This volume on Phase II of the New York State Educational Information System (NYSEIS) describes the Gross Systems Analysis and Design, which includes the general flow diagram and processing chart for each of the student, personnel, and financial subsystems. Volume II, Functional Specifications, includes input/output requirements and file specifications necessary to support the systems design. Detailed systems design and programming is currently underway as Phase III. The NYSEIS system is designed to provide a complete range of information and data processing services to school districts in New York State. The report concludes that regionalization is the solution to the problem of providing comprehensive computer services to school districts. (JP)
The New York State Education Department and
The Albany-Schoharie-Schenectady Board of Cooperative Educational Service

New York State Educational Information System (NYSEIS)
Systems Design,
Prepared by
Price Waterhouse & Co.
July 1969
THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of the University (with years when terms expire)

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1973 Charles W. Millard, Jr., A.B., LL.D., L.H.D. - - - - Buffalo


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1980 Max J. Rubin, LL.B., L.H.D. - - - - - - - - - - - - New York

1971 Kenneth B. Clark, A.B., M.S., Ph.D., Litt.D. - - - Hastings on Hudson


1983 Harold E. Newcomb, B.A. - - - - - - - - - - - - - - Owego

1981 Theodore M. Black, A.B. - - - - - - - - - - - - - - Sands Point

President of the University and Commissioner of Education (Acting)
Ewald B. Nyquist

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Herbert F. Johnson

Associate Commissioner for Educational Finance and Management Services
Stanley L. Raub

Assistant Commissioner for Educational Finance and Management Services
John W. Polley

Director, Division of Educational Management Services
A. Buell Arnold

Statewide Coordinator, New York State Educational Information System
Richard C. Lesser
MEMORANDUM TO: To Whom It May Concern
FROM: Stanley L. Raub
SUBJECT: New York State Educational Information System Report

This is Volume I of the New York State Educational Information System, Phase II final report, prepared by Price Waterhouse and Co. This report, which has been approved in principle by the Statewide Steering Committee, is serving as the working document for Phase III, detail design and programming. Volume I, the Systems Design, includes the general flow diagram and the processing chart for each of the student, personnel and financial subsystems. Volume II, the Functional Specifications, includes the input/output requirements and file specifications necessary to support the Systems Design, as well as serve as a reference document for those charged with the technical implementation of the system and is available by special request. We believe these documents comprise the most comprehensive report in the literature today describing school district data processing needs.

Phase I of the MYSEIS program, which was completed in November 1967 by the System Development Corporation, provided the conceptualization for the regional network. Phase II, the Gross Systems Analysis and Design, was completed in September of this year by Price, Waterhouse and Co. Phase III, currently underway, involves the detailed system design and programming. Phase IV, the implementation of one or more regional centers, will follow upon the completion of Phase III.

We firmly believe that regionalization is the solution to the problem of providing comprehensive computer services to school districts and that the current philosophy of design will provide a sound and effective basis for these services.

Sincerely yours,

Stanley L. Raub
Mr. Richard C. Lesser  
Statewide Coordinator, New York State  
Educational Information System  
State Education Building  
Albany, New York 12224

Dear Mr. Lesser:

We are pleased to submit 1) the attached report which presents the system design we have developed for the New York State Educational Information System (NYSEIS) and 2) the accompanying volume which presents the detailed functional specifications which served as the basis for system design.

The NYSEIS system is designed to provide a broad range of data processing and information services to the school districts of the State of New York through a network of regional service centers. The overall system consists of four basic subsystems, a student subsystem, a personnel subsystem, a financial subsystem and a facilities subsystem, each designed to provide a range of services within these functional areas.

The functional requirements to be met by the NYSEIS system were established by surveying some twenty school districts and Boards of Cooperative Educational Services (BOCES) throughout the State. These were selected to include districts which are representative of the widely varying requirements of the more than 750 districts in the State. The functional requirements for each of the four subsystems which were established as a result of this survey were reviewed by educational data processing specialists throughout the State before adoption as the basis for system design.

The system design effort which followed the establishment of functional requirements was aimed at selecting from among the wide range of available alternatives, the most suitable processing methods, file structures, data collection and input techniques, and basic computer equipment configuration. System designs were developed for the student, personnel, and financial subsystems at a level of detail suitable for use in the implementation work to follow. Design work on the facilities subsystem was deferred by mutual agreement pending further clarification of certain requirements and potential benefits.

Throughout the study we have been fortunate in having the full cooperation and assistance of many individuals in all parts of the State representing various school districts, BOCES, and the New
York State Education Department. Working relationships among participants in the effort have been excellent and productive and the resulting reports are truly the product of all who participated.

We wish to express our gratitude for all of the assistance and cooperation we received during the course of the study and we look forward to the day when the NYSEIS system will be in full operation serving school districts throughout the State.

Yours very truly,

[Signature]

Price Waterhouse & Co.
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         - Processing Flow Charts
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         - Processing Flow Charts

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   (Contained in second volume)
I. INTRODUCTION

A. Statement of objectives

The basic objectives of this project were set forth in the request for proposals and other documents that it cited. In essence the objectives were to produce:

- an overall system design for a New York State Educational Information System (NYSEIS) which is to provide a complete range of information and data processing services to school districts in the State of New York.
- a set of systems specifications for NYSEIS which are to be used as a basis for obtaining equipment proposals from computer manufacturers.

A fundamental objective of the NYSEIS system is that it have general applicability to the more than 750 operating school districts in the State of New York. The system should provide as high a degree of standardization as is compatible with the needs of the various school districts. To accommodate truly different requirements among the various school districts it should provide optional features so as to be readily adaptable to meet the needs of school districts throughout the state.

B. Scope of work

The NYSEIS system consists of three basic subsystems encompassing the functions listed below:

Student Subsystem
- Census
- Enrollment
- Attendance
- Grade Reporting
- Permanent Records
- Test Scoring and Analysis
- Student Scheduling

Personnel Subsystem
- Payroll
- Personnel Records
- Staff Directories
- Retirement
- Professional Qualifications

Financial Subsystem
- Budget Preparation
- Encumbrance Accounting
- Accounts Payable
- General/Revenue Ledger
Initial planning included a fourth subsystem, namely, the "Facilities Subsystem" consisting of the following applications:

- Inventory Control
- Transportation
- Construction Requirements
- Library & Textbook Accounting
- Maintenance
- Cafeteria Accounting

During the course of the analysis phase of the project it was decided that further development of the Facilities Subsystem would be postponed until a future date. Section V will contain a preliminary statement of the functional requirements of the Facilities Subsystem.

In accordance with the request for proposals the following have been developed and documented:

1. gross flow charts for each of the three subsystems indicating the interrelationships of each application in the subsystem.

2. integrated gross flow diagrams for the entire system demonstrating the interrelationship of information flow through each subsystem and the overall system.

3. preliminary master file formats to serve as information data base for all activities in each subsystem.

4. preliminary input formats and output formats to support information processing requirements.

5. a master operations calendar, the purpose of which is to indicate the major activity periods during the processing year.

6. a specifications document which will enable computer manufacturers to submit a configuration which will support the processing outlined by the gross systems design.
II. ANALYSIS OF REQUIREMENTS

A. Approach to project

Development of NYSEIS is viewed as basically a systems engineering project involving, first, a careful analysis and determination of what the system must do and, secondly, the design of how the system will operate.

The project team focused its efforts initially on the analysis of specific information needs of school districts and the State Education Department. Anticipated future needs as well as present needs were studied and emphasis was placed upon the task of defining and analyzing differences in requirements among school districts. On the basis of this study of common and differing needs, the services to be provided by NYSEIS, the end products to be produced and the input required were defined. As a result, a set of Functional Specifications for NYSEIS was developed and used as a starting point for the systems design effort. These Functional Specifications were reviewed with representatives of the State Education Department, Boards of Cooperative Educational Services and the Division of Educational Management Services to make certain that the requirements outlined in the specifications represented a sound basis for systems designs.

After the Functional Specifications were agreed upon, attention was turned to the technical matter of system design. The emphasis at this point was shifted from what the system should accomplish to how the system should accomplish it. Primary consideration was given to the design of files for use in the development of a comprehensive information data base to support the three subsystems. Once the data base was designed it was reviewed by representatives of the BOCES to make certain that it represented a sound information base.

Next, attention was turned to the design of application processing within subsystem and the interface between applications within subsystem. The flow charts in Section IV of this report represent the result of the system design and have been reviewed with several directors of BOCES and representatives of the State Education Department.
B. Survey of

1. School districts and BOCES

The study team, in cooperation with members of the State Department of Education, completed the data gathering phase of the survey in the school districts and BOCES. Those visited included:

**School districts**
- Irvington
- South Huntington
- Buffalo
- Williamsville
- Great Neck
- East Meadow
- Schenectady
- Bethlehem
- Farmingdale

**BOCES**
- Westchester I & II
- Nassau
- Albany-Schenectady-Schoharie
- Ontario-Seneca-Yates

During the survey, detailed analysis was made of the manual and automated record systems now in use in school districts and Boards of Cooperative Educational Services.

At that time the study team met with local school district representatives and gathered information concerning (1) source documents, their format and content, (2) processing procedures and methods, both mechanized and manual, and (3) output documents and reports produced, including content and format. The views of district officials as to anticipated future requirements and data needs of the school districts and personnel were also obtained.

The applications and functions surveyed included the Student Subsystem, Personnel Subsystem, Financial Subsystem, and Facilities Subsystem.

Identification of the common requirements of the 16 school districts and the special requirements of particular types of districts with respect to the student, personnel, financial and facilities subsystems was also made.
Lastly, each application was analyzed to determine the probable extent to which standardization of inputs and outputs would be feasible and acceptable to the local school districts.

2. State Education Department

Our survey of the State Education Department started with assembling and analyzing all records and reports concerning school district operations required by the State Education Department. Next an analysis was made of the manual and mechanical processing performed by State Education Department on information and reports submitted by school districts, to identify opportunities for preprocessing at regional centers. The State Education Department officials outlined their views concerning probable future requirements for information and analyses relating to the school districts.

3. Systems in other states

During the course of this project, information was assembled on the characteristics of systems in several other states which have made significant progress in developing Educational Information Systems and regional services.

In recent months, a visit was made to the State of Oregon to review the OTIS project which represents a state-wide centralized approach to cooperative data processing services with all school districts communicating with the system via remote terminal.

During a previous engagement a visit was made to California to survey the results of regionalization in that state. The data processing effort of the Chicago Board of Education's goal of a Total Information System was also reviewed. In addition, a comprehensive state-wide analysis was also made of the present posture of administrative data processing efforts in Maryland public schools.
III. OBJECTIVES AND CONSIDERATIONS IN THE DEVELOPMENT OF NYSEIS

Fundamental objectives and functional requirements of NYSEIS have been developed, based on the following:

1. Survey and evaluation of the current status of data processing in sixteen school districts.

2. Survey and evaluation of current data processing activities at seven BOCES serving several hundred school districts.

3. Meetings and discussions with the Division of Educational Management Services.

4. Discussions with representatives of other offices of the New York State Education Department.

5. Meetings with other New York State Agencies.

6. Evaluation of information obtained about similar efforts in other states. The information has been acquired from field investigation and from sources available to the general public.

7. Study and evaluation of information available from the previous phase (Phase I) of the NYSEIS developmental plan.

8. Study Team experience in similar undertakings in educational and noneducational environments.

Five principal objectives were identified as a basis for system design. These are set forth below with comments relating to each. These objectives represent the foundation for the design and implementation of effective regional data processing support to school district administration.

Objective 1. The regional center must have the capability to support multiple districts of varying size and requirements.

Objective 2. Uniform systems must be developed in support of regional data processing services; however, allowances must be made for a certain amount of local school district flexibility.

III-1
Objective 3. The responsibility for processing and operational control must be vested in the regional center. Validity and control of administrative data must be the responsibility of the local unit. Adherence to both regulations should be coordinated through cooperative effort.

Objective 4. Modularity of systems design should be achieved so that regional center processing can be effectively used by school districts of varying sizes. This means that a district with a few schools and a small student population should have the opportunity to avail itself of the same services and support required by districts having many schools and a large student body.

Objective 5. Construct an information data base which will effectively assist in the administration of student personnel and financial programs at the school district level today and in the future. Current requirements do not indicate that immediate retrieval or interrogation of student and/or personnel or financial information is necessary. This does not mean that future requirements will not call for remote interrogation capabilities. Therefore, files should be designed with this possibility in mind.

Current requirements do not dictate the need for "real-time" processing of normal daily transaction data. Therefore, "batch" processing will be a standard method of file maintenance and report preparation until such time as other effective and economical "real-time" methods are available and deemed necessary.
VI. DESCRIPTION OF NYSEIS

A. Introduction

This section contains a general flow diagram and the processing flow charts for each of the Student, Personnel and Financial subsystems.

The general flow diagrams depict the interrelationships of the applications and files in each subsystem. The processing flow charts show the specific runs within each application including files, program functions, inputs and outputs.

The flow diagrams proceed from top to bottom. The processing symbols contain the program name, the run number and a brief description of the functions the program is to perform. Each run, including sorts, is numbered within each subsystem. These run numbers are used in the operations calendars in Section V.

Of special note is the use of the offline storage symbol. This symbol indicates the source and disposition of the major files. For instance, on page IV-24, the Enrollment file and the Course Master are shown coming from the file library. After being read by Program S-34, the Course Master is returned to the library. The Enrollment file is used again before being returned.

All subsystems show print output being written on files for printing in a spooling mode or off-line on a satellite system. The subsystems further use a technique of report generation that permits reports in different sequences to be drawn from a master file in the same pass. This technique is based upon a program called Report Writer. Report data are drawn from the master file in line-image form or as raw data. Control records that describe the input and the desired reports are also written. The report file is sorted into the desired sequences on a sort key. Report Writer analyzes the control records and prints the reports, inserting headings and taking totals.
This technique has two major advantages:

1. When reporting requirements change, a new report may be generated by simply changing the control records.

2. Report Writer provides the means of drawing reports from a file in different sequences, some of which may be in a different sequence than the file. Whenever totals and headings are required, this technique saves sorting the master file for each report. Instead, only the report file is sorted.
SYSTEM FLOWCHART SYMBOLS

PROCESSING  A major processing function performed by a computer program.

DOCUMENT  Paper documents and reports of all varieties

PUNCHED CARD  All varieties of punched cards.

MAGNETIC TAPE  Used to indicate files residing on magnetic tape.

DIRECT ACCESS DEVICE  Used to indicate files residing on direct access devices such as disks and drums.

OFFLINE STORAGE  Used to indicate the source and disposition of major files in the system.

KEYING OPERATION  An operation utilizing a key-driven device.

CLERICAL OPERATION  A manual offline operation not requiring mechanical aid.

CONNECTOR  An entry from, or an exit to another part of the flowchart.

OFFPAGE CONNECTOR  A connector used instead of the connector symbol to designate entry to or exit from a page of the flowchart.
B. The System

1. Student Subsystem
   - General Flow Diagram
   - Processing Flow Charts
Compute

Mail Audit Form

Mailed To Residents Who Correct and Return To Center

Census Update

Updated Census

Enumerators Manually Audit All Who Failed To Respond

Census Update

Census

IV - 3
NYSEIS
STUDENT SUBSYSTEM
GENERAL FLOW DIAGRAM
PAGE 6 OF 9

Next Year's Enrollment

Print Student Course Selection Sheets

Student Course Selection Sheets

Coded By Students and Guidance Counselors

Optical Scan

Enrollment

Student Course Selections

Course Titles & Weights

Compute

Course Titles & Weights

Student Course Master

Conflict Matrix

Critical Course Roster

Course Tally

Conflict Matrix - Course Tally Seq.

Conflict Matrix - Course Number Seq.

Conflict Matrix - Non-Zero Elements Removed

Course Selection Roster

Student Course Selection Master Listing

Proposed Student Schedules

Over and Under Scheduled Students

IV - 8
IV - 9
NYSEIS
STUDENT SUBSYSTEM
GENERAL FLOW DIAGRAM
PAGE 9 OF 9

1. Course Data
2. Sort
3. Grade Reporting
4. Compute
5. Enrollment

- Locker Assignments
- Class Rosters
- Student Schedules
PROCESSING FLOW CHARTS: STUDENT SUBSYSTEM

NYSEIS
CENSUS/ENROLLMENT

1. Update Census
2. Determine changes that affect Enrollment
3. Write Enrollment changes

SORT S-1
Major: Family #
Minor: Date

Census Changes

CENSUS UPDATE S-2 AS REQUESTED

1. Update Census
2. Determine changes that affect Enrollment
3. Write Enrollment changes

Census

Errors and Change Listing

IV - 12
ENROLLMENT UPDATE  S-4  AS REQUESTED

1. Update Enrollment.
2. Determine changes that affect Census.
3. Write Census changes.
4. Edit input and print errors.

NYSEIS
CENSUS / ENROLLMENT
CENSUS/AUDIT-MAIL

ANNUALLY

Format Mail Audit Form

Census Report Data

SORT

Optional Sequence

Sorted Census Report Data

PRINT WRITER

Print

Mail Audit Form

Mailed to Residents

5

NYSEIS
CENSUS/ENROLLMENT
Mail Audit Form
Corrected by Residents
Mailed to Center
Data Encode
Census Changes

SORT S-8
Major: Family #
Minor: Date

Sorted Census Changes

CENSUS UPDATE S-9 ANNUALLY
Edit changes and print errors.
Update Census.

Census

Errors

IV - 15
Format enumerator forms for all households who failed to reply to mail audit.

Enumerate Report Data

SORT S - 11
Optional Sequence

Sorted Enumerator Report Data

REPORT WRITER S - 12
Print

Enumerator Forms

IV - 36
MASTER CENSUS REPORT 5 - 15 ANNUALLY

Format Master Census Report.
Format Handicapped Children Report.

Report Data

SORT S - 16
Major: Sort Key

Sorted Report Data

REPORT WRITER S - 17
Print

Handicapped Children
Master Census Report

IV - 18
SELECT ENROLLMENT DATA
ANNUALLY

Select children who should attend school.
Format and write Enrollment Data.

SORT
Major: School
Minor: Student #

Sorted Enrollment Data

UPDATE ENROLLMENT
ANNUALLY

Edit input and print errors.
Update Enrollment.

Enrollment

Errors

New Years Anticipated Enrollment

File

File

NYSEIS
CENSUS/ENROLLMENT
Schools Verify Enrollment Against Master Census Report and Code All Variations

Enrollment Changes

Data Encode

Enrollment Changes

SORT 5-21
Major: School
Minor: Student #

Sorted Enrollment Changes

UPDATE ENROLLMENT 5-22 ANNUALLY

Edit changes and print errors. Update Enrollment.

Enrollment

Errors

IV - 20
Format Census changes to update school and grade in Census File.
Format ST-2 Report.
Format Enrollment Summary by Ethnic Group Report.
Format Actual Enrollment by Homeroom Report.

Sorted Report Data

REPORT WRITER

Print

ST-2 Enrollment Report

Enrollment Summary by Ethnic Group

Actual Enrollment by Homeroom

Census Changes

SORT

Major: Sort Key

Sorted Census Changes

UPDATE CENSUS

Edit changes and print errors. Update Census.
CENSUS REPORTS 5-28 ANNUALLY

Format Federally Impacted Families Report.
Format School Age Children not Enrolled Report.

REPORT WRITER 5-30
Print

Fedemally Impacted Families
School Age Children Not Enrolled
1. Calculate Enrollment Projections, and number of classrooms and teachers required.

2. Compare Projected Requirements with Current Facilities and Staff including Planned Expansion.

3. Format Enrollment Projection Reports.

ENROLLMENT PROJECTIONS

1. Calculate Enrollment Projections, and number of classrooms and teachers required.

2. Compare Projected Requirements with Current Facilities and Staff including Planned Expansion.

3. Format Enrollment Projection Reports.

REPORT WRITER

Print

Anticipated Enrollment by School
NYSEIS ATTENDANCE

GENERATE 40 WEEK CARDS S - 34 ANNUALLY

Generate Attendance File.
Format 40 Week Cards.

REPORT WRITER S - 36
Print

40 Week Card

IV - 24
GENERATE ATTENDANCE SHEETS S - 37 ATTENDANCE PERIOD

Format Attendance Sheets.

Attendance Sheet Data

SORT S - 38
Major: Sort Key

Sorted Attendance Sheet Data

REPORT WRITER S - 39
Print Attendance Sheets

12
Nyseis Attendance

12

Attendance Sheets

Schools Transcribe Attendance From 40-Week Cards

Optical Scan

Raw Attendance Data

EDIT ATTENDANCE S-40 ATTENDANCE PERIOD
Deblock, Interpret, Edit.

Attendance Data

Errors

SORT S-41
Major: School #
Minor: Student #

Sorted Attendance Data

14

13

Schools Code Attendance Corrections

Attendance Corrections

Data Encode

Attendance Corrections

SORT S-42
Major: School #
Minor: Student #

Sorted Attendance Corrections

15

IV - 26
NYSEIS ATTENDANCE

ATTENDANCE UPDATE 5 – 43

ATTENDANCE PERIOD

Edit Input and print errors.
Update Attendance.

ATTENDANCE STATISTICS 5 – 44

ATTENDANCE PERIOD

Calculate and Format:
AT – 6 for each period.
Annual AT – 6.
District Enrollment Summary by school.
WADA for district.
WADA for each school.

REPORT

REPORT DATA

SORT 5 – 45

Major: Sort Key

Sorted Report Data
ATTENDANCE REPORTS  S – 47  ATTENDANCE PERIOD

Format Attendance Reports.

Report Data

SORT  S – 48
Major: Sort Key

Sorted Report Data

REPORT WRITER  S – 49
Print

Absence Patterns
Excessive Absences
Entering and Leaving Students
Schools Prepare Student Course Data

Student Course Data

Data Encode

Student Course Data

SORT S - 50
Major: School
Inter: Student #
Inter: Course #
Minor: Section #

File

Enrollment

Student Course Data

ALTERNATE GRADE REPORTING FILE GENERATION ANNUALLY S - 51
Edit input and print errors.

Grade Reporting

Errors

42A

A

This alternate means of Grade Reporting File Generation is provided for those schools who do not use any Scheduling Services.
NYSEIS
GRADE REPORTING

Grade Reporting Form

Schools Code Grades

Optical Scan

Raw Grading Data

EDIT GRADING DATA S - 52 GRADE RPT.PER.
Interpret, Deblock, Edit Input.
Print errors.

Grading Data

Errors

Cumulative Listing of Grades by Course

Schools Code Corrections, Course Changes

Data Encode

Corrections and Changes

SORT S - 53
Major: Student #
Inter: Course #
Minor: Section #

Sorted Corrections and Changes

IV - 31
GRADE REPORTS #1  S - 57  GRADE REPORTING PERIOD

Format Grade Reports, Honors Report, Failures and Incompletes, Class Ranking.

Sort S - 58
Major: Sort Key

Sorted Report Data

REPORT WRITER S - 59
Print

Class Ranking and Cumulative Ranking

Failures and Incomplete
Honors Report
Report Cards

IV - 33
NYSEIS
GRADE REPORTING

GRADE DISTRIBUTIONS  S-60  GRADE REPORTING PERIOD

Format Grade Distribution Reports.

Report Data

SORT  S-61

Major: Sort Key

Sorted Report Data

REPORT WRITER  S-62

Print

Excessive Grade Deviation

By Grade

By School

By Department

By Course

By Means of Instruction

Grade Distribution by Teacher

IV – 34
Format Grade Reporting Form, Cumulative Grades by Course, Regents Report.

Report Data

SORT 5-64

Major: Sort Key

Sorted Report Data

REPORT WRITER 5-65

Print

Regents Report

Cumulative Listing of Grades by Course

18 17

IV - 35
REQUEST FOR TRANSCRIPTS

NYSEIS PERMANENT RECORDS

PERMANENT RECORDS 5 - 66 ANNUALLY AS REQUESTED

Format Permanent Records.

Report Data

SORT 5 - 67
Optional

Sorted Report Data

PRINT 5 - 68
Print

Permanent Records
GRADE REPORTING EXTRACT 5 - 69 ANNUALLY

Extract Grade Reports for group indicated.
Format Grade Reporting Summary.

TRANSCRIPTS 5 - 70 ANNUALLY OR AS REQUESTED

Format Transcripts.

REPORT WRITER 3 - 72
Print
Transcripts
Copy Records for Students Enrolled who are on Test Scoring File.
Schools Code Students Who Are To Take Test

Selected Students

Keypunch

Selected Students

File

File

Enrollment

GENERATE ANSWER SHEETS S - 74 AS REQUESTED
Format Answer Sheets.

Test Answer Sheet Data

SORT S - 75

Optional

Sorted Test Answer Sheet Data

REPORT WRITER S - 76
Print

Test Answer Sheets I-F-4

25

IV - 39
Test Answer Sheets

Test Answers Recorded by Those Taking Test

Test Scoring Optical Scan

Test Answers

EDIT TEST SCORING S - 77 AS REQUESTED
Edit and print errors.
Deblank and interpret.

Test Answers

Errors

SORT S - 78
Major: Student #
Int: Test Number
Minor: Test Date

Sorted Test Answers

26
CONVERSION AND EVALUATION

Convert Test Scores based upon Information Parameters in Test Master.
Evaluate Test Results and Format Reports.

REPORT WRITER
Print
Correlation Coefficient Matrix
Test Statistics
Summary Comparison with Norms
Frequency Distribution
Item Analysis
UPDATE TEST SCORING S - 82 AS REQUESTED
Update Test Scoring.

TEST REPORTS S - 83 AS REQUESTED
Format Test Results Reports.

Converted Test Scores

Test Scoring

Test Scoring

Enrollment

REPORT WRITER S - 85
Print
Cumulative Test Scores Report
Individual Test Profile
Report of Test Results

REPORT WRITER S - 85
Print
Cumulative Test Scores Report
Individual Test Profile
Report of Test Results

IV - 42
Schools Code Information about Tests and how to Score and Evaluate

Test Data

Data Encode

Test Data

CARD-TO-TAPE S-86
Card-To-Tape

Test Master

26A
NYSEIS
STUDENT SCHEDULING

SELECT ENROLLMENT 5-87 ANNUALLY
Select incoming students by school.

Enrollment Data

SORT 5-88
Major: School
Minor: Student #

Sorted Enrollment Data

CREATE NEXT YEARS ENROLLMENT 5-89 ANNUALLY
Delete Graduating Students from Enrollment.
Merge Incoming Students onto Enrollment.

Next Year's Anticipated Enrollment

28

IV - 44
Format Student Course Selection Sheets.

Sort S-91
Major: Sort Key

Sorted Report Data

Report Writer S-92
Print

Student Course Selection Sheets

Next Year's Anticipated Enrollment

COURSE SELECTION SHEETS S-90 ANNUALLY
NYSEIS
STUDENT SCHEDULING

EDIT COURSE SELECTIONS  S  93  ANNUALLY

Deblock and Interpret Input.
Edit Course Selection Data.

Edited Student Course Selections

SORT  S  94
School
Student #
Course #

Student Course Selections

Errors

30

IV  46
UPDATE STUDENT COURSE MASTER

Edit Input.
Update Student Course Selections.
Format and Write, or Update Student Course Master.

Errors

Over and Under Scheduled Students

NYSEIS
STUDENT SCHEDULING
NYSEIS
STUDENT SCHEDULING

SCHEDULES AND SELECTIONS

Format Proposed Student Schedules
Format Student Course Selection Master Listing
Format Course Selection Roster.

SORT

Major: Sort Key

REPORT WRITER

Print

Course Selection Roster
Student Course Selection Master Listing
Proposed Student Schedules

IV - 48
School principal analyzes this data and develops the following Master Schedule Data.
NYSEIS
STUDENT SCHEDULING

AUTOMATIC SCHEDULE DEVELOPMENT

Assign Sections to Periods.
Assign Teachers to Sections.
Assign Sections to Rooms.

Identify Conflicts.
Format Reports.

Potential Conflict Factors
Course Distribution Over Periods
Potential Student Distribution Over Periods
Faculty Availability Matrix
Faculty Assignment to Course-Sections
Period Assignments of Courses
Course Period Matrix

IV - 50
Teacher Names and Numbers

Data Encode

Teacher Names and Numbers

SORT 5 - 103
Major: Teacher 

Master Schedule File

Teacher Names and Numbers File

Student Course Master File

SECTIONING 5 - 104 ANNUALLY AS REQUESTED

(May be run as a simulation.)
Assign Students to Sections.
Identify Conflicts.
Format Reports.

Schedule Data

Rejected Students

Room Utilization and Room Schedule

Room Conflicts

Master Schedule and Seat Balance

IV - 51
IVERSEIS
STUDENT SCHEDULING

POST-PROCESSING S - 107 ANNUALLY

Explode Block Courses.
Assign Study Halls.
Format Course Master
Format Course Data

Course Master

Course Data

IV - 52
41

Course Master

File

LOAD ANALYSIS S - 108 ANNUALLY

Format Reports shown

Report Data

SORT S - 109

Sort Key

Sorted Report Data

REPORT WRITER S - 110

Print

Load Analysis by Class

Load Analysis by Period

Teacher Schedules and Load Analysis

IV - 53
NYSEIS
STUDENT SCHEDULING

42

Course Data

SORT S - 111

Major: School
Inter: Student #
Inter: Course #
Minor: Section #

42A

Grade Reporting

File

Enrollment

File

STUDENT SCHEDULES S - 112 ANNUALLY
Format Reports Shown.

Report Data

SORT S - 113

Major: Sort Key

Sorted Report Data

REPORT WRITER S - 114
Print

Locker Assignments
Class Rosters
Student Schedules
2. **Personnel Subsystem**
   - General Flow Diagram
   - Processing Flow Charts
PROCESSING FLOW CHARTS:
PERSONNEL SUBSYSTEM

- Attendance Report
- Employee Master Record (Second Copy)
- Key Punch and Key Verify
- Attendance and Personnel Detail Transactions

CARD TO TAPE PROGRAM  P - 1  (MONTHLY)
- Generate an 80 character card image record on magnetic tape.

NOTE: Off page connections are alphabetic and apply to the Personnel/Payroll System only.

IV - 57
- Calculate check digit on employee number for additions and validate it for all other transactions.
- Check all fields for invalid characters and missing informations.
- Validate all codes by consulting tables.
- Accumulate control totals.
- Write the Personnel Detail Transaction File with each transaction sequentially numbered and flag all invalid records.
- Print Balance/Edit Control List, capture option with control totals and show each transaction with coded error messages indicating where the transaction has failed to meet the edit criteria.
PERSONNEL BALANCE/EDIT PROGRAM, CORRECTIONS OPTION  P - 3  (MONTHLY)

- Process each correction transaction through all routines described in the "Capture Option".
- Apply the edited corrections to the Attendance and Personal Detail Transaction File.
- Print the Balance/Edit Control List, Corrections Option, which is basically the same as the "Capture Option" except that it also shows which transactions were corrected and flags any transaction which should have been corrected and was not.
- The correction routine should be repeated until all transactions are acceptable to the system.

SORT  (MONTHLY)

Maj. – Employee Number
Min. – Transaction Code

Sorti ng   Attendance and Personnel Detail Transactions

K

IV-59
PERSONNEL UPDATE PROGRAM

- Update the Personnel/Payroll Master File with additions, changes and deletions from the Personnel Payroll Detail Transaction File.

- Write the Report File; all reports are optional; generate a record for each line of print of each report; create a sort tag for each record which will enable the Report File to be sorted in one pass and have all the reports fall in the proper sequence; the program should allow for the addition and deletion of reports.

- Print the Update Control List; it should show all action to the file by printing all transactions applied to the file and generating error messages where necessary (e.g., unmatched detail, duplicate master, etc.); print control totals.
NYSEIS PERSONNEL

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**SORT**

P - 5  
(MONTHLY)

Sequence - Sort Tag

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**SORTED REPORT FILE**

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**GENERALIZED PRINT PROGRAM**

P - 6  
(EACH PAYROLL PERIOD)

- Modify Generalized Print Program with Control Records which contain Data and Instructions used to set up page headings, format data and accumulate totals; these functions are performed before printing each report; the control records will insert a halt where necessary for forms change.

- Note: The Generalized Print Program will be used to print most of the reports in the NYSEIS Data Processing System.

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Substitute Teachers Report
Employee Attendance Report
Employee Master Record

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IV - 61
Select records from the Personnel/Payroll master file according to the logical criteria stated in the Parameter Cards.

Select fields within records according to the instructions stated in the Parameter Cards.

Write the Report File according to the instructions contained in the Parameter Cards by generating a record for each line of print with the necessary sort tag to have the report sort to the right sequence.

Sequence - Sort Tag

Sorted Report File

NYSEIS PERSONNEL
CONTROL
Records

SORTED
Report
File

GENERALIZED PRINT PROGRAM
P - 9
(ANNUAL OR UPON REQUEST)

Same as initial description of "Generalized Print Program"

Mailing
Labels

Staff
Directory

Selected
Personnel
Information

Non-Classroom
Personnel
Notices

Uncertified
Teachers

Teachers
Without
Tenure

NYSEIS
PERSONNEL

IV - 63
BUDGET BALANCE/EDIT PROGRAM  P - 10  (ANNUAL OR UPON REQUEST)

- Check all fields for invalid characters and missing information.
- Validate all codes by consulting tables.
- Accumulate control totals.
- Write the Budget Detail File.
- Print the Balance/Edit Control List and show each transaction with coded error messages indicating where the transaction has failed to meet the edit criteria.
- Corrections are made by manually correcting the punch cards and rerunning the program. This procedure should be repeated until all transactions are acceptable to the system.
DETAIL PERSONNEL PLANNING PROGRAM  P - 11  (ANNUAL OR UPON REQUEST)

- Select from each employee record on the Personnel/Payroll Master File the fields necessary to generate the detail lines of the Personnel Planning Report; select the projected salary for each employee from the Projected Salary File; generate a sort tag as per instructions in the Parameter Cards and write the record on the Report File.

- Generate a sort tag for each Budget Detail Transaction according to instructions in the Parameter Cards and write the record on the Report Tape.

SORT  P - 12  (ANNUAL OR UPON REQUEST)

Sequence - Sort Tag

GENERALIZED PRINT PROGRAM  P - 13  (ANNUAL OR UPON REQUEST)

Same as initial description of "Generalized Print Program"
Page 2 of BEDS Questionnaire for Non-Classroom Personnel

Optical Scanner

From the Student Subsystem

Page 2 of BEDS Questionnaire for Non-Classroom Personnel

Page 2 of BEDS Questionnaire for Classroom Personnel

SORT/MERGL

Max. - Employee Number

Page 2 of BEDS Questionnaire for Classroom and Non-Classroom Personnel

P

IV - 66
<table>
<thead>
<tr>
<th>BEdS Program, Capture Option</th>
<th>P - 15</th>
<th>(Annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Validate the check digit for each employee on the BEdS Detail File.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Match the BEdS Detail File to the Personnel/Payroll Master File; there should be no unmatched Details or Masters; generate an error message for any unmatched condition.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Validate all codes on the BEdS Detail File by consulting tables; check all fields for invalid characters and missing information.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Accumulate record counts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Select BEdS Page 1 information for classroom and non-classroom personnel from the Personnel/Payroll Master File; if there is missing information create an error message.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Write, for each employee, the Page 1 information from the Master File and the Page 2 information from the Detail File on the BEdS Information File.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Print the Balance/Edit Control List, Capture Option with record counts and show each employee record with error messages indicating where the record has failed to meet the edit criteria; clearly indicate all unmatched conditions between the Master and Detail Files.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BEDS PROGRAM, CORRECTIONS OPTION

- Process each correction transaction through all routines described in the "Capture Option".
- Apply the edited corrections to the BEDS Information File.
- Print the Balance/Edit Control List, Corrections Option which is basically the same as the Capture Option except that it also shows which records were corrected and flags any condition which should have been corrected and was not.
- The correction routine should be repeated until the BEDS Information File has met all the edit criteria.
- Create for each employee an Assignment Trailer Record.
Merge Assignment Trailer Records onto the Personnel/Payroll Master File
Salary Matrix Transactions

Key Punch and Key Verify

Salary Matrix Transactions

CARD '70 TAPE
P - 18 (ANNUAL OR UPON REQUEST)

Create an 80 character card image on Magnetic Tape

Salary Matrix Transactions

SALARY MATRIX BALANCE/EDIT, CAPTURE OPTION P - 19 (ANNUAL OR UPON REQUEST)

- Check all fields for invalid characters and missing information.
- Validate all codes by consulting tables.
- Accumulate control totals.
- Write the Salary Matrix Detail Transaction File with each transaction sequentially numbered; flag all fields which must be corrected.
- Print the Balance/Edit Control List with Control Totals, show each transaction with coded error messages, where necessary, indicating where the transaction failed to meet the edit criteria.

Balance/Edit Control List Capture Option

Salary Matrix Detail Transactions

IV - 70
NYSEIS
PEKSONNEL

SALARY MATRIX BALANCE/EDIT, CORRECTION OPTION P – 20 (ANNUAL OR UPON REQUEST)

- Process each correction transaction through all routines described in the initial "Capture Option".
- Apply the edited corrections to the Salary Matrix Detail Transaction File.
- Print the Balance/Edit Control List, Correction Option which is basically the same as the Capture Option except that it also shows which transactions were corrected and flags any transaction which should have been corrected and was not.
- The Correction Routine should be repeated until all transactions are acceptable to the system.

SORT P – 21

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matrix Sequence Key</td>
<td>Transaction Code</td>
</tr>
</tbody>
</table>

Sorted Salary Matrix Detail Transactions
Duplicate the Salary Matrix Master File in a work area.

Modify the Duplicate Master File with transactions from the Salary Matrix Detail File; individual rates segments of the file or the entire file can be modified by overlaying the fields, algebraic addition, or multiplying by a percentage. This creates a new "Version".

Copy the updated Duplicate Master onto the end of the Matrix Version File, assign it to the next sequential number which will be the version number.

Overlay the Master File with the desired version from the Matrix Version File if requested in the Parameter Cards.

Write a Projected Salary Matrix File from the desired version on the Matrix Version File if requested in the Parameter Cards.

Create the Salary Schedule Matrix Report, Salary Costs Matrix Report and Employee Matrix Report and write them out on the Report File; they can be generated from the Personnel/Payroll Master and the Matrix Version File; create Salary Notices if requested in the Parameter Cards.

Note: More than one Version can be created in a run and reports for more than one Version can be generated.

Print the Update Control List.
Co

Records

(Report...
N.

NYSEIS
PERSONNEL

Control
Records

Report
File

GENERALIZED PRINT PROGRAM

P – 23

(ANNUAL OR UPON REQUEST)

Same as the initial description of Generalized Print Program

Salary Notices

Employee Matrix Report

Salary Costs Matrix Report

Salary Schedule Matrix Report

IV – 73
NYSEIS PAYROLL

Card to Tape Program

P - 24 (Each Payroll Period)

- Generate an 80 character card image record on magnetic tape.

IV - 74
Calculate the check digit on the employee number for additions and validate it for all other transactions.

- Check all field for invalid characters and missing information.
- Validate all codes by consulting tables.
- Accumulate control totals.
- Write the Payroll Detail Transaction File with each transaction sequentially numbered; flag all records which must be corrected.
- Print the Balance/Edit Control List with control totals; show each transaction with coded error messages, where necessary, indicating where the transaction failed to meet the edit criteria.
Corrections

NY SE1 S
PAYROLL

PAYROLL BALANCE/EDIT PROGRAM, CORRECTIONS OPTION P - 26 (EACH PAYROLL PERIOD)

- Process each correction transaction through all routines described in the initial "Capture Option".
- Apply the edited corrections to the Payroll Detail Transaction File.
- Print the "Balance/Edit Control List, Correction Option" which is basically the same as the "Capture Option" except that it also shows which transactions were corrected and flags any transaction which should have been corrected and was not.
- The Correction routine should be repeated until all transactions are acceptable to the system.

Corrected Payroll Detail Transactions

Balance/Edit Control List Corrections Option

SORT P - 27 (EACH PAYROLL PERIOD)

Maj. - Employee Number
Min. - Transaction Code

Sorted Payroll Detail Transactions

IV - 76
PAYROLL UPDATE PROGRAM (EACH PAYROLL PERIOD)

- Update the Personnel/Payroll Master File with additions, changes and deletions from the Payroll Detail Transaction File.

- Test the Salary Control Code; if condition one proceed to the next step; if condition two develop the employee step and grade as per criteria contained in the Parameter Cards, and update the employee step and grade if necessary; if condition three, look up the employee step and grade on the Salary Matrix File and update the employee base rate if necessary; if condition four, follow the procedures described for conditions two and three.

- Generate a change of Rate Notice for any employee who has had a change of rate either manually or automatically initiated; create a record for each line of print, create a sort tag and write it on the Report File.

- Calculate Gross Pay (if necessary), Statutory Deductions, Voluntary Deductions and Net Pay.

- Update all QTD and YTD data fields.

- Accumulate Control Totals and Expense Distribution Totals.

- Write the Report File; all reports are optional; generate a record for each line of print; create a sort tag for each record which will enable the Report File to be sorted in one pass and have all the reports fall in the proper sequence. The program should be structured to allow for the addition and deletion of reports.

- Write the Cumulative Ledger File by adding the necessary current payroll information at the end of the file.

- Print the Update Control List; it should show all action to the file by printing all transactions applied to the file and generating error messages where necessary (e.g., unmatched details, duplicate masters, etc.); print control totals.

- Write the Expense Distribution Summary File.
NYSEIS PAYROLL

SORT P - 29 (EACH PAYROLL PERIOD)

Maj. - Sort Tag

Control Records

Sorted Report File

GENERALIZED PRINT PROGRAM P - 30 (EACH PAYROLL PERIOD)

Same as initial description of "Generalized Print Program"

Civil Service Retirement Report

Payroll Checks & Earnings Statements

Spread Deduction Register

Payroll Register

Payroll Transmittal

Change of Pay Rate Notice

Single Deduction Register

Detail Expense Distribution

W2

941A

Teachers Retirement Report

IV - 78
NYSEIS PAYROLL

Cumulative Ledger

Sort P - 31 (Each Payroll Period)

Major: Employee Number
Min.: Period Ending Date

Control Records

Sorted Cumulative Ledger

File

Generalized Print Program P - 32 (Each Payroll Period)

Same as initial description of Generalized Print Program

Employee Quarterly Earnings Ledger

IV - 79
3. Financial Subsystem
   - General Flow Diagram
   - Processing Flow Charts
PROCESSING FLOW CHARTS:

FINANCIAL SUBSYSTEM

1. Distributed to District and School Personnel responsible for making requests.
2. School and District Personnel enter Quantity Requested and Appropriate Fund/Budget/Location Code.
Supply and Equipment Requests

CARD-TO-TAPE F 2 ANNUAL
Balance to control totals

Request Changes

Supply and Equipment Requests
Scratch

SORT F 3 ANNUAL

<table>
<thead>
<tr>
<th>Major</th>
<th>Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int. 1</td>
<td>Location</td>
</tr>
<tr>
<td>Int. 2</td>
<td>Item Number</td>
</tr>
<tr>
<td>Minor</td>
<td>Budget Code</td>
</tr>
</tbody>
</table>

- Write Summary Records of Requests by Budget Code.

Request Totals by Budget Code

REQUEST UPDATE & PRINT F 4 ANNUAL

1. Write Supply and Equipment Detail Tape. Add Item Descriptions to Request Records.
2. Update Supply and Equipment Requests with changes, if any.

Supply and Equipment Detail

PRINT F 6 ANNUAL

Supply and Equipment Detail

SORT F 5 ANNUAL

<table>
<thead>
<tr>
<th>Major</th>
<th>Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Int.</td>
<td>Budget Code</td>
</tr>
<tr>
<td>Minor</td>
<td>Location</td>
</tr>
</tbody>
</table>

Request Totals by Budget Code

Supply and Equipment Requests

5A

3A

IV - 84
1. Print Amount Appropriated and Estimated Expenditures for each Appropriation Account. Also print this year's Requests for Supply and Equipment Accounts.

- Using Planning Reports, District Reviews Budget Requests and makes final budget decisions.

NYSEIS
BUDGET/BID LIST
PREPARATION

PRINT  F - 7  ANNUAL

Tumaround Budget Work Sheets

To District

Make Final Budget Request Modifications

Final Approved Turnaround Budget Work Sheets

Key Punch

Final Approved Budget Figures

New Budget Code Descriptions

From Personnel and Student Subsystems

Salary Projections

Enrollment History and Projection

Detail Personnel Planning Report

Teacher - Student Statistics

New Budget Code Descriptions

1V - 85
1. Build new Appropriation Master Records from Final Worksheet Appropriation Amounts and current year’s Appropriation Master (for prior year monthly totals).

2. Use New Budget Code Description to provide descriptive data for records not on prior year Appropriation Master.

3. Write Print Topes.

Print F-11 ANNUAL

Print F-12 ANNUAL

SBM-1 or SBM-2
(Exclusive of Revenue)
WRITE BID LIST F-13 ANNUAL

1. Write Skeletal* Supply and Equipment Request Records.
2. Write Summary Records by item number within district, i.e., Bid List Tape.

* District Code
* Fund/Budget/Location Code
* Item Number
* Quantity Requested
6A

Bid
List

7B

PRINT/PUNCH
F - 16
ANNUAL

Punch Cord – for each item on Bid List File.

Bid Lists
(Reproducible
Master)

District
Sends to
Bidders
Make Awards
to Bidders

Bid List
Item Cards

File

Punch
Vendor Number
and Price into
Bid List
Item Cards

Bid List
Item Cards

7A

IV - 88
UPDATE BID LIST FILE

1. Update Bid List Items with vendor number and price of item.
2. Update Item Descriptions with new prices.

SORT

Major - Vendor Number
Minor - Item Number

UPDATE F - 19 ANNUAL/AS REQUIRED

1. Update file with changes to item descriptions and additions and deletions

Hold For Next Year
1. Write Purchase Order Detail, i.e., by vendor, quantity of each item required at each location.
2. Summarize to G.L. Control Accounts from subsidiary Revenue and Appropriation Accounts.
1. Edit Accounting Transactions for Valid Codes, (e.g., Transaction, District, Fund/Budget/Location). Transaction Format, Dollar Amount Tolerances and Correct Batch Controls.
2. Write Detailed Transaction and Error Register.
   - Change Account Number of Incorrect side of "Two-Sided" Transactions to Suspense Account.
3. Write Weekly Transaction File with Good and Suspended Transactions.
1. Update Appropriation Master Monthly Totals with Weekly Transactions.
   - Update Appropriation Amounts with Appropriation Adjustments in Inter-Fund Transfers
   - Check Availability of Funds in Appropriation Accounts "Hit" by Purchase Orders and Payment Transactions
   - If Funds Unavailable, Reject Transactions and write an Error Tape with Status of Appropriation Account Year-To-Date Balances
   - If Funds Available, update Current Month Expenditure, Encumbrance, Liquidation and Available Fields as required.
   - Distribute Payroll to Appropriation Accounts affected.
2. Add New P.O. Transactions to Open P.O. File.
3. Update Payment and Outstanding Balance portions to Open P.O. Records with Payment Transactions.
4. Write Check Writing Tape for payments to be made this period (via Input of Pay - Through Date).
5. Punch Turnaround Invoice Cards for Processed Purchase Order Transactions and for Partial Pays, i.e., for balance of P.O. Outstanding.
7. Write Appropriation Exception Report Tape.
1. Update Vendor File with Additions, Deletions and/or Changes to Vendor Name, Address and Ratings.

2. Update Vendor File with Purchase Orders Placed With Each Vendor for Period.

3. Write Updated Vendor List (Monthly or on Request).

WRITE CHECK REGISTER  F – 35  WEEKLY

1. Update Check Writer Records with vendor name & address. Combine payments to same vendors from same fund.
2. Write Check Register Tape.

PRINT  F – 36  WEEKLY

1. Print Check Register
2. Write Check Register updated with Check Numbers.

IV – 95
1. Write Purchase Order - Payment Analysis with P.O. Records which have outstanding balance or against which payment(s) have been made this period.

2. Update Y-T-D P.O. Purge File with Purchase Order Records with no outstanding balance, i.e., paid-in-full.

2. Write Monthly Appropriation Detail Listing and Board Report Tape.

3. Write Monthly General Ledger/Revenue Ledger Entries.

4. Update Y-T-D Transaction File
NYSEIS
GENERAL LEDGER/
REVENUE LEDGER
ACCOUNTING

FROM ENCUMBRANCE
ACCOUNTING

GL/RL
Entries

SORT F 43 MONTHLY
Major – Fund
Int. – Account
Minor – Reference Number

GL/RL
Entries

PRINT F 44 MONTHLY

General Ledger
Revenue Ledger
Input Listing

UPDATE GL AND REVENUE LEDGER F 45 MONTHLY
1. Update General Ledger and Revenue Ledger accounts with current month’s activity.
2. Write Revenue Ledger and T/B Print Tapes.
3. Print Control Totals balancing opening balances ± transactions to closing balances.

Control Totals

Trial Balance

Revenue Ledger

IV - 99

IV - 99

108