Technical Report 123

CHIEF OF NAVAL AIR TRAINING
RESOURCE PLANNING SYSTEM (RPS)
PROGRAMMER DOCUMENTATION

Thomas O. Peeples
Gary W. Hodak

Training Analysis and Evaluation Group

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ALFRED F. SMODE, Ph.D., Director
Training Analysis and Evaluation Group

W. L. MALOY, Ed.D.
Deputy Chief of Naval Education and Training for Educational Development and Research and Development
This report provides a brief description of the Chief of Naval Air Training (CNATRA) Resource Planning System (RPS) and provides detailed programmer documentation for all of the RPS subsystems.
TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>............................................</td>
</tr>
<tr>
<td>Purpose of the Report</td>
<td>...........................................</td>
</tr>
<tr>
<td>Organization of the Report</td>
<td>.......................................</td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>OVERVIEW OF THE RESOURCE PLANNING SYSTEM</td>
<td>......................</td>
</tr>
<tr>
<td>System Options</td>
<td>........................................</td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>RESOURCE PLANNING SYSTEM PROGRAMMER DOCUMENTATION</td>
<td>..................</td>
</tr>
</tbody>
</table>

LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Resource Planning System (RPS) Master Menu</td>
<td>....................</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Overall System Flow Chart</td>
<td>......................................</td>
</tr>
</tbody>
</table>

LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Training Wing Resource Requirements Calculations</td>
<td>..................</td>
</tr>
</tbody>
</table>
SECTION I
INTRODUCTION

The Chief of Naval Air Training (CNATRA) has the primary responsibility to provide undergraduate pilot and naval flight officer training for the Navy, Marine Corps, Coast Guard, and selected foreign nationals. To accomplish this mission, CNATRA is responsible for overall management functions including budget submissions to ensure that adequate funds are allocated to conduct all required training and operations. A variety of factors (i.e., availability of aircraft, manning levels, naval aviator/naval flight officer continuation rates) impact on CNATRA's planning and management functions and resource requirements. To facilitate the planning process and to provide faster and more accurate information analyses, the Chief of Naval Education and Training (CNET) tasked the Training Analysis and Evaluation Group (TAEG) to design a resource requirements projection model for CNATRA. The Resource Planning System (RPS) was designed to efficiently manage and analyze the enormous amount of data necessary to determine the resource requirements to produce a specified number of pilots and/or naval flight officers.

Proper documentation is essential for effectively using and efficiently maintaining any computer software. The documentation should be comprised of both user and programmer information and be designed to fill the informational needs of the designated personnel who will ultimately be responsible for using the system and maintaining the software. Hodak, Parrish, and Middleton (1982) provides user documentation for RPS. The information contained in this present report is intended to be used by the programmers and operating personnel specifically involved in maintaining the CNATRA RPS.

PURPOSE OF THE REPORT

The purpose of this report is to provide a brief overview of the Chief of Naval Air Training Resource Planning System and to provide detailed programmer documentation for all of the RPS subsystems.

ORGANIZATION OF THE REPORT

In addition to this introduction the report contains two other sections. Section II presents an overview of RPS and briefly describes the function of each option in the system. Section III provides detailed programmer documentation for each of the options in RPS.

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SECTION II

OVERVIEW OF THE RESOURCE PLANNING SYSTEM

The purpose of the RPS is to provide an easy and efficient means to determine the resources required to produce a specified number of naval aviators and naval flight officers. The model is based on a roll-back technique in which the desired output of naval aviators/naval flight officers is given as the independent variable. Then utilizing a specified predetermined training time and attrition rate, the model determines the number of students that must enter the pipeline and the number of support personnel, instructors, and aircraft required for each training wing (TRAWING) to meet the training objective. The overall resource requirements for each TRAWING are derived utilizing the equations shown in Table 1.

Figure 1 presents the options that comprise the RPS. Five primary options may be selected by the user via the Master RPS Menu. When the user selects an option, the subsystem appears on the display as a list (menu) of additional options which allow the user to insert, delete, update, print, or analyze various data elements.

This system is designed to be highly interactive and user oriented; consequently, numerous messages and instructions are provided throughout to aid the user. Additionally, the system can accommodate a variety of users in both the initial insertion of data as well as in the analysis of these data.

The operating environment and special support software deserve special attention and are discussed in this overview. The RPS software is written in BASIC-2 and is designed to operate on a WANG 2200 VP or WANG 2200 MVP computer in either a multiplexed or non-multiplexed disk environment. All models of currently available WANG disks are supported. The RPS uses Key File Access Method Seven (KFAM-7) for initializing all of the system data key files and the help subsystem files. Full record protection is afforded by RPS and KFAM-7. The KFAM-7 programs used with the RPS have been modified to support additional error recovery tables. Therefore, only the KFAM-7 programs supplied with the RPS should be used.

In a multi-user environment, RPS assigns a unique station number to each user. This station number, along with the current date and disk address of the data files, is displayed in the upper right corner of the master menu and all subsystem menus.

SYSTEM OPTIONS

The Special Support Subsystem (Option $) software consists of programs to initialize files, edit help files, rebuild key files, and provide error recovery. Two special support options are provided for error recovery. These options allow the user to reset the RPS Busy Flags and reset the User Table.
TABLE 1.  TRAINING WING RESOURCE REQUIREMENTS CALCULATIONS

Flight Hours

Annual Flight Hours (I) = Phased PTR (I) X aircraft HRS/Student (I)

Other

Total Annual Flight Hours = \( \sum_{I = \text{USN}} \) Annual Flight Hours (I)

Where I is the type of student--USN, USMC, USCG, Foreign, Other.

PTR is pilot training rate

Aircraft

A-3 Status Aircraft (I) = \( \frac{\text{Annual Aircraft Flight Hours (I)}}{\text{Annual Aircraft Utilization (I)}} \)

Other

Total A-3 Status Aircraft = \( \sum_{I = \text{USN}} \) A-3 Status Aircraft (I)

Group IX Enlisted

Group IX Enlisted (I) = \( \sum_{J} \) A-3 Status Aircraft (I) X Mo (I, J)

Where Mo = Maintenance Factor and J = Squadron or Naval Air Station

Other

Total Group IX Enlisted = \( \sum_{I = \text{USN}} \) Group IX Enlisted (I)
Figure 1. Resource Planning System (RPS) Master Menu
Technical Report 123

The help files may be used to provide messages to tell the user how to proceed at various places in the system. These help files may be customized by the user to place more or less emphasis on different parts of the system and to describe procedures or techniques which may be unique to the command.

The Maintain System Tables Subsystem (Option 1) allows the user to input, edit, delete, and print data items related to the pilot training rate (PTR). This also includes Planning Factors and Phasing Percentages.

The Perform Update Calculations Subsystem (Option 2) calculates the PTR file, the phased PTRs and the resource outputs. Additionally, this subsystem allows the user to print the Phase PTR.

The Report Generation Subsystem (Option 3) enables the user to print a variety of reports from the calculated PTR file and Phased FY requirements.
SECTION III

RESOURCE PLANNING SYSTEM PROGRAMMER DOCUMENTATION

The computer program documented in this section is designed to fill the informational needs of the programming personnel assigned to use the RPS. The documentation is structured exactly as the program options are presented in section II. Consequently, the programmer can readily follow the explanations. Figure 2 depicts the overall Resource Planning System.

The format of the documentation information is the same for each of the options. The Program Abstract will be encountered first. It contains a brief description of the option and specifies the computer hardware and memory requirements. Also contained on the form are listings of the required program and data files. The next form encountered is the system flow chart. It provides a graphic overview of the option being documented. Its major purpose is to show how the operations flow through the process rather than how the individual steps are completed. The third form (if applicable) provides the programmer with a list of all common data elements. And, lastly, a complete program listing is included.

The remainder of this section presents the detailed program abstracts and flow charts for the RPS.
Figure 2. Overall System Flow Chart
PROGRAM ABSTRACT

SYSTEM: RPS
PROGRAM: RPS.MENU

1.0

Master Menu Display Program--upon user selection, this program loads RPS.$SYS, RPS.IESM, RPS.CAMN, RPS.RGMN, RPS.TPIN or RPS.$END which respectively perform the following functions:

- Special Support Systems
- Maintain System Tables
- Perform Update Calculations
- Report Generation
- Training Phase Information
- End of Session

HARDWARE:

MEMORY:

PROGRAM FILES

DATA FILES
Technical Report 123

RPS.MENU
FLOW CHART

DIMENSION STATEMENTS

PRINT MENU

INPUT USER SELECTION

CALL ROUTINES

RPS.$SYS  RPS.IESM  RPS.CAMN  RPS.RGMN  RPS.TPIN  RPS.$END

Option: Available Outcome
1. Available Report Updated
2. Available Report Rejected
3. Printing Report Information
4. End of Session

Enter Selected Option:
The Input/Edit Menu program will display the Resource Planning System input/edit subsystem menu. The options present are:

1. Maintain Pipeline Structure Table
2. Input/Edit PTR File
3. Input/Edit Phasing Percentages File
4. Input/Edit Planning Factor File
   * Return to the Master Menu

PROGRAM FILES

- RPS.PST
- RPS.IEPT
- RPS.IEPP
- RPS.IEPF
- RPS.MENU

DATA FILES
Technical Report 123

RPS.IESM

FLOW CHART

DIMENSION STATEMENTS

DISPLAY MENU

INPUT USER RESPONSE

LOAD SUBSYS.

RPS.PST  RPS.IEPT  RPS.IEPP  RPS.IEPF  RPS.MENU
PROGRAM ABSTRACT

SYSTEM: RPS
PROGRAM: PST

3.1

RPS.PST is the program which creates and maintains the pipeline structure table. The output is too extensive to fit on one screen so it is paged across the screen in three steps. Possible options include:

Previous field or menu, Next field
Next page, Previous page, Right screen, Left screen,
Save table
Display help, Print table &
# of line to edit.

HARDWARE:

MEMORY:

PROGRAM FILES

DATA FILES

RPS@VST
This program is used to edit the PTR and attrition rate (ATR) file, RPS.F1PT. The user is given three edit options:

1. Edit for existing record
2. Add for new records
3. Delete for old records

KFAM file RPS.K1PT is used to Index the record that is to be input/edited. An extensive Input routine is used to setup the keyed record access.

PROGRAM ABSTRACT

SYSTEM: RPS
PROGRAM: RPS.IEPT
RPS.IEPT
FLOW CHART

DIMENSION & SELECT

READ TABLE OF VALID SQUAD.

OPEN PTR & ATR FILE

DISPLAY MENU

INPUT OPTION

BRANCH TO OPTION

ADD MODE
EDIT MODE
DELETE ROUTINE

LOAD RPS.IEMS
This program allows the user to add, edit and delete records from the phasing percentage file of the Resource Planning System. It contains a record of phasing percentages for each type training, pipeline ID and phase. The file is organized using KFAM-7 and records are blocked 2 per sector with a logical record length of 124 bytes. The key is stored in character form. The remaining fields are numeric and are stored in pack format. The key begins in position 1 of the logical record and position 3 of the fiscal record. The KFAM record protection is not used. In its place the record uses a status byte in position 5 of the logical record.

HARDWARE: 
MEMORY: 

PROGRAM FILES

DATA FILES

RPS F1PP
RPS K1PP
Technical Report 123

RPS.iepp

FLOW CHART

DIMENSION STATEMENTS

INITIALIZE VARIABLES

OPEN FILES

DISPLAY INPUT/EDIT SCREEN

ADD EDIT DELETE

ADD

LOAD KEY & DISPLAY

1

EDIT

LOAD KEY & DISPLAY

1

DELETE

LOAD KEY & DISPLAY

25

OPTIONS

1. ADD RECORDS

2. EDIT RECORD

3. DELETE RECORD

RETURN TO PREVIOUS MENU
PROGRAM ABSTRACT

SYSTEM: RPS  PROGRAM: IEPF

This program allows users to add, edit, and delete records from the planning factor file of the Resource Planning System. It contains a record of planning factors for each aircraft and flight simulation device used, subdivided by squadron level. The key is 15 bytes long and consists of a training type code, a pipeline ID, a phase, a squadron name, a training level code, a military branch code and an aircraft or simulator name. Records are blocked 3 per sector. The key begins in position 1 of the logical record and in position 3 of the fiscal record. The KFAM record protection is not used.

HARDWARE: 

MEMORY: 

<table>
<thead>
<tr>
<th>PROGRAM FILES</th>
<th>DATA FILES</th>
</tr>
</thead>
</table>

RPS@VST
RPS F1PF
RPS K1PF
This program will display the project management system calculations subsystem menu. The options include:

- calculate PTR File
- calculate Phased PTRs
- calculate Resource Output File
- Return to Master Menu

HARDWARE: 

MEMORY: 

PROGRAM FILES

- RPS.UDPT
- RPS.INPH
- RPS.INRO
- RPS.MENU

DATA FILES
Technical Report 123

RPS.CAMN

FLOW CHART

DIMENSION STATEMENTS

DISPLAY MENU

USER SELECTION

"1"

LOAD RPS.UOPT

"2"

LOAD RPS.INPH

"3"

LOAD RPS.INRO

"4"

LOAD RPS.MENU

Resource Flowing System: Calculations Subsystem Menu

Option: Available Options
1. Calculate RPS File
2. Calculate Process FPD
3. Calculate Resource Output File
4. Return to MASTER RPS MENU
5. Enter desired option: 
This program calculates PTRs in the PTR file. The desired outputs at the advanced level are entered by the user in the input/edit program for the PTR file. This program uses attrition rates to calculate the required outputs of each training level within each pipeline ID. The PTRs calculated are distributed to the various squadrons within each pipeline ID. Calculations are made according to the flow of each pipeline.

Processing is done by sequentially reading through the pipeline structure table to get pipeline structure and keys to access the student type and attrition rate tables in the PTR file.

HARDWARE:

MEMORY:

PROGRAM FILES

DATA FILES

RPS@VST
RPS FIPT
RPS KIPT
RPS.UDPT
FLOW CHART

RPS@VST
RPS FIPT

DIMENSION STATEMENTS

INIT VARS AND OPEN FILES

CALCULATE ADVANCED INPUT

CALCULATE OUTPUTS FROM LAST INPUTS FOR PIPELINE POSITIONS 2 THRU 5

SAVE NEW OUTPUTS AND GET ATTRITION RATES

RPS FIPT

CALCULATE OUTPUTS FROM LAST INPUTS FOR PIPELINE POS. 6 & 7
This program calculates the phased PTRs based upon the PTR level in the PTR file. It uses the phasing percentages file to obtain the percentages for calculating the phased PTRs. As the phased PTRs are calculated, an output file is created which contains two records for each record of the PTR file. Both records will contain the PTRs, the phasing percentages, and the attrition rates. The first contains the phased PTRs for men in training. The second record in each set contains the phased PTRs for completion.
Technical Report 123

RPS.CALC

FLOW CHART

RPS F1PT
RPS F1PP
RPS F1PH

DIMENSION STATEMENT

OPEN FILES

BUILD PTR KEY

UNPACK STUDENTS & ATTRITION

CALCULATE & STORE PHASED PTRs

USER SUPPLIED
RPS. GEPT calculates the data for the phased fiscal year requirements (resource output file). This information will be used to generate reports for each of 7 years. The data used to create this file is stored in files RPS F1PT and RPS F1PF. The information is stored in RPS F1RO or a user chosen resource file.
Technical Report 123

RPS.GEPT

FLOW CHART

RPS F1PH
RPS F1PF

INITIALIZE & LOAD FILES

FIND & LOAD RESOURCE OUTPUT DATA

CALCULATE RESOURCE OUTPUT FIGURES

SAVE RESOURCE OUTPUT RECORD

USER SUPPLIED
Technical Report 123

PROGRAM ABSTRACT

SYSTEM: RPS
PROGRAM: RGMN
5.0

This program will display the Resource Planning System resource output file report generation menu. Options from this program include:

1. PRINT PTR File
2. PRINT Phasing Percentages File
3. PRINT Phased PTR File
4. PRINT Planning Factors
5. PRINT Resource Output Reports
6. PRINT Report From Calculated PTR File
7. PRINT Planning Factor Keys

HARDWARE: 
MEMORY: 

<table>
<thead>
<tr>
<th>PROGRAM FILES</th>
<th>DATA FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS.ROMN</td>
<td></td>
</tr>
<tr>
<td>RPS.PRPT</td>
<td></td>
</tr>
<tr>
<td>RPS.PRPP</td>
<td></td>
</tr>
<tr>
<td>RPS.PRPO</td>
<td></td>
</tr>
<tr>
<td>RPS.PRRP</td>
<td></td>
</tr>
</tbody>
</table>
Technical Report 123

RPS.RGMN

FLOW CHART

DIMENSION & COMMON STMT

DISPLAY USER MENU

USER SELECTED OPTION

CALL SELECTED PROGRAM
This program allows the user to print the contents of the planning factors file of the Resource Planning System. Three options are available:

1. Print a specific record
2. Print all records
3. Print a range of records
RPS.PRPF

FLOW CHART

RPS F1PF
RPS@VST

OPEN FILES

PRINT MENU

1, 2, 3,

1 ENTER KEY

2 FIND FIRST KEY

RETURN TO MENU

ENTER LOW AND HIGH KEY

DISPLAY SCREEN
LOAD AND UNPACK
PRINT RECORD
PROGRAM ABSTRACT

SYSTEM: RPS

PROGRAM: RPS.PRPT

5.1

This program allows the user to print the contents of the PTR and ATR file of the Resource Planning System. Three options are presented to the user:

1. Print a specific record
2. Print all records
3. Print a range of records

HARDWARE: 

MEMORY: 

PROGRAM FILES

DATA FILES

RPS FIPT
RPS K1PT
RPS@VST
RPS.PRPT

FLOW CHART

DIMENSION LOCAL VARS.

LOAD PIPELINE STRUCTURE

PRINT MENU

| 1, 2, 3 |

LOAD PTR FILE

| 1, 2, 3 |

ENTER KEY

DISPLAY PRINT

DISPLAY PRINT SCREEN
LOAD & UNPACK
PRINT RECORD

RETURN TO PRINT MENU

ENTER LOW & HIGH KEY
This program will display the Resource Planning System resource output file report generation menu. The menu includes the following options:

1. Phased FY Requirements
2. TRARON Military Manpower Report
3. Sequenced Resource Reports
4. Sequenced Resources Report #2
5. Resource Output Comparisons
   - Return to Master Menu

HARDWARE: 

MEMORY: 

<table>
<thead>
<tr>
<th>PROGRAM FILES</th>
<th>DATA FILES</th>
</tr>
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<tbody>
<tr>
<td>RPS.REPT</td>
<td></td>
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<tr>
<td>RPS.N-21</td>
<td></td>
</tr>
<tr>
<td>RPS.PRRO</td>
<td></td>
</tr>
<tr>
<td>RPS.PRRE</td>
<td></td>
</tr>
<tr>
<td>RPS.ROCC</td>
<td></td>
</tr>
<tr>
<td>RPS.RGMN</td>
<td></td>
</tr>
</tbody>
</table>
This program allows the user to print the contents of the resource output file of the Resource Planning System. When run, the program allows the user to choose his PST sort order. A range of keys is input and the resource output file is printed by the range specified in the PST.
RPS.PRRE

FLOW CHART

DIMENSION VARS

RPS@VST
RPS@ROFT

LOAD FILES

REQUEST FILE ID

%, P, ""

"P"

ENTER FILE ID

USER or RPS F1RO

OPEN FILES

ENTER FISCAL YEAR ENTER LOW & HIGH KEY

DISPLAY SCREEN LOAD & UNPACK PRINT RECORDS

""

RPS F1PH RPS F1PF

"%"

RETURN TO PRINT MENU

LOAD RPS.ROMN
This program allows the user to print the contents of the resource output file of the Resource Planning System. When run, the program will give the user a choice of three print options:

1. Print a specific record
2. Print all records
3. Print a range of records

HARDWARE: 

MEMORY: 

PROGRAM FILES

DATA FILES

RPS@VST
RPS F1RO
RPS K1RO
This program calculates and prints the data for the "Phased Fiscal Year Requirements in Pilot Training to Support Given PTR's" report for any or all of 7 fiscal years. The data used to make the calculations are stored in files RPS FIPT and RPS FIRO.
Technical Report 123

RPS.REPT

FLOW CHART

DIMENSION VARIABLES

ENTER OPTIONS

INPUT PIPELINE IDs

INPUT YEARS

OPEN FILES

PROCESS STRIKE

PROCESS MARITIME

PROCESS HELICOPTER

PRINT RESOURCES

CALCULATED

PRINT GRAND TOTAL

RPS FIPT

RPS FIRO

Resource Planning System: RESOURCE OUTPUT REPORT

Pipelines

Options:

- Print Pipeline Statistics
- Print Pipeline Day
- Print Pipeline Hour
- Print All Pipelines
- Return to Menu

Enter Desired Option: 0
PROGRAM ABSTRACT

SYSTEM: RPS
PROGRAM: PRRP

This program is used to print a variety of reports for the PTRs and phased PTR records. At report selection time, the user is given the opportunity to define the scope of the output.

HARDWARE:

MEMORY:

<table>
<thead>
<tr>
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<th>DATA FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RPS@VST</td>
</tr>
<tr>
<td></td>
<td>RPS F1PH</td>
</tr>
<tr>
<td></td>
<td>RPS K1PH</td>
</tr>
</tbody>
</table>
Technical Report 123

RPS.PRRP

FLOW CHART

DIMENSION LOCAL VARS

LOAD PIPELINE STRUCTURE

LOAD PHASED PTRS

SELECT REPORT OPTIONS

SELECT SUMMATION OPTIONS

PRINT REPORTS

LOAD RPS.RGMN
PROGRAM ABSTRACT

SYSTEM: RPS

PROGRAM: PRNT

RPS.PRNT is the Master Print Module. It works in conjunction with two other modules to produce Resource Planning System output reports. The module relations are as follows:

<table>
<thead>
<tr>
<th>Report</th>
<th>Module 1</th>
<th>Module 2</th>
<th>Module 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTR File</td>
<td>RPS.PRNT</td>
<td>RPS.PTPT</td>
<td>RPS.ptPT</td>
</tr>
<tr>
<td>Phasing %s</td>
<td>RPS.PRNT</td>
<td>RPS.PTPP</td>
<td>RPS.ptPP</td>
</tr>
<tr>
<td>Phase PTR</td>
<td>RPS.PRNT</td>
<td>RPS.PTPH</td>
<td>RPS.ptPh</td>
</tr>
<tr>
<td>Planning Factor</td>
<td>RPS.PRNT</td>
<td>RPS.PTPF</td>
<td>RPS.ptPF</td>
</tr>
</tbody>
</table>

HARDWARE: 

MEMORY: 

PROGRAM FILES

<table>
<thead>
<tr>
<th>RPS.PTPT</th>
<th>RPS.ptPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS.PTPP</td>
<td>RPS.ptPP</td>
</tr>
<tr>
<td>RPS.PTPH</td>
<td>RPS.ptPH</td>
</tr>
<tr>
<td>RPS.PTPF</td>
<td>RPS.ptPF</td>
</tr>
</tbody>
</table>
Technical Report 123

RPS.PRNT

FLOW CHART

RPS.PTPT OR RPS.PTPP OR RPS.PTPH OR RPS.PTPF

DIM & INIT.

LOAD SUBSYSTEM ROUTINES

SELECT SORT SEQUENCE AND SORT TABLES

RPS.ptPT OR RPS.ptPP OR RPS.ptPH OR RPS.ptPF

SELECT BOUNDARY CONDITIONS AND TOTAL OPTIONS

DISPLAY SUMMARY OF OPTIONS AND LOAD FILES

PRINT REPORTS

53
PROGRAM ABSTRACT

SYSTEM: **RPS**

PROGRAM: **PTPP**

<table>
<thead>
<tr>
<th>PROGRAM FILES</th>
<th>DATA FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>RPS@VST</strong></td>
</tr>
</tbody>
</table>

This program is a print option overlay used to setup the summary option table.
Technical Report 123

RPS, PTPP

FLOW CHART

RPS@VST

LOAD
PIPELINE
TABLE
PROGRAM ABSTRACT

SYSTEM: RPS

PROGRAM: PTPT

This program is the Resource Planning System print option overlay used for printing the PTR file output report.

HARDWARE: 

MEMORY: 

PROGRAM FILES

DATA FILES
Technical Report 123

RPS.PTPT

FLOW CHART

SETUP
SUMMARY
TABLE

USER
SELECTED
OPTION

RPS@VST

LOAD
PIPELINE
TABLE

57
This program is a print option overlay routine used to display the setup summary options table for the sequenced resource report.
Technical Report 123

RPS.PTRO
FLOW CHART

DIM STATEMENT

SETUP SUMMARY OPTIONS

LOAD PIPELINE TABLE

LOAD DATA TABLE

LOAD RESOURCE OUTPUT FILE

RPS@VST

RPS@ROFT

RPS@ACCM
This module is a print option overlay routine used in the Resource Planning System to setup summary option tables for printing the planning factor output.
Technical Report 123

RPS.PTPF

FLOW CHART

RPS@VST

SELECT STM.

LOAD PIPELINE TABLES
PROGRAM ABSTRACT

SYSTEM: RPS

PROGRAM: ptPP

Resource Planning System print execution program for listing the phasing percentage file. This program is overlayed with the PRNT program and the PTPP program.

HARDWARE: ______________________

MEMORY: ______________________

PROGRAM FILES

DATA FILES

62
RPS.ppl

FLOW CHART

RPS FIPP

DIMENSION AND SELECT

OPEN PERCENTAGE FILE

USER DEFINED OPTIONS

PRINT REPORTS
This file contains phasing percentages data for use in computing the phased PTR requirements for in-training and completions.

RECORD LENGTH: 124
BLOCKING FACTOR: 2 RECORDS/SECTOR
FILE TYPE: KFAM-7
KEY FILE: RPS K1PP

PROGRAM MODULE INTERFACE

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>UPDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS.PTPP</td>
<td>RPS.IEPP</td>
</tr>
<tr>
<td>RPS.CALC</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
Technical Report 123

RPS F1PP
FILE FLOW
ACCESS MODULES

RPS.PTPP
RPS.CALC

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS
FILE ABSTRACT

This file is generated from the PTR and phasing percentage files. It contains everything (except resources) needed to generate various reports concerning the phases PTRs. Each record contains phasing percentages PTRs, attrition percentages and phased outputs for the corresponding squadron.

RECORD LENGTH: 496
BLOCKING FACTOR: 2 SECTORS/RECORD
FILE TYPE: KFAM-7
KEY FILE: RPS KIPH

PROGRAM MODULE INTERFACE

<table>
<thead>
<tr>
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<th>UPDATE</th>
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<tr>
<td>RPS.PRRP</td>
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<tr>
<td>RPS.PRRE</td>
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</table>

NOTES:
Technical Report 123

RPS F1PH

FILE FLOW

ACCESS MODULES

RPS.PRRP

RPS.PRRE

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS
This file contains planning factor data for use in predicting resource requirements for projected training rates of pilots and flight officers. There is a record for each aircraft and flight simulation device used by each squadron.

**Record Length:** 83

**Blocking Factor:** 3 records/sector

**File Type:** KFAM-7

**Key File:** RPS KIPF

---

**Program Module Interface**

<table>
<thead>
<tr>
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<th>Update</th>
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<tr>
<td>RPS.GEPT</td>
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<tr>
<td>RPS.PTPF</td>
<td>RPS.IEPF</td>
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<tr>
<td>RPS.PRRE</td>
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</tr>
</tbody>
</table>

**Notes:**
Technical Report 123

RPS F1PF
FILE FLOW
ACCESS MODULES

RPS.PTPF  RPS.PRRE  RPS.GEPT

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS

---

69
This file contains the resource output information used in printing the resource output report.

RECORD LENGTH: 1,984
BLOCKING FACTOR: 8 SECTORS/RECORD
FILE TYPE: KFAM-7
KEY FILE: RPS K1RO

PROGRAM MODULE INTERFACE

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<tr>
<td>RPS.INRO</td>
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<tr>
<td>RPS.N-21</td>
<td></td>
</tr>
<tr>
<td>RPS.PRRO</td>
<td></td>
</tr>
<tr>
<td>RPS.REPT</td>
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</tr>
<tr>
<td></td>
<td>RPS.GEPT</td>
</tr>
</tbody>
</table>

NOTES:
Technical Report 123

RPS F1RO

FILE FLOW

ACCESS MODULES

RPS.INRO  RPS.N-21  RPS.PRRO  RPS.REPT

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS

71
RPS F1PT

FILE ABSTRACT

This file contains data for the PTR and the ATR. Each record contains all the PTRs and ATRs for 7 years and 10 student types.

RECORD LENGTH: 495
BLOCKING FACTOR: 2 SECTORS/RECORD
FILE TYPE: KFAM-7
KEY FILE: RPS K1PT

PROGRAM MODULE INTERFACE

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>UPDATE</th>
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<tr>
<td>RPS.UDPT</td>
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<td>RPS.CALC</td>
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<tr>
<td>RPS.GEPT</td>
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<tr>
<td>RPS.REPT</td>
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<tr>
<td>RPS.PtPT</td>
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NOTES:
Technical Report 123

RPS F1PT

FILE FLOW
ACCESS MODULES

UPAT MODULES

PROGRAM SUPPORT STATEMENTS
This file contains the Resource Planning System's protect flag. It also keeps track of the current users, their station numbers, and which files each user has open.

**RECORD LENGTH: 21 SECTORS**

**BLOCKING FACTOR:**

**FILE TYPE:** STANDARD

**KEY FILE:**

**PROGRAM MODULE INTERFACE**

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>UPDATE</th>
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</thead>
<tbody>
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**NOTES:**
Technical Report 123

RPS@SYS1

FILE FLOW

ACCESS MODULES

<table>
<thead>
<tr>
<th>RECORD DESCRIPTION:</th>
<th>NUMBER OF CHARACTERS</th>
<th>DESCRIPTION</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative Sector 0</td>
<td>1</td>
<td>Protect flag</td>
<td>System flag (not used)</td>
</tr>
<tr>
<td>Relative Sector 1-2</td>
<td>10</td>
<td>User ID</td>
<td>(packed)</td>
</tr>
<tr>
<td>Relative Sector 3</td>
<td>0</td>
<td>File name</td>
<td>(max of 15 open files per user)</td>
</tr>
<tr>
<td>Relative Sector 4-8</td>
<td>1</td>
<td>File type</td>
<td>(D-Data, K-Kfile, L-Link)</td>
</tr>
</tbody>
</table>

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS

75
This file is created in the Resource Planning System setup program (RPS.ADRS). In it are stored parameters used throughout the RPS.

RECORD LENGTH: 3 SECTORS

BLOCKING FACTOR:

FILE TYPE: STANDARD

KEY FILE:

PROGRAM MODULE INTERFACE

<table>
<thead>
<tr>
<th>ACCESS</th>
<th>UPDATE</th>
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NOTES:
### RECORD DESCRIPTION:

<table>
<thead>
<tr>
<th>RECORD POSITION</th>
<th>Wang Variable</th>
<th>Number of Characters</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A0$(1)</td>
<td>3</td>
<td>Address of RPS data files</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A0$(2)</td>
<td>3</td>
<td>Reserved data file address</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>A0$(3)</td>
<td>3</td>
<td>Reserved data file address</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A0$(4)</td>
<td>3</td>
<td>Reserved data file address</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>A0$(5)</td>
<td>3</td>
<td>Reserved data file address</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>POS</td>
<td>3</td>
<td>Printer address</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>CON</td>
<td>3</td>
<td>Console address</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>DOS</td>
<td>8</td>
<td>Current date</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>D25</td>
<td>2</td>
<td>Fiscal year</td>
<td></td>
</tr>
</tbody>
</table>
FILE ABSTRACT

This file contains a list of all pipeline structures for this system.

RECORD LENGTH: 150 RECORDS/BLOCK
BLOCKING FACTOR: 14 SECTORS/BLOCK
FILE TYPE: STANDARD
KEY FILE:

PROGRAM MODULE INTERFACE

<table>
<thead>
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<tbody>
<tr>
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</tbody>
</table>

NOTES:
Technical Report 123

RPS@VST

FILE FLOW

ACCESS MODULES

<table>
<thead>
<tr>
<th>Record Pos.</th>
<th>String Pos.</th>
<th>No. of Char.</th>
<th>Bytes Packed</th>
<th>Description</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>TRAINING PIPELINE</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>PIPELINE ID</td>
<td>(0)</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>PIPELINE POSITION</td>
<td>(00)</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>TRAINING WING</td>
<td>(0)</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>TRAINING PHASE</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>11</td>
<td>5</td>
<td>VALID SQUADRON</td>
<td>(00.00)</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>13</td>
<td>2</td>
<td>DISTRIBUTION RATE</td>
<td>(0000)</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>18</td>
<td>5</td>
<td>UIC</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td>20</td>
<td>2</td>
<td>AG</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>21</td>
<td>22</td>
<td>2</td>
<td>SAG</td>
<td></td>
</tr>
</tbody>
</table>

UPDATE MODULES

PROGRAM SUPPORT STATEMENTS

79
Technical Report 123

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