, edit equipment block, stage combinations
UNSTSKDF	UNSTSKDT	Used to enter block stage durations, stage fab dates
UNSTSKEF	UNSTSKDT	Used to edit block stage durations, stage fab dates
SYTPROCF	SYTPROCT	Used to enter system type-block process durations
SYTPRCEF	SYTPROCT	Used to edit system type-block process durations
SYSDEPEF	SYSDEPT	Used to enter diagram dependency durations
DIACRACF	DIACRACT	Used to enter and edit system diagram current and actual schedule dates
SYTCRACF	SYTCRACT	Used to enter and edit current and actual schedule dates for the System Type - Block Assembly and Fabrication Drawing, Planning and Process Efforts
EQPCRACF	EQPCRACT	Used to enter and edit equipment procurement process current and actual schedule dates
ILSCRACF	ILSCRACT	Used to enter and edit ILS element current and actual schedule dates
UCDCRACF	UCDCRACT	Used to enter and edit Block Composite Drawing current and actual schedule dates

List of Database Forms

Report	Table/View	Report Description
SYSDATAR	SYSDATAT	Used to report content of System DataTable columns
EQPDATAR	EQPDATAT	Used to report content of Equipment procurement process durations and dates in Table columns
SYSUNITR	SYSUNITT	Used to report content of Table columns
EQPUNSTR	EQPUNSTT	Used to report content of Table columns
SYTPRSKR	SYTPROCT	Used to report content of Table schedule dates
SYTPRCSR	SYTPROCT	Used to report content of Table duration columns
SYSDEPR	SYSDEPT	Used to report content of Table columns
UNSTSKTR	UNSTSKDT	Used to report content of Table columns
DIACRACR	DIACRACT	Used to report content of Table columns
ILSSKDTR	ILSCRACT	Used to report content of Table columns
DIAGSKDR	DIAGSKDV	Used to report content of View columns
EQUIPSKR	EQPSKEDV	Used to report content of View columns
UCDSKEDR	UCDSKEDV	Used to report content of View columns
ILSSKEDR	ILSSKEDV	Used to report content of View columns
SYTSKEDR	SYTSKEDV	Used to report content of View columns

```
  Table: AWARDAYT                No Lock(s)
No. Column Name        Attributes
--- ------------------ ----------------------------------------------------
  1 PROGNAME           Type    : TEXT 15

  2 AWARDDAY           Type    : DATE

  Current number of rows:      1
```

Award Date Table

Table: SYSDATAT No Lock(s)
Descr: DATA CONCERNING EACH SYSTEM

No.	Column Name	Attributes
1	SYSTNAME	TYPE: TEXT 15 Comment: SYSTEM NAME
2	SYSTSYMB	Type : TEXT 2 Index : SINGLE-COLUMN Comment: SYMBOL FOR SYSTEM
3	SYSTTYPE	Type : TEXT 1 Comment: TYPE OF SYSTEM
4	SYDIAGNR	Type TEXT 13 Comment : SHIPYARD'S NUMBER FOR SYSTEM'S DIAGRAM
5	OWNRCDNR	Type : TEXT 13 Comment: OWNER'S NUMBER FOR CONTRACT DESIGN DIAGRAM
6	OWNRDDNR	Type : TEXT 13 Comment: OWNER'S NUMBER FOR FINAL DELIVERABLE DIAGRAM
7	DURPHAS1	Type : INTEGER Comment: DURATION IN WEEKS OF FIRST PHASE OF DIAGRAM EFFORT
8	DURCALC	Type : INTEGER Comment: DURATION IN WEEKS OF CALCULATION EFFORTS
9	DURPHAS2	Type : INTEGER Comment: DURATION IN WEEKS OF 2ND PHASE OF DIAGRAM EFFORT
10	DURPHAS3	Type : INTEGER Comment: DURATION IN WEEKS OF 3RD PHASE OF DIAGRAM EFFORT
11	MNSYSCDA	Type : DATE Comment: REQD COMPL DATE FOR UNIT COMPOSITE FOR 1ST EQUIP
12	SYDIADAY	Type : DATE Compute: (MNSYSCDA-7*DURPHAS2) Comment: START DATE OF PHASE 2 DIAGRAM EFFORT
13	MNEQADAY	Type : DATE Comment: START PROCUREMENT EFFORT FOR SYSTEM'S 1ST EQUIPMENT
14	MNINDADA	Type : DATE Compute: (lmin(SYDIADAY, MNEQADAy)) Comment: EARLIER OF DATES FOR COMPLETING CALCS -

```
 15 MNDEPADA            Type   : DATE
                        Comment:  CALC COMPL DATE BASED UPON DEPENDENT SYSTEMS

 16 LFSYSCLC            Type   : DATE
                        Compute:  (1min  (MNINDADA,MNDEPADA))
                        Comment:  LATE FINISH OF SYSTEM CALCS

 17 LSSYSCLC            Type   : DATE
                        Compute:  (LFSYSCLC-7*DURCALC+3 )
                        Comment:  LATE START OF SYSTEM CALCS

No. Column Name         Attributes
--- ------------------- ------------------------------------------------------

 18 LFPHASE2            Type    : DATE
                        Compute:  (MNSYSCDA-14)
                        Comment: LATE FINISH OF PHASE 2 DIAGRAM EFFORT

 19 LSPHASE1            Type    : DATE
                        Compute:  LSSYSCLC-7*DURPHAS1
                        Comment: LATE START PHASE 1 SYSTEM DIAGRAM EFFORT

  Current  number of rows:      12
```

System Data Table - Cont'd

Table: EQPDATAT No Lock(s)
Descr: EQUIPMENT DATA TABLE

No.	Column Name	Attributes
1	EQPNAME	Type : TEXT 15 Comment: EQUIPMENT NAME
2	EQPSYMB	Type : TEXT 5 Index : SINGLE-COLUMN Comment: EQUIPMENT SYMBOL
3	EQPORDNR	Type : TEXT 8 SINGLE-COLUMN Comment : EQUIP PURCHASE ORDER NUMBER
4	SYSTSYMB	Type : TEXT 2 Comment: SYNBOL OF SYSTEM OF WHICH EQUIPMENT IS A PAR?
5	DURPRSPK	Type : INTEGER Comment: DURATION OF PREPARATION OF TECHNICAL SPECIFICATN
6	DURPRRFQ	Type : INTEGER Comment: DURATION OF PREPARATION OF-THE RFQ
7	FFSPCRFQ	Type : INTEGER Comment: FINISH TO FINISH LAG FROM TECH SPEC PREP TO RFQ PRP
8	DURVBIDP	Type : INTEGER Comment: DURATION OF BID PREPARATION EFFORT
9	DUREVALB	Type : INTEGER Comment: DURATION OF BID EVALUATION BY SHIPBUILDER
10	DOASPKPO	Type : INTEGER Compute: (DURPRSPK+FFSPCRFQ+DURVBIDP+DUREVALB) - Comment: TOTAL DURATION TECH SPEC TO PURCHASE ORDER AWARD
11	DURVPDTA	Type : INTEGER Comment: DURATION OF VENDOR DATA PREPARATION
12	DOASPKPD	Type : INTEGER Compute: (DOASPKPO+DURVPDTA) Comment: TOTAL DURATN FM TECH SPEC START TO VENDR DATA DELVY
13	DURVCDTA	Type : INTEGER Comment: DURATN VENDOR CONFIGURATE DATA DEFINITION EFFORT
14	DOASPKCD	Type : INTEGER

		Compute: (DOASPKPO+DURVCDTA) Comment: DURATN OVERALL, TECH SPEC TO CONFIGN DATA DELVY
15	DUREVALD	Type : INTEGER Comment: DURATION OF VENDOR DATA EVALUATION EFFORT
16	DURVMFR	Type : INTEGER Comment: DURATION OF VENDOR MANUFACTURING EFFORT

No.	**Column Name**	Attributes
17	**DURVTSTG**	Type : INTEGER Comment: DURATION OF VENDOR TESTING EFFORT
18	DURVSHPG	Type : INTEGER Comment: DURATION OF VENDOR SHIPPING EFFORT
19	DURWRHSE	Type : INTEGER Comment: DURATN OF IN-YARD WAREHOUSE PREPARATION
20	DOAEQPRO	Type : INTEGER Compute: (DOASPKCD+DUREVALD+DURVMFR+DURVTSTG+DURVSHPG++DURWRHSE) Comment: TOTAL DURATION FROM POA TO READY TO INSTALL

No.	Column Name	Attributes
21	MNEQINDA	Type : DATE Comment: DATE OF INSTALLATION IN EQUIPMENT'S FIRST UNIT
22	**MNEHWADA**	Type : DATE Compute: (MNEQINDA-(7*DOAEQPRO) +3)
23	EQCDCDAY	Type : DATE
24	EQCDADAY	Type : DATE Compute: (EQCDCDAY-(7*DOASPKCD) -21)
25	EQPDCDAY	Type : DATE

No.	Column Name	Attributes
26	EQPDADAY	Type : DATE Compute: (EQPDCDAY-7*DOASPKPD-14)
27	EQPADATE	Type : DATE Compute: (lmin(MNEHWADA, EQCDADAY,EQPDADAY))
28	EQPPOADA	Type : DATE Compute: (EQPADATE+DOASPO*7) Comment: LATEST ACCEPTABLE PURCHASE ORDER AWARD DATE
29	DURFMEA	Type : INTEGER Comment: DURATION OF FMEA PREPARATION
30	DUTMDRFT	Type : INTEGER Comment: DURATION OF PREPARATION OF DRAFT TECHNICAL MANUAL

Equipment Data Table - Cont'd

No.	Column Name	Attributes
31	DUTMFINL	Type : INTEGER Comment: DURATION OF PREPARATION OF FINAL TECHNICAL MANUAL
32	DUSPARES	Type : INTEGER Comment: DURATION OF SPARES DETERMINATION EFFORT
33	DUSPETE	Type : INTEGER Comment: DURATION OF DETERMINATION OF SPETE
34	DUTROUTL	Type : INTEGER AUTONUMBER Comment : DURATION OF TRAINING MANUAL OUTLINE PREPARATI
35	DUTIUMDR	Type : INTEGER Comment: DURATION OF PREP OF DRAFT INSTRUCTOR' S TRNG MANUAL

No.	Column Name	Attributes
36	DUTRIMFI	Type : INTEGER Comment: DURATION OF PREP OF FINAL INSTRUCTOR 'S GUIDE
37	DUTRSGDR	Type : INTEGER Comment: PREPARATION OF STUDENT GUIDE DRAFT
38	DUTRSGFI	Type : INTEGER Comment: DURATION OF STUDENT GUIDE FINAL DRAFT PREPARATION
39	**LFFMEA**	Type : DATE Compute: EQPPOADA+(DURFMEA*7) Comment: LATE FINISH FMEA

No.	Column Name	Attributes
40	LFTMDRFT	Type : DATE Compute: EQPPOADA+(DUTMDRFT* 7) Comment: LATE FINISH TECH MANUAL DRAFT
41	LFTMFINL	Type : DATE Compute: EQPPOADA+(DUTMFINL*7) Comment: LATE FINISH FINAL TECH MANUAL
42	LFSPARES	Type : DATE Compute: EQPPOADA+(DUSPARES *7) Comment: LATE FINISH SPARES DEFINITION
43	LFSPETE	Type : DATE Compute: EQPPOADA+(DUSPETE* 7) Comment: LATE FINISH SPETE EFFORT

No.	column Name	Attributes
44	LFTROUTL	Type : DATE Compute: EQPPOADA+ (DUTROUTL*7) Comment: LATE FINISH TRASNING MANUAL OUTLINE

Equipment Data Table Cont'd

```
 45 LFTRIMDR          Type   : DATE
                      Compute: EQPPOADA+(DUTRIMDR* 7)
                      Comment: LATE FINISH DRAFT TRAIN'G INSTUOTOR'S MANUAL

 46 LFTRIMFI          Type   : DATE
                      Compute: EQPPOADA+(DUTRIMFI* 7)
                      Comment: LF FINAL INSTRUCTOR'S MANUAL

 47 LFTRSGDR          Type   : DATE
                      Compute: EQPPOADA+(DUTRSGDR* 7)
                      Comment: LATE FINISH STUDENT GUIDE DRAFT

No. Column Name       Attributes

 48 LFTRSGFI          Type   : DATE
                      Compute: EQPPOADA+(DUTRSGFI *7)
                      Comment: LATE FINISH FINAL STUDENT GUIDE

 49 EQPMFGR           Type   : TEXT 20
                      Comment: EQUIPMENT MANUFACTURER

 50 MFGRMODL          Type   : TEXT 15
                      Comment: MANUFACTURER'S MODEL NO-

  Current number of rows:     51


  Table: AWARDAYT             No Lock(s)
No. Column Name       Attributes

  1 PROGNAME          Type  :  TEXT 15

  2 AWARDDAY          Type   : DATE

  Current number of rows:      1
```

Equipment Data Table - Cont'd

```
  Table: SYSUNITT              No Lock(s)
  Descr: SYSTEM - UNIT COMBINATION TABLE
No. Column Name        Attributes

  1 SYSTSYMB           Type   : TEXT 2
                       Index  : SINGLE-COLUMN
                       Comment: SYSTEM SYMBOL

  2 UNITNR             Type   : INTEGER
                       Index  : SINGLE-COLUMN
                       Comment: UNIT NUMBER

  3 UNITCDAY           Type   : DATE
                       Comment: DATE FOR UNIT COMPOSITE TO BE COMPLETE

  Current number of rows:     77
```

Table: SYSDEPT No Lock(s)
Descr: SYSTEM DEPENDENCY TABLE

No.	Column Name	Attributes
1	SYSTSYMB	Type : TEXT 2 Index : SINGLE-COLUMN Comment: SYSTFM SYMBOL
2	PRVDSYST	Type : TEXT 2 Index : SINGLE-COLUMN Comment: PROVIDER SYSTEM
3	DRIVSYST	Type : TEXT 2 Comment: SYSTEM WHICH CONTROLS THE DATE OF OTHER DIAGS .
4	FF0 lUO 1P	Type: INTEGER Comment: FINISH TO FINISH LAG USER TO PROV SYS DIA PHASE 1
5	FFCLUCLP	Type INTEGER Comment : F/F LAG USER CALC TO PROVIDER CALC
6	FFCLP02U	Type : INTEGER Comment: F/F LAG PROVIDER CALC TO USER PHASE 2 DIAG EFFORT
7	FF02U02P	Type : INTEGER Comment: F/F LAG PHASE 2 USER TO PHASE 2 PROVIDER DIAGRAMS
8	PRVDADAT	Type : DATE Index : SINGLE-COLUMN Comment: A-DATE FOR PROVIDER SYSTEM
9	USRDPADA	Type : DATE Compute: (PRVDADAT-7*FFCLUCLP) Comment: USER DIAG A-DATE HASED ON MEETING PROVIDER'S A-DATE

Current number of rows: 7

EQPUNSTT No Lock(s)

Descr: EQUIPMENT-UNIT-STAGE TABLE

No.	Column Name	Attributes
1	EQPSYMB	Type : TEXT 5 Index : sINGLE-COLUMN_ Comment: EQUIPMENT SYMBOL
2	SYSTTYPE	Type : TEXT 1 Comment: SYSTEM TYPE
3	UNITNR	Type : INTEGER Index : SINGLE-COLUNN Comment: UNIT NUMBER
4	STAGENR	Type : INTEGER Index : SINGLE-COLUMN Comment: STAGE NUMBER
5	EQUNLDAY	Type Comment: INSTALLATION DATE OF EQUIPMENT INTO UNIT
6	EQUNCDAY	Type : DATE comment: DATE UNIT COMPOSITE MUST BE COMPLETED

Current number of rows: 75

Table: SYTPROCT No Lock(sl
Descr: SYSTEM-TYPE BLOCK PROCEDURE DURATIONS/SCHEDULES

No.	Column Name	Attributes
1	UNITNR	Type : **INTEGER** Index : **SINGLE-COLUMN**
2	SYSTTYPE	Type : TEXT 1 Index : SINGLE-COLUMN
3	STAGENR	Type : INTEGER Index : SINGLE-COLUMN
4	UADDWGNR	Type : TEXT 13
5	UFDDWGNR	Type : TEXT 13
6	DUSYTUAD	Type : INTEGER
7	DUSYTUAP	Type : INTEGER
8	SSUADUFD	Type : INTEGER
9	DUSYTUFD	Type : INTEGER
10	DUSYTUFP	Type :INTEGER
11	DUSYTUFF	Type : INTEGER
12	DOAUAPRC	Type : INTEGER Compute: (SSUADUFD+DUSYTUFP+DUSYTUFF+lO)
13	SYTFDAY	Type : **DATE**
14	SYTCDAY	Type : DATE Index : SINGLE-COLUMN Compute: (SYTFDAY-7*DOAUAPRC3) Comment: REQD BLOCK COMPOSITE DWG COMPL DATE FOR THIS SYSTYP
15	LFBFF	Type : DATE Compute: (SYTFDAY-17) Comment: LATE FINISH, BLOCK SYSTEM TYPE FABRICATION PROCESS
16	LSBFF	Type : DATE Compute: (LFBFF-7*DUSYTUFF+3) Comment: LATE START FABRICATION EFFORT, SYSTYPE/BLOCK
17	LFBFP	Type : DATE Compute: (LSBFF-17) Comment: LATE FINISH FABRICATION PLANNING FOR BLOCK/SYSTYP

No.	Column Name	Attributes
18	LSBFP	Type : DATE Compute: (LFBFP-7*DUSYTU=+3) Comment: LATH START, BFP
19	LFBFD	Type : DATE Compute: (LSBFP-17) Comment: LATE FINISH FABRICATION DRAWING FOR BLOCK/SYSTYP
20	LSBFD	Type : DATH Compute: (LFBFD-7*DUSYTUFD+3) Comment: LATH START BFD
21	LSBAD	Type : DATE Compute: (LSBFD-7*SSUADUFD) Comment: LATE START ASSEMBLY DWG FOR BLOCK/SYSTYP
22	**LFBAD**	Type : DATE COMPUTE: (LSBAD+7*DUSYTUAD-3) Comment: LATH FINISH BAD

Current number of rows: 69

Table: DIACRACT No Lock(s)
Descr: DIAGRAM SCHEDULE UPDATE DATA TABLE

No.	Column Name	Attributes
1	SYSTSYMB	Type : TEXT 2 Index : SINGLE-COLUMN Comment: SYSTEM SYMBOL
2	CSPHASE1	TYPE : DATE Comment : CURRENT ESTIMATE OF START OF PHASE 1 OF DIAG EFFORT
3	CFPHASE1	Type DATE Comment:CURRENT EST OF FINISH OF PHASE 1 DIAGRAM EFFORT
4	CSCALCS	Type : DATE Comment: CURRENT EST OF START OF SYSTEM CALCULATIONS
5	CFCALCS	Type : DATE Comment: CURRENT EST OF FINISH DATE OF SYST.CALCS
6	CSPHASE2	Type :DATE Comment: CURRENT EST OF PH 2 OF DIAGRAM EFFORT
7	CFPHASE2	Type Comment:CURR EST OF FINISH OF PH2 EFFORT
8	CSPHASE3	Type : DATE Comment: CURR EST START DATE OF PHASE 3
9	CFPHASE3	Type : DATE Comment: CURR EST PHASE-3 FINISH DATE
10	ASPHASE1	Type : DATE Comment: ACTUAL START PHASE 1
11	AFPHASE1	Type : DATE Comment: ACTUAL FINISH PHASE 1
12	ASCALC	Type : DATE Comment: ACTUAL START OF CALCS
13	AFCALC	Type : DATE Comment: ACTUAL FINISH DATE OF CALCS
14	ASPHASE2	Type : DATE Comment: ACTUAL START PH 2
15	AFPHASE2	Type : DATE Comment: ACTUAL FINISH PHASE 2
16	ASPHASE3	Type : DATE

Comment: ACTUAL START PHASE 3

17 AFPHASE3 Type : DATE
Comment: ACTUAL FINISH PH 3

Current number of rows: 12

Diagram Schedule Update Data Table - Cont'd

Table: SYTCRACT

No Lock(s)

No.	Column Name	Attributes
1	UNITNR	Type : INTEGER Index : SINGLE-COLUMN Comment: UNIT NUMBER
2	SYSTTYPE	Type : TEXT1 Index : SINGLE-COLUMN Comment: SYSTEM TYPE
3	CSUAD	Type : DATE Comment: CURRENT EST START OF UNIT ASSEMBLY DRAWING
4	CFUAD	Type : DATE
5	ASUAD	Type : DATE
6	AFUAD	Type : DATE
7	CSUFD	Type : DATE Comment: CURRENT EST START OF UNIT FABRICATION DRAWING
8	CFUFD	Type : DATE
9	ASUFD	Type : DATE
10	AFUFD	Type : DATE
11	CSUFP	Type : DATE Comment: CURRENT START OF UNIT FABRICATION PLANNING
12	CFUFP	Type : DATE
13	ASUFP	Type : DATE
14	AFUFP	Type : DATE
15	CSUFF	Type : DATE Comment : CURRENT EST START DATE OF UNIT FABRICATION
16	CFUFF	Type : DATE
17	ASUFF	Type : DATE
18	AFUFF	Type : DATE

Current number of rows: 69

Table: EQPCRACT No Lock(s)
Descr: EQUIPMENT SCHEDULE UPDATE DATA TABLE

No.	Column Name	Attributes
1	EQPSYMB	Type : TEXT 5 Comment: EQUIPMENT SYMBOL
2	CSTEKSPK	Type : DATE Comment: CURRENT ESTIMATE START TECH SPEC
3	CFTEKSPK	Type l DATE Comment; CURRENT ESTIMATED DATE OF FINISH OF TECH SPEC
4	ASTEKSPK	Type : DATE Comment: ACTUAL START OF TECH SPEC
5	AFTEKSPK	Type : DATE Comment: ACTUAL FINISH DATE OF TECH SPEC PREPARATION
6	CESTPOA	Type : DATE Comment: CURRENT EST OF PURCHASE ORDER AWARD DATE
7	ACTPOA	Type : DATE Comment: ACTUAL PURCHASE ORDER AWARD DATE
8	CESTPD	Type : DATE Comment: CURRENT ESTIMATE OF EQUIP PERFORMANCE DATA FM VENDR
9	ACTPD	Type : DATE Comment: ACTUAL DATE VENDOR PERF DATA RECEIVED
10	CESTCD	Type : DATE Comment: CURRENT EST DATE TO GET CONFIGURATION DATA
11	ACTCD	Type : DATE Comment: ACTUAL DATE VENDOR'S CONFIGURATION DATA REC'.
12	CESTOK	Type : DATE Comment: CURRENT EST OF DATE TO OK FOR MANUFACTURE
13	ACTOK	Type : DATE Comment: ACTUAL DATE OF OK TO MANUFACTURE
14	CESTTEST	Type : DATE Comment: CURRENT EST OF VENDOR'S EQUIPMENT TEST DATE
15	ACTTEST	Type : DATE Comment: ACTUAL DATE OF VENDOR EQUIPMENT TEST
16	CESTHWIN	Type : DATE Comment: CURRENT ESTIMATE OF HARDWARE IN-YARD DATE

17 ACTHWIN *Type* : DATE
Comment: ACTUAL IN-YARD DATE OF FIRST PIECE OF EARDWARE

Current number of rows: 46

Equipment Schedule Update Data Table - Cont'd

Table: UCDCRACT No Lock(s)
Descr: UNIT CONSTRUCTION DRAWING SCHEDULE UPDATE DATA

No.	Column Name	Attributes
1	UNITNR	Type : INTEGER Index : SINGLE-COLUMN Commnent: UNIT NUMBER
2	CSUCD	Type : DATE **Comment:** CURRENT EST OF START DATE FOR UNIT CONSTRUCTION DWG
3	CFUCD	Type : DATE **Comment:** CURRENT ESTIMATE OF FINISH OF UCD
4	ASUCD	Type : DATE **Comment:** ACTUAL START DATE OF UCD
5	AFUCD	Type : DATE Comment: ACTUAL FINISH DATE OF UCD
6	BCDNO	Type : TEXT 15 Comment: BLOCk COMPOSITE DRAWING NUMBER

Current number of rows: 34

Table: ILSCRACT No Lock(s)
Descr: ILS CURRENT AND ACTUAL SCHEDULE DATES

No.	Column Name	Attributes
1	EQPSYMB	Type : TEXT 5 Index : SINGLE-COLUMN Comment: EQUIPMENT SYMBOL
2	CUPOADAT	Type : DATE
3	AFPOADAT	Type : DATE
4	CFFMEA	Type : DATE Comment: CURRENT ESTIMATED FINISH DATE FOR FMEA
5	CHCFFMEA	Type : TEXT 2 Comment: NUMBER OF CHANGES TO CFFMEA DATE
6	AFFMEA	Type : DATE Comment: ACTUAL FINISH DATE OF FMEA
7	CFTMDRFT	Type : DATE Comment: CF EST FOR TECH MANUAL DRAFT
8	CHCFTMDR	Type :TEXT2
9	AFTMDRFT	Type : DATE
10	CFTMFINL	Type : DATE Comment: TECH MANUAL FINAL SUBMITTAL CURR EST DATE
11	CHCFTMFI	Type :TEXT2
12	AFTMFINL	Type : DATE
13	CFSPARES	Type : DATE
14	CHCFSPRS	Type :TEXT2
15	APSPARES	Type : DATE
16	CFSPETE	Type : DATE
17	CHCFSPTE	Type :TEXT2
18	AFSPETE	Type : DATE
19	CFTROUTL	Type : DATE
20	CHCFTROU	Type : THXT 2
21	AFTROUTL	Type : DATE

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22 CFTRIM              Type    : DATE
23 CHCFTRIM            Type    :TEXT2
24 AFTRIM              Type    : DATE
25 SYSTSYMB            Type    : TEXT 2
                       Comment: SYSTEM SYMBOL
```

Current number of rows: **49**

ILS Schedule Update Data Table - Cont'd

PRINTOUT OF SYSTEM DATA TABLE DIAGRAM DATA CONTENT
Printed on 04/28/92 at 20:07:39

SYSTEM NAME	SYMB	TYP	SHIPYARD'S DIAG NR			OWNER'S DWG NUMBER		
DURATIONS-WKS			DATES					
PHI CLC PH2 PH3			MNSYSCDA	DIAGADAY	MNEQADAY	MNINDADA	MNDEPADA	SYSTADAY
AFFF DISTRIBUTE	AF	P		SYDNR XXXXXD		MM053D180		
2 4 8 8	03/05/91		01/08/91	09/18/90		09/18/90	09/18/90	09/18/90
AUX SW COOLING	AS	P		SYDNR YYYYYYE		MM055D16D		
4 5 10 13	03/15/91		01/04/91	09/07/90		09/07/90	09/07/90	09/07/90
COMPRESSED AIR	CA	P				M05D12		
3 4 8 5	02/12/91		12/18/90	09/25/90		09/25/90	09/25/90	09/25/90
CHILLED WATER	Cw	P		444455023-12		01234-12-333D		
2 3 10 12	03/15/91		01/04/91	01/16/30		01/16/30	01/16/30	01/16/30
DRAIN & BALLAST	DB	P				M05D08A		
4 4 10 12	03/15/91		01/04/91	10/12/90		10/12/90	10/12/90	10/12/90
FIREMAIN	PM	P				M05D07B		
3 4 14 12	03/05/91		11/27/90	10/12/90		10/12/90	10/12/90	10/12/90
HYDRAULIC STRG	HS	P		560-60				
1 1 5 5	03/15/91		02/08/91	11/30/90		11/30/90	11/30/90	11/30/90
NEw SYSTEM	NS	P		AAA-BBB-1234		XXX-YYY-ZZZZ		
2 5 10 12								
PRAIRIE MASkER	PM	P				M08DO10		
3 3 8 8	01/22/91		11/27/90	07/31/90		07/31/90	06/12/90	06/12/90
POTABLB WATER	Pw	P						
2 4 12 13	03/05/91		12/11/90	09/25/90		09/25/90	09/18/90	09/18/90
SANITARY FLUSHG	SF	P				M05D040		
4 5 10 10	12/15/25		10/06/25	06/30/25		06/30/25	06/30/25	06/30/25
MAIN SW COOLING	SW	P				M05D		
4 5 10 13	01/22/91		11/13/90	07/24/90		07/24/90	07/24/90	07/24/90

SYSTEM-BLOCK COMBINATION TABLE DATA PRINTOUT
Printed on 01/16/89 at 20:07:50

SYMB	SYSTEM NAME	BLOCK	BLOCK C DATE
AF	AFFF DISTRIBUTN	1421	03/15/91
AF	AFFF DISTRIBUTE	1422	03/29/91
AF	AFFF DISTRIBUTN	1423	04/02/91
AF	AFFF DISTRIBUTN	1433	03/05/91
AF	AFFF DISTRIBUTE	1510	04/02/91
AF	AFFF DISTRIBUTN	1520	03/19/91
AF	AFFF DISTRIBUTE	1620	05/07/91
AF	AFFF DISTRIBUTN	2400	07/30/91
AF	AFFF DISTRIBUTN	2510	06/18/91
As	AUX SW COOLING	1421	03/15/91
As	AUX SW COOLING	1422	03/29/91
As	AUX SW COOLING	1423	04/02/91
CA	COMPRESSED AIR	1130	09/10/91
CA	COMPRESSED AIR	1230	07/16/91
CA	COMPRESSED AIR	1411	02/12/91
CA	COMPRESSED AIR	1421	03/15/91
CA	COMPRESSED AIR	1422	03/29/91
CA	COMPRESSED AIR	1423	04/02/91
CA	COMPRESSED AIR	1433	03/05/91
CA	COMPRESSED AIR	1510	04/02/91
CA	COMPRESSED AIR	2510	06/18/91
Cw	CHILLED WATER	1421	03/15/91
Cw	CHILLED WATER	1422	03/29/91
Cw	CHILLED WATER	1423	04/02/91
Cw	CHILLED WATER	1510	04/02/91
Cw	CHILLED WATER	1610	04/02/91
DB	DRAIN & BALLAST	1110	10/15/91
DB	DRAIN & BALLAST	1210	06/18/91
DB	DRAIN & BALLAST	1220	06/25/91
DB	DRAIN & BALLAST	1320	04/23/91
DB	DRAIN & BALLAST	1421	03/15/91
DB	DRAIN & BALLAST	1422	03/29/91
DB	DRAIN & BALLAST	1423	04/02/91
DB	DRAIN & BALLAST	1510	04/02/91
DB	DRAIN & BALLAST	1610	04/02/91
FM	FIREMAIN	1421	03/15/91
FM	FIREMAIN	1422	03/29/91
FM	FIREMAIN	1423	04/02/91
FM	FIREMAIN	1433	03/05/91
FM	FIREMAIN	1510	04/02/91
FM	FIREMAIN	1520	03/19/91
FM	FIREMAIN	1610	04/02/91
FM	FIREMAIN	1620	05/07/91
FM	FIREMAIN	2100	11/26/91
FM	FIREMAIN	2200	06/18/91
FM	FIREMAIN	2310	06/04/91
FM	FIREMAIN	2400	07/30/91
FM	FIREMAIN	2510	06/18/91

Page 1

SYSTEM DEPENDENCY DATA TABLE PRINTOUT On 01/15/89 At 20:08:53

SYSTEMS			FINISH-FINISH LAGS				PHASE 2 START 'A" DATES	
USER	PRVDR	DRVR	USR PHI PRV PH1	USR CLC PRV CLC	PRV PH2 USR PH2	USR PH3 PRV PH3	PRVDR ' S	USER ' S
FM	Sw	PM	2	**9**	2	2	07/24/90	05/22/90
FM	Sw		1	**2**	2	3	07/24/90	07/10/90
Ns	Sw	FM	**1**	*	2	2		
PM	SW	FM	**2**	**6**	2	2	07/24/90	06/12/90
Pw	CA			**1**	**1**	**1**	09/25/90	09/18/90
SF	CA	Pw	1	**3**	**4**	**2**	09/25/90	09/04/90
SF	SW	FM	2	**4**	2	2	07/24/90	06/26/90

EQUIPMENT DATA TABLE PRINTOUT — Printed on 01/15/89 at 20:10:04

SYSMB SYSTEM NAME / EQUIPMENT NAME / EQUIP A DATE	EQSYM	PO	NR	DURATIONS: TSP	RFQ	VBD	EVL	VPD	VCD	EVD	MFR	TST	SHP	WHS	DATES: PD C DAY / PD A DAY	CD C DAY / CD A DAY	INSTLD / HW A D
AF AFFF DISTRIBUTN																	
AFFF HOSERACKS	AFHRK			3	4	5	3	6	8	2	12	1	2	3	03/05/91	03/05/91	12/30/
09/18/90															10/09/90	09/18/90	03/21/
AFFF CONC PUMP	AFPMP			4	4	5	4	7	9	3	26	3	3	3	03/05/91	06/18/91	12/06/9
09/18/90															09/18/90	12/11/90	10/01/9
AFFF PROPORTNR	AFPRP			2	3	5	2	4	5	1	25	2	3	3	03/05/91	06/18/91	12/06/
10/30/90															10/30/90	01/29/91	12/17/
AFFF CONC TANK	AFTNK			3	4	5	2	3	6	3	12	2	3	3	03/05/91	03/29/91	11/29/9
11/02/90															11/06/90	11/02/90	02/18/9
AS AUX SW COOLING																	
A/C COMPRESSORS	ASACC			4	5	5	3	6	9	2	18	3	3	3	03/15/91	03/15/91	11/11/91
09/07/90															10/05/90	09/07/90	11/08/
REFRIG COMPRPMP	ASCPM			4	5	5	3	6	9	2	18	3	3	3	03/15/91	03/15/91	11/11/
09/14/90															10/12/90	09/14/90	11/15/9
MSKRAIR COOLER	ASMAC			2	3	5	4	4	6	2	12	2	4	3	03/15/91	03/15/91	11/11/9
10/05/90															10/26/90	10/05/90	01/17/
MSKRAIR CLG PMP	ASMCP			4	4	5	4	6	8	1	15	2	3	3	03/15/91	03/15/91	11/11/
09/14/90															10/05/90	09/14/90	12/20/9
MSKROILCLRCOMPR	ASMOC			4	5	5	3	6	8	2	13	2	3	3	03/15/91	03/15/91	11/11/9
09/14/90															10/05/90	09/14/90	12/27/
PRARYAIR COOLER	ASPAC			2	3	5	4	4	6	2	12	2	4	3	03/15/91	03/15/91	11/11/
10/12/90															11/02/90	10/12/90	01/24/9
PRARYAIR CLGPMP	ASPCP			4	4	5	4	6	8	1	15	2	3	3	03/15/91	03/15/91	11/11/
09/07/90															09/28/90	09/07/90	12/13
AUX SW PUMP	ASPMP			4	4	5	4	6	8	1	15	2	3	3	03/15/91	03/15/91	11/11/
09/14/90															10/05/90	09/14/90	12/20/9
PRAIROILCLRCMPR	ASPOC			4	5	5	4	6	8	2	13	2	3	3	03/15/91	03/15/91	11/11
09/14/90															10/05/90	09/14/90	12/27
REFR COMPR CLR	ASRCL			2	3	5	4	6	8	2	16	2	3	3	03/15/91	03/15/91	11/11/9
09/28/90															10/19/90	09/28/90	12/20/9
REFRIG COMPRPMP	ASRCP			4	4	5	4	6	8	2	19	3	2	3	03/15/91	03/15/91	11/11
09/14/90															10/05/90	09/14/90	11/15/
STNDBY ASW PUMP	ASSTB			4	4	5	4	6	8	1	15	2	3	3	03/15/91	03/15/91	11/11/9
09/14/90															10/05/90	09/14/90	12/20/9
CA COMPRESSED AIR																	
HP AIR COMPRESR	CAHPC			3	4	5	2	6	8	1	25	2	2	3	02/12/91	03/15/91	12/30/
09/25/90															09/25/90	10/05/90	12/27
HP AIR FLASK	CAHPF			2	3	5	2	0	3	1	5	1	2	3	02/12/91	03/15/91	11/11
11/20/90															11/20/90	11/23/90	05/23/
HP AIR MANIFOLD	CAHPM			3	4	5	3	1	3	1	8	2	2	3	02/12/91	03/15/91	11/1
10/23/90															10/23/90	11/02/90	04/0
CW CHILLED WATER																	
COOLING COIL	CWCYL			3	4	4	2	6	8	1	20	2	3	3	03/15/91	12/15/31	12/1
01/16/30															11/02/90	07/14/31	01/1

EQUIPMENT - BLOCK - STAGE TABLE DATA PRINTOUT
Printed on 01/15/89 at 20:11:19

SYS TYP	EQUIPMENT SYMBL	NAME	BLOCK	STAGE	INSTALLATION DATE	BLOCK 'C" DATE
P	AFHRK	AFFF HOSERACKS	1421	50	12/30/91	03/15/91
P	AFHRK	AFFF HOSERACKS	1422	60	04/06/92	03/29/91
P	AFHRK	AFFF HOSERACKS	1433	60	02/07/92	03/05/91
P	AFHRK	AFFF HOSERACKS	2510	50	01/17/92	06/18/91
P	AFPMP	AFFF CONC PUMP	2510	40	12/06/91	06/18/91
P	AFPRP	AFFF PROPORTNR	2510	40	12/06/91	06/18/91
P	AFTNK	AFFF CONC TANK	1422	50	02/03/92	03/29/91
P	AFTNK	AFFF CONC TANK	1423	40	11/29/91	04/02/91
P	AFTNK	AFFF CONC TANK	2510	40	12/06/91	06/18/91
P	ASACC	A/C COMPRESSORS	1421	40	11/11/91	03/15/91
P	ASACC	A/C COMPRESSORS	1422	40	11/22/91	03/29/91
P	ASACC	A/C COMPRESSORS	1423	40	11/29/91	04/02/91
P	ASCPM	REFRIG COMPRPMP	1421	40	11/11/91	03/15/91
P	ASMAC	MSKRAIR COOLER	1421	40	11/11/91	03/15/91
P	ASMCP	MSKRAIR CLG PMP	1421	40	11/11/91	03/15/91
P	ASMOC	MSKROILCLRCOMPR	1421	40	11/11/91	03/15/91
P	ASPAC	PRARYAIR COOLER	1421	40	11/11/91	03/15/91
P	ASPCP	PRARYAIR CLGPMP	1421	40	11/11/91	03/15/91
P	ASPMP	AUX SW PUMP	1421	40	11/11/91	03/15/91
P	ASPOC	PRAIROILCLRCMPR	1421	40	11/11/91	03/15/91
P	ASRCL	REFR COMPR CLR	1421	40	11/11/91	03/15/91
P	ASRCP	REFRIG COMFRPMP	1421	40	11/11/91	03/15/91
P	ASSTB	STNDBY ASW PUMP	1421	40	11/11/91	03/15/91
P	CAHPC	HP AIR COMPRESR"	1421	50	12/30/91	03/15/91
P	CAHPC	HP AIR COMPRESR	1422	50	02/03/92	03/29/91
P	CAHPF	HP AIR FLASK	1421	40	11/11/91	03/15/91
P	CAHPF	HP AIR FLASK	1422	40	11/22/91	03/29/91
P	CAHPM	HP AIR MANIFOLD	1421	40	11/11/91	03/15/91
P	CAHPM	HP AIR MANIFOLD	1422	40	11/22/91	03/29/91
P	CAHPM	HP AIR MANIFOLD	2400	40	02/07/92	07/30/91
P	DBACT	ACTUATOR	1421	60	02/24/92	03/15/91
P	DBACT	ACTUATOR	1422	60	04/06/92	03/29/91
P	DBACT	ACTUATOR	1423	60	01/31/92	04/02/91
P	DBAED	AUX EDUCTOR	1421	50	12/30/91	03/15/91
P	DBAED	AUK EDUCTOR	1422	50	02/03/92	03/29/91
P	DBAED	AUX EDUCTOR	1423	50	01/17/92	04/02/91
P	DBMED	MAIN EDUCTOR	1421	50	12/30/91	03/15/91
P	FMPMP	FIRE PUMP	1421	40	11/11/91	03/15/91
P	FMPMP	FIRE PUMP	1422	40	11/22/91	03/29/91
P	FMPMP	FIRE PUMP	1422	50	02/03/92	03/29/91
P	FMPMP	FIRE PUMP	1423	40	11/29/91	04/02/91
P	FMSTR	FIREPMP STRAINR	1421	40	11/11/91	03/15/91
P	FMSTR	FIREPMP STRAINR	1422	40	11/22/91	03/29/91
P	FMSTR	FIREPMP STRAINR	1423	40	11/29/91	04/02/91
P	HSSTG	STEERING GEAR	1610	50	12/13/91	04/02/91
P	NSCW	CONTROL VALVE				
P	NSFLT	FILTER			12/06/91	12/20/89
P	NSPMP	PUMP				

SYSTEM TYPE UNIT ASSEMBLY PROCESS TABLE DATA
Printed on 01/15/89 on 20:12:43

SYS TYP	UNIT	STG	DURATIONS - WEEKS UAD	UAP	SS	UFD	UFP	UFF	TOT	SYSTYPE "F" DATE	SYSTYPE "C" DATE
P	1110	50	8	4	2	7	4	6		05/08/92	10/15/91
S	1110	20	6	3	2	4	3	3		04/03/92	10/29/91
W	1110	50	8	3	2	6	3	2		05/08/92	11/26/91
P	1120	50	8	4	2	7	4	6		04/10/92	09/17/91
S	1120	20	6	3	2	4	3	3		03/06/92	10/01/91
P	1130	50	8	4	2	7	4	6		04/03/92	09/10/91
S	1130	20	6	3	2	4	3	3		02/21/92	09/17/91
P	1210	50	8	4	2	7	4	6		01/10/92	06/18/91
S	1210	20	6	3	2	4	3	3		12/13/91	07/09/91
P	1220	50	8	4	2	7	4	6		01/17/92	06/25/91
S	1220	20	6	3	2	4	3	3		12/06/91	07/02/91
P	1230	50	8	4	2	7	4	6		02/07/92	07/16/91
S	1230	20	6	3	2	4	3	3		01/03/92	07/30/91
P	1310	40	8	4	2	6	4	6		11/08/91	04/23/91
S	1310	20	6	3	2	4	3	3		11/08/91	06/04/91
W	1310	40	8	3	2	6	3	3		11/08/91	05/21/91
P	1320	40	8	4	2	6	4	6		11/08/91	04/23/91
S	1320	20	6	3	2	4	3	3		11/08/91	06/04/91
P	1330	40	8	4	2	6	4	6		12/06/91	05/21/91
S	1330	20	6	4	2	4	3	5		12/06/91	06/18/91
P	1411	50	14	6	2	10	6	8		12/06/91	03/26/91
S	1411	20	12	6	2	8	8	10		11/08/91	02/12/91
W	1411	50	8	5	2	4	4	3		12/06/91	06/25/91
P	1412	50	10	5	2	8	6	8		11/22/91	03/26/91
S	1412	20	13	4	3	12	6	8		10/25/91	01/22/91
W	1412	50	8	4	2	6	4	4		11/22/91	05/21/91
P	1413	50	12	6	2	8	6	10		11/22/91	03/12/91
P	1414	50	12	6	2	8	6	10		01/03/92	04/23/91
P	1415	50	12	6	2	8	6	10		01/03/92	04/23/91
P	1421	40	10	4	3	6	3	8		11/11/91	04/12/91
S	1421	20	12	4	3	8	3	8		10/28/91	03/15/91
W	1421	50	8	5	2	4	4	3		12/30/91	07/19/91
P	1422	30	12	4	3	7	3	9		12/30/91	05/17/91
S	1422	20	12	4	2	8	4	10		11/25/91	03/29/91
W	1422	50	8	5	2	4	4	3		02/03/92	08/23/91
P	1423	40	12	6	2	8	6	8		11/29/91	04/02/91
S	1423	20	12	6	2	8	8	10		01/03/92	04/09/91
W	1423	50	8	5	2	4	4	3		01/17/92	08/06/91
P	1424	40	9	4	2	6	4	8		11/29/91	04/30/91
S	1424	20	12	6	2	8	8	10		01/03/92	04/09/91
W	1424	40	10	4	2	5	4	8		11/29/91	05/07/91
S	1425	20	12	6	2	8	8	10		10/18/91	01/22/91
S	1431	20	12	6	2	8	8	10		01/10/92	04/16/91
S	1432	20	12	6	2	8	8	10		12/20/91	03/26/91
P	1433	40	11	4	2	9	5	7		12/06/91	04/16/91
S	1433	20	12	6	2	8	8	10		11/29/91	03/05/91
P	1510	40	12	5	2	8	5	6		11/08/91	04/02/91
S	1510	20	12	5	2	8	5	6		11/08/91	04/02/91

BLOCK-STAGE SCHEDULE TABLE DATA PRINTOUT
Printed on 04/28/92 at 20:13:52

BLOCK-STAGE TABLE DATA
Dates Based on an Effective Contract Award Date of 12/22/92

BLOCK/ C-DATE		ST 20	30	40	50	60	65
1110	Wks ACED:	148	151	148	153	156	160
	Duration:	3	4	5	2	4	6
10/15/91	Dates	04/03/92	04/24/92	04/03/92	05/08/92	05/29/92	06/26/92
1120	Wks ACED:	144	147	144	149	152	156
	Duration:	3	4	5	2	4	6
09/17/91	Dates	03/06/92	03/27/92	03/06/92	04/10/92	05/01/92	05/29/92
1130	Wks ACED:	142	146	142	148	151	156
	Duration:	4	4	6	2	5	6
09/10/91	Dates	02/21/92	03/20/92	02/21/92	04/03/92	04/24/92	05/29/92
1210	Wks ACED:	132	134	130	136	137	143
	Duration:	7	8	5	1	8	9
06/18/91	Dates	12/13/91	12/27/91	11/29/91	01/10/92	01/17/92	02/28/92
1220	Wks ACED:	131	135	131	137	139	143
	Duration:	4	4	6	2	4	9
06/25/91	Dates	12/06/91	01/03/92	12/06/91	01/17/92	01/31/92	02/28/92
1230	Wks ACED:	135	138	135	140	143	148
	Duration:	4	4	5	2	4	9
07/16/91	Dates	01/03/92	01/24/92	01/03/92	02/07/92	02/28/92	04/03/92
1310	Wks ACED:	127	130	127	133	134	140
	Duration:	8	9	5	1	2	8
04/23/91	Dates	11/08/91	11/29/91	11/08/91	12/20/91	12/27/91	02/07/92
1320	Wks ACED:	127	131	127	133	136	140
	Duration:	4	4	6	2	4	8
04/23/91	Dates	11/08/91	12/06/91	11/08/91	12/20/91	01/10/92	02/07/92
1330	Wks ACED:	131	135	131	137	140	144
	Duration:	4	4	6	2	4	8
05/21/91	Dates	12/06/91	01/03/92	12/06/91	01/17/92	02/07/92	03/06/92
1411	Wks ACED:	127	129	125	131	132	136
	Duration:	6	6	6	1	1	10
02/12/91	Dates	11/08/91	11/22/91	10/25/91	12/06/91	12/13/91	01/10/92
1412	Wks ACED:	125	127	123	129	130	134
	Duration:	6	6	6	1	1	9
01/22/91	Dates	10/25/91	11/08/91	10/11/91	11/22/91	11/29/91	12/27/91

DIAGRAM SCHEDULE -
Based on Contract Award Date of 06/02/89
Printed on 04/20/94 at 17:55:42

	SYSTEM NAME / SHIPYARD DWGNR / OWNER'S DWG NR	PHASE ONE START	PHASE ONE FINISH	CALCULATIONS START	CALCULATIONS FINISH	PHASE TWO START	PHASE TWO FINISH	PHASE THREE START	PHASE THREE FINISH
	AFFF DISTRIBUTN / SYDNR XXXXXXD / 555-12345678D					09/21/90	11/13/90	11/16/90	01/08/91
E						12/28/90	02/19/91	02/22/91	04/19/91
L		08/10/90	08/21/90	08/24/90	09/18/90	06/17/89	10/18/89	10/21/89	12/07/89
C		05/05/89	05/16/89	05/20/89	06/14/89				
A		06/09/89	06/23/89	06/23/89					
	AUX SW COOLING / SYDNR YYYYYYE / 520-23456789E					09/10/90	11/16/90	11/19/90	02/15/91
E						12/24/90	03/01/91	03/04/91	06/03/91
L		07/09/90	08/03/90	08/06/90	09/07/90	09/30/89	12/07/89	01/14/90	03/22/90
C		08/12/89	09/10/89	09/13/89	09/14/89				
A									
	CHILLED WATER / 444455023-12 / 999-6666-123A					01/19/30	03/27/30	03/30/30	06/19/30
E						12/24/90	03/01/91	03/04/91	05/27/91
L		12/15/29	12/26/29	12/29/29	01/16/30	10/29/90	01/04/91	01/07/91	03/15/91
C		09/24/90	10/05/90	10/08/90	10/26/90				
A									
	COMPRESSED AIR					09/28/90	11/20/90	11/23/90	12/25/90
E						12/07/90	01/29/91	02/01/91	03/08/91
L		08/10/90	08/28/90	08/31/90	09/25/90	08/27/90	10/19/90	10/22/90	12/14/90
C		07/09/90	07/27/90	07/30/90	08/24/90				
A		06/12/90							
	DRAIN & BALLAST					10/15/90	12/21/90	12/24/90	03/15/91
E						12/24/90	03/01/91	03/04/91	05/27/9?
L		08/20/90	09/14/90	09/17/90	10/12/90				
C									
A									
	FIREMAIN					10/15/90	01/18/91	01/21/91	04/12/9?
E						11/16/90	02/19/91	02/22/91	05/17/91
L		08/27/90	09/14/90	09/17/90	10/12/90	10/01/90	11/23/90	11/26/94	01/18/9?
C		08/15/90	08/31/90	09/03/90	09/28/90				
A									
	HYDRAULIC STRG / 560-60 / 560-34567890F					12/03/90	01/04/91	01/07/91	02/08/9?
E						01/28/91	03/01/91	03/04/91	04/08/9?
L		11/19/90	11/23/90	11/26/90	11/30/90				
C									
A									
	MAIN SW COOLING					07/27/90	10/02/90	10/05/90	01/01/91
E						11/02/90	01/08/91	01/11/91	04/12/9?
L		05/25/90	06/19/90	06/22/90	07/24/90	10/15/90	12/21/90	12/24/90	03/01/9?
C		08/20/90	09/07/90	09/10/90	10/12/90				
A									

BLOCK COMPOSITE DRAWING SCHEDULE -
Based on a Contract Award Date of 06/02/89
Printed on 04/09/94 at 9:28:32

BLOCK	DRAWING NUMBER	ORIG SCHED FINISH	CURRENT EST START	CURRENT EST FINISH	ACTUAL START	ACTUAL FINISH
1110		10/15/91		10/01/91		
1120		09/17/91		09/03/91		
1130		09/10/91		08/28/91		
1210		06/18/91		06/04/91		
1220		06/25/91		06/11/91		
1230		07/16/91		07/02/91		
1310		04/23/91		04/09/91		
1320		04/23/91		04/09/91		
1330		05/21/91		05/07/91		
1411		02/12/91		01/29/91		
1412		01/22/91		01/15/91		
1413		03/12/91		02/28/91		
1414		04/23/91		04/09/91		
1415		04/23/91		04/16/91		
1421		03/15/91		04/12/91		
1422		03/29/91		03/20/91		
1423		04/02/91		03/20/91		
1424		04/09/91		03/27/91		
1425		01/22/91		01/15/91		
1431		04/16/91		04/02/91		
1432		03/26/91		03/12/91		
1433		03/05/91		02/21/91		
1510		04/02/91		03/19/91		
1520		03/19/91		03/05/91		
1610		04/02/91		03/19/91		
1620		05/07/91		04/23/91		
2100		11/26/91		11/12/91		
2210		12/15/25		11/05/91		
2310		06/04/91		05/21/91		
2320		07/02/91		06/18/91		
2330		06/18/91		06/04/91		
2400		07/30/91		07/16/91		
2510		06/18/91		06/04/91		
2520		06/18/91		06/04/91		

SYSTEM TYPE BLOCK ASSEMBLY PROCESS SCHEDULE
Based on a Contract Award Date of 06/02/89
Printed on 04/21/94 at 21:04:54

BLOCK	SYSTYPE	ASSEMBLY DRAWING NR.		FABRICATION DWG NR.			
		BAD		BFD		BFP		BFF	
		START	FINISH	START	FINISH	START	FINISH	START	FINISH
1110	S			1110-SI-20-A		1110-SF-20-B			
Early:		11/01/91	12/10/91	11/15/91	12/10/91	12/27/91	01/14/92	01/31/92	02/18/92
Late :		11/29/91	01/07/92	12/13/91	01/07/92	01/24/92	02/11/92	02/28/92	03/17/92
Curr :									
Act :									
1110	P			1110-PI-50--		1110-PF-50-A			
Early:		11/01/91	12/24/91	11/15/91	12/31/91	01/17/92	02/11/92	02/28/92	04/07/92
Late :		11/15/91	01/07/92	11/29/91	01/14/92	01/31/92	02/25/92	03/13/92	04/21/92
Curr :									
Act :									
1110	W			1110-WI-50-A		1110-WF-50-B			
Early:		11/01/91	12/24/91	11/15/91	12/24/91	01/10/92	01/28/92	02/14/92	02/25/92
Late :		12/27/91	02/18/92	01/10/92	02/18/92	03/06/92	03/24/92	04/10/92	04/21/92
Curr :									
Act :									
1120	P			1120-PI-50-B		1120-PF-50--			
Early:		10/04/91	11/26/91	10/18/91	12/03/91	12/20/91	01/14/92	01/31/92	03/10/92
Late :		10/18/91	12/10/91	11/01/91	12/17/91	01/03/92	01/28/92	02/14/92	03/24/92
Curr :									
Act :									
1120	S			1120-SI-20-C		1120-SF-20-B			
Early:		10/04/91	11/12/91	10/18/91	11/12/91	11/29/91	12/17/91	01/03/92	01/21/92
Late :		11/01/91	12/10/91	11/15/91	12/10/91	12/27/91	01/14/92	01/31/92	02/18/92
Curr :									
Act :									
1130	S			1130-SI-20-A		1130-SF-20-B			
Early:		09/27/91	11/05/91	10/11/91	11/05/91	11/22/91	12/10/91	12/27/91	01/14/92
Late :		10/18/91	11/26/91	11/01/91	11/26/91	12/13/91	12/31/91	01/17/92	02/04/92
Curr :									
Act :									
1130	P			1130-PI-50-B		1130-PF-50-C			
Early:		09/27/91	11/19/91	10/11/91	11/26/91	12/13/91	01/07/92	01/24/92	03/03/92
Late :		10/11/91	12/03/91	10/25/91	12/10/91	12/27/91	01/21/92	02/07/92	03/17/92
Curr :									
Act :									

EQUIPMENT SCHEDULES AND STATUS
Based on Contract Award Date of 06/02/89
Printed On 06/30/89 at 17:59:05

SYSTEM EQUIPMENT NAME	SYMBOL / TECH START	PO NR. / SPEC FINISH	PO AWARD	PD RECEIPT	CD RECEIPT
AFFF DISTRIBUTN					
AFFF HOSERACKS	AFHRK				
Early Sched	09/21/90	10/09/90	12/18/90	01/29/91	02/12/91
Late Sched	09/21/90	10/09/90	12/18/90	02/19/91	02/12/91
Current Sched	10/16/89	11/03/89	12/15/89	02/16/90	03/02/90
Actual					
AFFF CONC PUMP	AFPMP				
Early Sched	09/21/90	10/16/90	01/01/91	02/19/91	03/05/91
Late Sched	09/21/90	10/16/90	01/01/91	02/19/91	05/28/91
Current Sched	10/16/89	11/10/89	01/15/90	03/02/90	03/16/90
Actual					
AFFF PROPORTNR	AFPRP				
Early Sched	09/21/90	10/02/90	12/11/90	02/19/91	02/26/91
Late Sched	11/02/90	11/13/90	01/22/91	02/19/91	05/28/91
Current Sched					
Actual					
AFFF CONC TANK	AFTNK				
Early Sched	09/21/90	10/09/90	12/11/90	02/15/91	03/08/91
Late Sched	11/05/90	11/23/90	01/25/91	02/19/91	03/08/91
Current Sched	07/22/89	08/09/89	10/04/89	11/15/89	11/29/89
Actual					
AUX SW COOLING					
A/C COMPRESSORS	ASACC				
Early Sched	09/10/90	10/05/90	12/21/90	02/01/91	02/22/91
Late Sched	09/10/90	10/05/90	12/21/90	03/01/91	02/22/91
Current Sched					
Actual					
REFRIG COMPRPMP	ASCPM				
Early Sched	09/10/90	10/05/90	12/14/90	02/01/91	02/22/91
Late Sched	09/17/90	10/12/90	12/21/90	03/01/91	02/22/91
Current Sched					
Actual					
MSKRAIR COOLER	ASMAC				
Early Sched	09/10/90	09/21/90	12/14/90	02/08/91	02/22/91
Late Sched	10/08/90	10/19/90	01/11/91	03/01/91	02/22/91
Current Sched					
Actual					

ILS SCHEDULE STATUS
Printed as of 04/20/94

SYSTEM	EQUIPMENT NAME	SYMBOL	COMPLETION DATES MANUFACTURER			MODEL	
POA DATE	FMEA	TECH MANUALS DRAFT	TECH MANUALS FINAL	SPARES LIST	TEST EQP/MTLS	TRAINING COURSE OUTLINE	TRAINING COURSE MANUALS
AFFF DISTRIBUT	AFFF HOSERACKS	AFHRK					
ORIGNL							
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AFFF DISTRIBUT	AFFF CONC PUMP	AFPMP					
ORIGNL	03/26/91	04/09/91	05/21/91	04/09/91	05/07/91	05/14/91	08/13/91
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AFFF DISTRIBUT	AFFF PROPORTNR	AFPRP					
ORIGNL	04/02/91	04/30/91	06/11/91	04/30/91	07/09/91	07/09/91	10/01/91
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AFFF DISTRIBUT	AFFF CONC TANK	AFTNK					
ORIGNL	01/25/91	01/25/91	01/25/91	01/25/91	01/25/91	01/25/91	01/25/91
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AUX SW COOLING	A/C COMPRESSORS	ASACC					
ORIGNL							
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AUX SW COOLING	REFRIG COMPRPMP	ASCPM					
ORIGNL							
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AUX SW COOLING	MSKRAIR COOLER	ASMAC					
ORIGNL							
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							
AUX SW COOLING	MSKRAIR CLG PMP	ASMCP					
ORIGNL							
CURRNT							
(Changes)	( )	( )	( )	( )	( )	( )	( )
ACTUAL							

BLOCK	C-DATE	SCHEDULED STAGE DURATIONS/START DATES/FINISH DATES Based on an Effective Contract Award Date of ST 20	30	40	50	60	65
1424	04/09/91						
Sched Duration		3	3	8	1	2	5
Sched Start		01/03/92	01/03/92	11/29/91	01/17/92	01/31/92	02/14/92
Sched Finish		01/21/92	01/21/92	01/21/92	01/21/92	02/11/92	03/17/92
1425	01/22/91						
Sched Duration		4	4	8	2	4	7
Sched Start		10/18/91	11/15/91	10/18/91	11/29/91	12/20/91	01/24/92
Sched Finish		11/12/91	12/10/91	12/10/91	12/10/91	01/14/92	03/10/92
1431	04/16/91						
Sched Duration		4	4	6	4	4	9
Sched Start		01/10/92	02/07/92	01/24/92	02/21/92	03/13/92	04/10/92
Sched Finish		02/04/92	03/03/92	03/03/92	03/17/92	04/07/92	06/09/92
1432	03/26/91						
Sched Duration		4	4	8	2	4	9
Sched Start		12/20/91	01/17/92	12/20/91	01/31/92	02/21/92	03/20/92
Sched Finish		01/14/92	02/11/92	02/11/92	02/11/92	03/17/92	05/19/92
1520	03/19/91						
Sched Duration		4	4	5	2	4	6
Sched Start		10/25/91	11/22/91	10/25/91	12/06/91	12/27/91	01/31/92
Sched Finish		11/19/91	12/17/91	11/26/91	12/17/91	01/21/92	03/10/92
1510	04/02/91						
Sched Duration		8	9	4	1	2	6
Sched Start		11/08/91	11/22/91	11/08/91	12/13/91	12/20/91	01/31/92
Sched Finish		12/31/91	01/21/92	12/03/91	12/17/91	12/31/91	03/10/92
1310	04/23/91						
Sched Duration		8	9	5	1	2	8
Sched Start		11/08/91	11/29/91	11/08/91	12/20/91	12/27/91	02/07/92
Sched Finish		12/31/91	01/28/92	12/10/91	12/24/91	01/07/92	03/31/92
1320	04/23/91						
Sched Duration		4	4	6	2	4	8
Sched Start		11/08/91	12/06/91	11/08/91	12/20/91	01/10/92	02/07/92
Sched Finish		12/03/91	12/31/91	12/17/91	12/31/91	02/04/92	03/31/92
1330	05/21/91						
Sched Duration		4	4	6	2	4	8
Sched Start		12/06/91	01/03/92	12/06/91	01/17/92	02/07/92	03/06/92
Sched Finish		12/31/91	01/28/92	01/14/92	01/28/92	03/03/92	04/28/92
2520	06/18/91						
Sched Duration		4	4	6	2	4	7
Sched Start		12/06/91	01/03/92	12/06/91	01/17/92	02/07/92	03/06/92
Sched Finish		12/31/91	01/28/92	01/14/92	01/28/92	03/03/92	04/21/92

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