

**STATE AUTOMATION SYSTEMS STUDY**

**SITE VISIT: NOVEMBER 3 - 5, 1993**

**MASSACHUSETTS STATE REPORT**

**NOVEMBER 16, 1994**

**FINAL**

**Prepared for:**

**Diana Perez, Project Officer  
Office of Analysis and Evaluation  
Food and Nutrition Service  
3101 Park Center Drive  
Alexandria, VA 22302**

**FNS Contract No. 53-3109-2-007**

## TABLE OF CONTENTS

	<u>Page</u>
<b>STATE PROFILE</b> .....	1
<b>1.0 STATE OPERATING ENVIRONMENT</b> .....	3
<b>2.0 FOOD STAMP PROGRAM OPERATIONS</b> .....	4
2.1 Food Stamp Program Participation .....	4
2.2 FSP Benefits Issued Versus FSP Administrative Costs .....	5
2.3 FSP Administrative Costs .....	5
2.4 System Impacts on Program Performance .....	6
2.4.1 Staffing .....	6
2.4.2 Responsiveness to Regulatory Change .....	7
2.4.3 Combined Official Payment Error Rate .....	8
2.4.4 Claims Collection .....	8
2.4.5 Certification/Reviews .....	9
<b>3.0 OVERVIEW OF THE SYSTEM</b> .....	9
3.1 System Functionality .....	10
3.2 Level of Integration/Complexity .....	13
3.3 Workstation/Caseworker Ratio .....	14
3.4 Current Automation Issues .....	14
<b>4.0 SYSTEM DEVELOPMENT AND IMPLEMENTATION</b> .....	15
4.1 Overview of the Previous System .....	15
4.2 Justification for the New System .....	15

## TABLE OF CONTENTS

	<u>Page</u>
4.3 Development and Implementation Activities . . . . .	16
4.4 Conversion Approach . . . . .	17
4.5 Project Management . . . . .	17
4.6 FSP Participation . . . . .	17
4.7 MIS Participation . . . . .	18
4.8 Problems Encountered During Development and Implementation . . . . .	18
<b>5.0 TRANSFERABILITY . . . . .</b>	<b>18</b>
<b>6.0 SYSTEM OPERATIONS . . . . .</b>	<b>19</b>
6.1 System Profile . . . . .	19
6.2 Description of Operating Environment . . . . .	20
6.2.1 Operating Environment . . . . .	20
6.2.2 State Operations and Maintenance . . . . .	20
6.2.3 Telecommunications . . . . .	21
6.2.4 System Performance . . . . .	21
6.2.5 System Response . . . . .	21
6.2.6 System Downtime . . . . .	21
6.2.7 Current Activities and Future Plans . . . . .	22
<b>7.0 COST AND COST ALLOCATION . . . . .</b>	<b>22</b>
7.1 BEACON Development Costs and Federal Funding . . . . .	22
7.1.1 BEACON System Components . . . . .	22

## TABLE OF CONTENTS

	<u>Page</u>
7.1.2 Major Development Cost Components . . . . .	22
7.2 Operational Costs . . . . .	23
7.2.1 Cost Per Case . . . . .	23
7.2.2 ADP Operational Cost Control Measures and Practices . . . . .	23
7.3 Massachusetts Cost Allocation Methodologies . . . . .	25
7.3.1 Historical Overview of Development Cost Allocation Methodology . . . . .	25
7.3.2 Operational Cost Allocation Methodology and Mechanics . . . . .	26

## APPENDICES

A State of Massachusetts Exhibits . . . . .	A-1
B Analysis of Managerial User Satisfaction . . . . .	B-1
C Analysis of Operator User Satisfaction . . . . .	C-1
D BEACON PAPD Update for Massachusetts Welfare Eligibility System . . . . .	D-1

**LIST OF TABLES**

<u>Table No.</u>		<u>Page</u>
2.1	Average Monthly Public Assistance Participation .....	5
2.2	FSP Benefits Issued .....	5
2.3	FSP Federal Administrative Costs .....	5
2.4	Official Combined Error Rate .....	8
2.5	Total Claims Established/Collected .....	9
7.1	ADP Operational Costs .....	23
7.2	ADP Operational Cost Account Codes .....	25
7.3	BEACON Planning Cost Allocation Percentages .....	26

**APPENDIX A - State of Massachusetts Exhibits**

<u>Exhibit No.</u>		
A-2.1	Response to Regulatory Changes .....	A-2
A-6.1	State of Massachusetts Hardware Inventory .....	A-4

## MASSACHUSETTS STATE REPORT

Site Visit November 3 - 5, 1993

### STATE PROFILE

**System Name:** Program Automated Calculation and Eligibility System (PACES) and others - existing systems  
Benefit Eligibility and Control On-line Network (BEACON) - being developed

**Start Date:** 1992 (BEACON)

**Completion Date:** 1997 (BEACON)

**Contractor:** Not determined (BEACON)

**Transfer From:** Not determined (BEACON)

**Cost\*:**

**Actual:** Not known  
**Projected:** \$35,000,000 (PAPD estimate)  
**FSP Share:** Not determined  
**FSP %:** Not determined

**Number of Users:** Not determined

**Basic Architecture\*\*:**

**Mainframe:** IBM 3090/200E, HDS EX100 (existing system)  
**Workstations:** IBM 327X terminals (existing system)  
**Telecomm Network:** T1 lines connected to 5 nodes with 56 KB lines from the network to 9600 KB local lines (existing system)

**System Profile:**

**Programs\*:** Aid to Families with Dependent Children; Food Stamp; Emergency Aid to the Elderly, Disabled, and Children (General Assistance)

\* Cost data and programs pertain to the BEACON System

\*\* This configuration supports existing systems; the architecture for BEACON is undetermined as of the writing of this report.

## NOTE

The PAPD used for the creation of the draft report was dated March 1993 and was received by the Orkand project team during the November 3-5, 1993 site visit. An updated PAPD dated December 20, 1993 was received with the State and Region comments on the draft report and is provided in its entirety in this final report at Appendix D.

## 1.0 STATE OPERATING ENVIRONMENT

The Department of Public Welfare (DPW) is the designated State agency for Massachusetts' state-administered Food Stamp Program (FSP) and other public assistance programs. The DPW Commissioner reports to the Massachusetts cabinet level Secretary of Health and Human Services. The organization recently has been changed by removing the Medicaid Program from DPW and creating the Division of Medical Assistance, whose director reports directly to the Secretary of Health and Human Services. The change is being implemented over a 12 month period. Medicaid eligibility is administered by the Division of Medical Assistance.

The DPW is responsible for the administration of the Aid to Families with Dependent Children (AFDC) Program, the Food Stamp Program, and several other assistance programs. The following units report to the Deputy Commissioner:

- Administration and Finance
- Field and Eligibility Operations
- Policy and Program Management
- Systems

State level program support is provided through the Policy and Program Management unit. There is a separate FSP program manager and a program manager responsible for AFDC and other programs.

Systems support is provided through the Systems unit within DPW as well as the State level systems group that supports the State data center and the Office of Management Information Systems (OMIS). The DPW Systems group provides application development support and some operational support.

The State population in 1990 was 6,029,051. Approximately 5.9 percent were food stamp recipients.

The level of unemployment in Massachusetts decreased between 1982 and 1987 and increased between 1988 and 1991. Between 1982 and 1987, the Massachusetts unemployment level decreased from 7.9 percent to 3.2 percent. The unemployment rate increased each year between 1988 and 1991 and reached 9.0 percent in 1991.

The October 1992 report, *The Fiscal Survey of States*, provides the following information compiled by the National Association of State Budget Officers:

- Massachusetts' nominal expenditure growth for fiscal year (FY) 1993 was between 5.0 percent and 9.9 percent; the national average for expenditure growth was 2.4 percent.
- Massachusetts did not have any reductions after its 1992 budget was approved.
- State government employment levels in Massachusetts decreased by 4.16 percent. The national average change was a 0.60 percent decrease in state government employment.

- Massachusetts implemented changes to increase revenues by \$27.8 million for FY 1993. These changes consisted of a \$2.2 million decrease in other taxes and a \$30 million increase in fees.
- The regional outlook indicated that the New England states were in an economic slump. The regional weighted unemployment rate of 8.1 percent exceeded the national average of 7.8 percent. The region's increase in per capita income, 2.2 percent, was lower than the average increase of 2.4 percent.

## **2.0 FOOD STAMP PROGRAM OPERATIONS**

Support for the Food Stamp Program is decentralized throughout the Financial Services Division. Program policy and procedural oversight are provided through the Policy, Procedure, and Program Management Unit. There are 48 local offices in the State organized into four geographic clusters. Field workers in local offices report to an operations manager responsible for a cluster of offices. The operations managers report to the Director of Field and Eligibility Operations.

### **2.1 Food Stamp Program Participation**

Food Stamp Program participation in Massachusetts has increased in recent years. Between 1988 and 1992, the number of FSP households increased by nearly 50,000, which represented a 37.3 percent increase. During the same period, the number of individuals receiving FSP benefits increased by 41.8 percent.

Changes in participation levels for FSP and other public assistance programs for the last five years are provided in Table 2.1. Participation increases occurred between 1988 and 1992 in all program areas except General Assistance (GA). The number of cases, under the General Relief (GR) Program between 1988 and 1991, increased by 57.8 percent. In 1992, the program was changed from GR to Emergency Aid to the Elderly, Disabled, and Children (EAEDC), and participation decreased by 43.7 percent from the 1991 level. The number of AFDC cases increased by 27.0 percent during the five year period and the number of Medicaid participants increased by 29.9 percent during the same period.

**Table 2.1 Average Monthly Public Assistance Participation**

Programs	FY 1992	FY 1991	FY 1990	FY 1989	FY 1988
<b>AFDC</b>					
Cases	108,480	103,835	92,944	85,902	85,439
Recipients	305,771	293,533	263,297	243,315	235,580
<b>FSP</b>					
Households	182,405	177,032	155,510	140,057	132,844
Recipients	430,024	407,913	356,622	319,096	303,199
<b>Medicaid</b>					
Individuals	575,918	565,111	512,123	470,811	444,391
<b>GA</b>					
Cases	21,910	38,899	33,916	28,198	24,648
Recipients	27,017	47,518	41,427	34,197	30,252

**2.2 FSP Benefits Issued Versus FSP Administrative Costs**

The ratio of benefits issued to FSP administrative costs has improved from 4.5:1 in 1988 to 14.6:1 in 1992.

Massachusetts' average monthly benefit issuance per household over the last five years, as provided in Table 2.2, has increased.<sup>1</sup>

**Table 2.2 FSP Benefits Issued**

	1992	1991	1990	1989	1988
Average Monthly Benefit Per Household	\$143.74	\$130.35	\$113.30	\$93.89	\$91.77

**2.3 FSP Administrative Costs**

Massachusetts' Food Stamp Program administrative costs for the past five years are provided in Table 2.3.<sup>2</sup> Both total cost and average cost per household indicate a general downward trend during the period; however, both increased in 1990.

<sup>1</sup> The number of households and benefit amounts use data reported in the FNS *State Activity Reports* for each year.

<sup>2</sup> The number of households and FSP Federal administrative costs are derived from data reported in the FNS *State Activity Reports* for each year.

**Table 2.3 FSP Federal Administrative Costs**

	1992	1991	1990	1989	1988
Total FSP Federal Admin. Cost	\$21,655,020	\$23,181,011	\$31,188,169	\$27,263,029	\$32,035,938
Avg. Federal Admin. Cost Per Household Per Month	\$9.87	\$11.22	\$17.10	\$16.65	\$20.58

**2.4 System Impacts on Program Performance**

Areas of Food Stamp Program performance that potentially could be affected by the automated systems that support FSP include:

- Staffing
- Responsiveness to Regulatory Change
- Combined Official Payment Error Rates
- Claims Collection
- Certification/Reviews

**2.4.1 Staffing**

Massachusetts currently has 137 intake eligibility workers (EWs), 363 on-going caseworkers, 268.5 caseworker supervisors, 222 non-public assistance (NPA) food stamp workers, and 428.5 consolidated intake and on-going caseworkers. Massachusetts uses separate NPA food stamp workers. A small percentage of NPA workers handle GA cases as well. Approximately 50 percent of the offices provide integrated program services. Massachusetts has not decided the degree to which the State will utilize program specific workers in its BEACON system, which currently is in the planning phase; however, State staff envision primary reliance on generic workers.

Since 1987, staffing levels in DPW field offices have been reduced. Staffing has been further reduced through attrition. In 1993, the staffing levels continued to decrease and reductions in clerical staff resulted in an increasing number of cases becoming backlogged in data entry.

The combination of staff reductions and participation increases have resulted in increased caseloads for workers. The average workload for public assistance (PA) cases is approximately 35 applications and 200 on-going cases per month. In a Boston area office, the average worker handles from 225 to 275 on-going cases plus 75 applications per month. NPA, i.e., food stamp only, caseloads range from 250 to 300 cases per worker. Workers are overwhelmed and do not have time to process paper and errors result. A

maximum caseload of 330 NPA FSP cases has been negotiated with the union based on a weighted combination of new applications, which require approximately one hour, to on-going cases, which require about 30 minutes. Public assistance cases require more time than NPA cases and a caseload cap has not been negotiated for PA cases.

#### **2.4.2 Responsiveness to Regulatory Change**

Of the fourteen regulations shown in Exhibit A-2.1 in Appendix A, seven were implemented on time. The following provisions were not implemented on time or at all:

- Code 1.3 - regulation 273.8(e)(17): This provision, which excludes for FSP purposes household resources exempt by PA and Supplemental Security Income (SSI), was implemented manually outside of the system on February 1, 1992.
- Code 1.4 - regulation 273.9(d)(5)(i): This provision, which mandates the use of a standard estimate of shelter expense for households with homeless members, was implemented manually outside of the automated system on February 1, 1992.
- Codes 2.2 and 2.3 - regulations 274.2(b)(2) and (3): These provisions, related to the combined initial allotment under normal and expedited timeframes, have not been implemented. Massachusetts currently issues coupons on a cyclical basis in which food coupons are provided for 15 days and the next full cycle.
- Code 3.2 - regulation 273.9(c)(14): This provision, related to the exclusion of earned income tax credit payments, was implemented one year late and was not implemented in the system.

State staff also provided the following information concerning two additional regulatory changes:

- Code 1.1 - regulation 273.9(c)(1)(ii)(F): This provision, which excludes State or local GA payments to the Department of Health and Human Services (DHHS) provided as vendor payments, does not apply to Massachusetts.
- Code 3.1 - regulation 273.9(c)(1)(ii): The State could not determine whether this provision, related to the exclusion of migrant vendor payments, had been implemented or not.

The Massachusetts environment impacted the State's ability to implement regulatory changes in a timely manner. Most regulatory changes in Massachusetts were implemented in a partially automated and partially manual manner. This was possible because the worker determines eligibility and completes paper worksheets and input documents for entry into the system. Further delays in implementing regulatory changes occur because Massachusetts has to advertise for 21 days prior to implementing any non-emergency regulations. This adds another three to four months to the State's implementation

schedule. State staff expressed concern about timing because final regulations are not always available by the date that the regulation is to be implemented.

### 2.4.3 Combined Official Payment Error Rate

Massachusetts's official combined error rate, as indicated in Table 2.4, has fluctuated between 1988 and 1992.

**Table 2.4 Official Combined Error Rate**

	1992	1991	1990	1989	1988
Combined	7.38	6.93	13.06	9.44	11.30

**Table 2.5 Total Claims Established/Collected**

	1992	1991	1990	1989	1988
<b>Total Claims Established</b>	\$1,694,608	\$1,666,561	\$1,758,269	\$1,913,737	\$2,550,604
<b>Total Claims Collected</b>	\$639,079	\$608,154	\$668,482	\$694,466	\$717,791
<b>As a % of Total Claims Established</b>	37.7%	36.5%	38.0%	36.3%	28.1%

**2.4.5 Certification/Reviews**

Massachusetts' current system has not been Family Assistance Management Information System (FAMIS) certified, nor reviewed by FNS.

**3.0 OVERVIEW OF THE SYSTEM**

The Program Automated Calculation and Eligibility System (PACES), which has been fully operational since October 1986, is the principal system that supports the Food Stamp Program; however, several other systems also support FSP. A batch system, the Financial Management Control System (FMCS), processes payments and maintains a master file of eligible cases and clients and has been operational for over 20 years. Other systems that are used in program administration and support for FSP, AFDC, and Medicaid include:

- Medicaid Management Information System (MMIS)
- Income and Eligibility Verification System (IEVS)
- Food Stamp System (FSS)
- Food Stamp Disqualified Tracking System, a personal computer (PC) based tracking system that generates notices to clients and can be used to reactivate a case that has been disqualified.
- Centralized Recoupment Unit/Centralized Receivable System (CRU/CARS) is used for fraud cases and is being enhanced.
- Overpayment System for FSP and AFDC, which is used for non-fraud cases.

- Special Services Payment System (SSPS), for invoices, emergency food orders, and shelter placement.
- Case Management Tracking System
- Child Support Enforcement System, on-line access is provided for income information.
- PRISM, which is to be implemented in July 1994, is intended to initiate the automation of the IEVS matching process by reducing both the amount of paper and the re-entry of data required to support computer matching.

The new Benefit Eligibility and Control On-line Network (BEACON) system will replace the Program Automated Calculation and Eligibility System (PACES), the Financial Management Control System (FMCS), and all current systems.

### 3.1 System Functionality

Major features of existing system functionality are described in this section. Areas addressed include:

- **Registration.** Separate application forms are used to apply for benefits from the various assistance programs in the State. A combined form is used for AFDC, FSP, and Medicaid. There is also a separate form for FSP-only applicants. Separate forms are utilized for Medicaid assistance applicants who are under 18 years of age, over 18 years of age, and over 65 years of age. A different form is used for clients who are eligible for Emergency Aid to the Elderly, Disabled and Children (EAEDC), Massachusetts' program for General Assistance. Another form is used for the Emergency Assistance Program.

At registration, a search is conducted to determine whether the client currently participates or previously has participated, within the last two years, in AFDC, FSP, Refugee Assistance, SSI, Medicaid, or EAEDC. Duplicate participation is possible because the search is conducted only for the head of the household in PACES/FMCS, which is a case-based system.

Other searches may be conducted. An on-line search of participation in SSI and Social Security Administration (SSA) programs can be conducted and the system can copy the historical record of a participant in these programs into the current record. Each office also has the capability to search Department of Motor Vehicles (DMV) files for vehicle registration; however, access to DMV files is limited to a few people in each office. DMV file checks are performed for FSP applicants only when fraud is suspected. The worker can also access MMIS to review data based on name and birthdate.

Although there may be some variation among local offices, the basic procedure for registration is similar throughout the State. Each application is screened the

day it is received, and an appointment is scheduled for the completion of the application. If the person is eligible for expedited benefits, the interview is conducted on the same day. Application data are entered into the system by a clerk. The caseworker is required to review potential matches and indicate whether the record is to be included in the case file.

- ***Eligibility Determination.*** The caseworker conducts the client interview and obtains any missing verifications. A case can be opened temporarily without verifications if expedited service is required. Following the interview, the worker enters application data into the system via 12 data entry screens. A daily printout of the prior day's input is provided to the worker for review of cases entered and to determine which cases are pending.
- ***Benefit Calculation.*** Following the interview, the worker prepares a worksheet to calculate the monthly budget. This information is entered into the system and benefits are calculated. For over-the-counter (OTC) issuances, a calculator screen is provided to assist the worker in calculating benefits. The system requires that supervisors authorize benefits for all new cases, re-applying cases, and recertifications.
- ***Benefit Issuance.*** The State issues most FSP benefits through computer generated authorization-to-participate (ATP) documents that are produced at a central location and provided to recipients at the local office or by mail. Over-the-counter (OTC) ATP issuance occurs only in cases of dire need. Less than six percent of ATPs issued were issued OTC. With the implementation of the new system, local offices will have the capability to perform automated OTC issuance. Recipients redeem ATP cards and receive food coupons at 420 issuance sites in financial institutions, drug stores, and community action agencies.

If an ATP is not received and the client requires a replacement, the worker makes an on-line inquiry to the system to see if the ATP was returned. If the ATP was returned, it is destroyed and another ATP is issued through the system and mailed to the client. Replacement ATPs can be reissued in the next daily issuance process. If the loss occurs after the 25th of the month, the ATP is typed by a clerk and issued over the counter.

The system links the document numbers of the original and replacement issuances and provides an on-line display of the entire issuance history. To reconcile replacement issuances, an exception report is generated listing all multiple issuances by Social Security number (SSN). Overissuances then are referred to the proper units. Monthly physical inventories and signed control documents are used to monitor coupon inventories. A report that uses last month's reported ending inventory as this month's beginning inventory is forwarded to the contractor who reports transfers, shipments, and a physical ending inventory on the last day of the month. This is reconciled to ATPs transacted to create the FNS-250 report.

The State is in the process of developing a final draft of a Planning Advanced Planning Document (APD) for an electronic benefit transfer (EBT) system.

- **Notices.** Notices can be generated by the system or the worker. For system generated notices, no worker input is required. Computer generated notices are produced for approvals and denials, changes in benefit amounts, and warnings that AFDC monthly reports have not been received. Worker generated notices are used for missing verifications and denials related to failure to keep interview appointments.
- **Claims System.** Claim recoveries are supported by the Food Stamp Overpayment Recovery System, which is a separate mainframe-based system that interfaces with PACES and FMCS, and CARS. The Food Stamp Overpayment Recovery System is used to track claims and to send 46 types of notices. It interfaces with PACES and FMCS monthly. PACES calculates the amount to be recouped, performs the collection, and posts the adjustment on the PACES file that is downloaded to the Food Stamp Overpayment Recovery System at the end of the month after the last issuance cycle. CARS is used to support FSP fraud cases.

The Massachusetts systems do not support on-line entry of claims information. The worker must prepare a paper claim form and submit the form to the central office for entry into the claims system. The worker is prevented from making adjustments to the recoupment amount once the claim is entered into the system. One notice is sent when a recoupment is going to take place. If the client appeals, the Hearings Office will notify the caseworker and the Recovery Unit of the appeal and of the subsequent appeal decision.

The method of handling overpayments varies depending on the status of the case. If the case is no longer active, central office staff calculate the amount of the claim. If the case is active, PACES does the calculation based on files that are maintained for 30 months. If data are needed beyond that time, there is an inquiry system in place that is used to access older information archived on tapes. All claims for overpayment must be approved by a supervisor. The worker is able to view the collection history via on-line inquiry screens.

- **Computer Matching.** At certification, the system performs searches of the public assistance databases for current and previous participation in State programs. Computer matches are performed against the State Labor and Revenue Department databases to identify wages, taxes, and unemployment insurance benefits for the applicant.

After certification, a number of computer matches are performed, including: State Data Exchange (SDX), Beneficiary Data Exchange (BENDEX), State tax files, bank records, DMV, the Internal Revenue Service (IRS), SSA for SSNs, and State wage and unemployment compensation files.

The worker receives a copy of matching results via paper reports. Only matches that exceed certain thresholds are reported to the worker or result in changes in benefit amounts. After the worker reviews the printout, any changes required in the case are made on a turnaround document, which is given to data entry workers. If a match is found in either BENDEX or SDX, the system automatically adjusts the case budget and sends a client notice at least ten days prior to a decrease in benefits. The caseworker receives a copy of this notice. The information also is available to the worker through an on-line inquiry and on the daily caseload report. After reviewing the case, the worker either refers the case for fraud or prepares a turnaround document. Tracking match resolutions is not automatic. Information must be reentered into the system by the worker.

The State is redesigning the matching interface with PRISM. The results of matching will be in a database and available to the eligibility worker via a terminal. The State is utilizing an information engineering methodology for the PRISM project. PRISM eventually will be implemented on a client-server architecture.

- **Alerts.** There are no fully automated system alerts. The worker receives printed reports.
- **Monthly Reporting.** No monthly reporting is required for Food Stamp Program cases, but the State does require monthly reporting for AFDC recipients.
- **Report Generation.** All system reports are batch generated. The system provides daily reports for workers that list outstanding work needing attention. Regularly scheduled reports are delivered to field offices by distribution services. Ad hoc reports must be developed by MIS development staff.

The systems provide necessary information or automatically generate reports required by FNS. The FNS-250 report, which reflects issued and transacted ATPs, and the FNS-46 report are fully automated. The OMIS system merges the individual inventory reports from the issuance agents and reconciles ATPs transacted. PACES provides the information needed for the preparation of the FNS-388 and portions of the FNS-366B, *Program and Budget Summary Statement*, reports.

- **Program Management and Administration.** There is a limited electronic mail (E-mail) capability. Data entry staff print E-mail messages and distribute the printout to the appropriate staff member.

### 3.2 Level of Integration/Complexity

The current PACES provides integrated support for FSP, AFDC, GA, and Medicaid.

The current systems in Massachusetts exhibit a very low level of integration. The fragmentation of the systems supporting the public assistance programs adds a level of unwanted complexity to the maintenance of the existing systems, although the systems themselves, at least when originally designed, are not complex.

With the reorganization of DPW and separation of Medical Assistance from DPW, assistance programs in Massachusetts will become less integrated from an organizational perspective. BEACON will not include the functionality needed to determine Medicaid eligibility.

Changes in the level of integration and complexity are expected in conjunction with the implementation of the BEACON system. BEACON system plans involve providing integrated support for AFDC, FSP, GA, and JOBS. It is expected that BEACON also will integrate additional minor assistance programs. State staff envision the use of a generic caseworker approach to support BEACON, although some worker specialization is expected to continue. Roles and responsibilities of various types of workers also are expected to change.

### **3.3 Workstation/Caseworker Ratio**

Under the current system, terminals are available for workers and data entry personnel. There are approximately four caseworkers for every terminal. Most data entry staff have dedicated terminals.

Plans for BEACON indicate that there will be one terminal for each worker with the new system.

### **3.4 Current Automation Issues**

State staff indicated that ad hoc reporting is problematic. With available systems staff, it currently requires at least a week for an ad hoc report to be programmed and generated. There is a backlog of over 100 system requests and there is a 70 percent completion rate for system requests because BEACON is the top priority.

Another issue noted by State staff involves the inability of the existing systems to prevent duplicate participation and duplicate issuance. State staff indicated that some duplicate participation of dependents exists because the large size of the dependent file, which contains a record for every household member, prohibits completely accurate searches against it. State staff also indicated that duplicate issuance occurs despite the use of a subsystem that prevents recipients from going to multiple offices and a back-end system that looks for patterns with ATPs. The duplicate issuance and participation problems have led to high error rates. Massachusetts staff expect that BEACON will eliminate these problems.

There also are some problems in the Food Stamp Overpayment Recovery System. The State is working on enhancing the CARS and CRU systems to include the Food Stamp

Program and correct some of the problems. The tentative implementation date for the system enhancement, which is intended to improve claims collection processing over the next three years to meet Federal requirements, is July 1, 1994.

#### **4.0 SYSTEM DEVELOPMENT AND IMPLEMENTATION**

Massachusetts currently is in the planning stages of a new system development effort. This section discusses the approaches used in Massachusetts to develop its new BEACON system. Therefore, the description of the previous system in section 4.1 refers to the existing system.

##### **4.1 Overview of the Previous System**

Massachusetts' current system is comprised of multiple systems. The functionality of this system is detailed in section 3.1. PACES was implemented in October 1986 to perform eligibility determination and benefit calculation. Other systems that currently support public assistance programs were developed in the 1960s, 1970s, and 1980s.

##### **4.2 Justification for the New System**

The current systems are very problematic, fragmented, aged, and do not adequately serve caseworkers and program administration. The problems with the existing systems include: lack of data integrity, inaccuracy, insufficiency, reliance on two different processing environments for existing systems, data redundancy, undefined or inconsistently defined data, and inconsistent updates.

The new system will be integrated and will provide the following functionality:

- Interactive interviewing
- Real-time eligibility determination for all programs
- On-line display of results
- Automated food stamp issuance and reconciliation
- Automated noticing and case management
- Outreach and client self sufficiency
- Standard Filing Unit computation
- On-line interfaces between systems
- On-line policy and procedures
- Ad hoc reporting

State staff expect that the new system will be client-based, use intelligent workstations, and provide decision support system and executive information system capabilities. BEACON will be developed on local area network (LAN)-based architecture with a central mainframe for statewide data recording.

A major goal of the new system is to improve worker productivity through the application of up-to-date computer technology. BEACON is expected to address the following objectives:

- Improve DPW error rates
- Maximize program functionality
- Improve interfaces with other systems
- Eliminate redundancies and manual operations
- Create an integrated database of client/case information
- Provide for remote printing in local offices
- Reduce time required for eligibility determinations and benefit issuance
- Reduce paper and paperwork

#### **4.3 Development and Implementation Activities**

BEACON is currently in the planning stage. The State released a Request for Proposals (RFP) for a planning contractor; however, none of the proposals were responsive to the RFP. The State conducted planning activities with the assistance of consultants who were hired as State employees. Massachusetts submitted its initial Planning APD (PAPD) in November 1992. A revision was submitted in February 1993 and approved by FNS in March 1993. Following the State visit, an PAPD Update (PAPDU), dated December 20, 1993, was prepared. This document is provided in Appendix D of this report.

The first major project task involves the determination of business objectives. The project will utilize information engineering (IE) principles to accomplish this objective. Draft business requirements were due in September 1993, and a General Systems Design (GSD) was due in October 1993.

Business requirements and GSD documents are used to develop draft business and technical specifications that form the basis for the Implementation RFP. A final Implementation APD (IAPD) and an Implementation RFP are due to Federal agencies in January 1994 or February 1994. The IAPD is due for release in May 1994 and the State plans to have an approved contractor and IAPD by December 1994.

As part of the State's business area analysis (BAA) activities, decisions regarding the platform for the new system were developed. These plans call for a mainframe computer with a DB2 database, standard query language (SQL) data retrieval for reporting, and TCP/ICP communication between LANs.

PRISM serves as a model for the State's desired platform. State staff hope to have PRISM on a desktop platform with a client server architecture, a graphical user interface (GUI), and SQL data retrieval capability by the summer of 1994.

Further decisions are needed to develop a business enterprise model for data with Agency-wide goals and interrelationships between systems, data, and workers. State staff plan to use Knowledgeware's CASE tool throughout the project because Massachusetts staff

believe that the use of automated analysis, development, and documentation tools is integral to the success of the project.

DPW has included union representatives in the new system planning process. There are two primary unions representing local office employees -- one for caseworkers and one for clerical staff. Job descriptions will change with the implementation of the new system and many data entry functions performed by clerical staff will be eliminated.

#### **4.4. Conversion Approach**

The implementation contractor will be responsible for proposing and developing conversion routines for data from the existing systems that can be used to create the initial BEACON database. Another task associated with the conversion effort is to determine what data will reside on the mainframe and what will reside on the LAN. A challenge inherent in the conversion process involves identifying and using the latest demographic and household data among the various disparate systems, without missing any clients or creating duplicate records for a client. Although the conversion effort will be mostly automated, State staff anticipate that certain conversion activities will have to be performed manually.

#### **4.5 Project Management**

The BEACON project team is led by a project manager who reports to the Assistant Commissioner for MIS and is supported by many other individuals and groups. The project manager has ten years of FAMIS experience and the Assistant Commissioner for MIS has several years of experience in implementing large projects. Administrative, technical, policy, and field operations directors will report directly to the Project Manager. The Executive Committee -- comprised of the Deputy Commissioner, Assistant Commissioner for MIS, representatives from the Federal agencies, and State policy and field management -- are expected to have an active role in the project. The FAMIS Coordinating Committee will be established; this committee will consist of 14 user groups as well as DPW MIS and OMIS representatives. Currently, there is a transfer user group looking at other states' systems.

#### **4.6 FSP Participation**

Over 100 users are involved in developing the business requirements for the BEACON system. Local office workers and supervisors, as well as program personnel, are involved. Users' participation includes identifying the data fields necessary to enable various staff to do their jobs effectively. In this role, users interface with both advocacy groups and FNS regional office personnel.

Some users indicated that intensive participation has been required during the planning phase to perform business area analysis, a task which still needs to be completed. Since users continue to have full-time program responsibilities, participating in the BEACON user groups places an additional burden on them.

#### **4.7 MIS Participation**

DPW MIS and OMIS both are expected to have a role in the BEACON project. Although OMIS resources must be used to keep the existing system working, OMIS staff will participate in database, operations, and telecommunications activities for BEACON. DPW MIS will participate heavily in conversion and existing system interfaces.

DPW MIS has taken an active part in the system to date. DPW assumptions concerning BEACON reflect MIS functional requirements and technical configurations (e.g., a client-server architecture).

Currently there are eleven MIS staff and two managers assigned to BEACON full-time and involved in completing the BAAs. The current plan provides for rotating additional MIS staff through the project in groups of eight, depending on the phase and activity.

#### **4.8 Problems Encountered During Development**

Prior to BEACON, Massachusetts had a failed FAMIS system development project. Consultec was the contractor, but the project was not integrated into the mainstream of DPW. While there was senior level commitment, MIS staff was separated from the project. State staff attributed the failure of the prior project to a variety of factors, such as the lack of continuity in the administration of the project, lack of technical competency of the contractor staff, lack of State MIS and user involvement in the project, the nature of the contract with Consultec, and over reliance on outside contractors. State staff also indicated a belief that the attempt failed because some of the technology had not been adequately proven.

DPW issued an RFP for a planning contractor and received three proposals. All three failed to meet the mandatory requirements. Key personnel failed to meet the requirements and none of the companies provided an adequate project plan.

The State has experienced some delays in the BEACON project because of the Federal approval cycle. These delays have jeopardized enhanced Federal funding, which is scheduled to terminate in April 1994. The unavailability of enhanced funding presents a problem for the State; however, DPW intends to continue with the BEACON project as originally planned.

#### **5.0 TRANSFERABILITY**

Massachusetts currently has conducted preliminary reviews of other state systems. Systems examined include: Connecticut; Florida; Rhode Island; Wisconsin; Minnesota; Merced County, California; Napa County, California; and Maryland. To date, the State has not selected a transfer system. Massachusetts has employed several approaches to learn about other systems. State staff attended Administration for Children and Families (ACF) transfer meetings and APWA-ISM

Massachusetts' IAPD will evaluate the feasibility and cost of both the systems transfer and new development options for BEACON. In any event, Massachusetts staff view a transferred system as a platform for development rather than a completed system. Changing regulations and continuous changes made to systems in other states mean that a transferred system is somewhat obsolete by the time it is implemented. State staff also believe that the cost of the system is largely determined by the amount of customization that is required. Massachusetts staff plans to develop and implement a system based on LAN technology. They are requiring that the implementation contractor have experience in the technology and its application.

Massachusetts' existing system has not been transferred to any other states.

## 6.0 SYSTEM OPERATIONS

The following section provides a description of the systems that currently support FSP operations in Massachusetts. The description includes a profile of system hardware and a discussion of the system operating environment.

### 6.1 System Profile

The components supporting the PACES and FMCS systems are as follows:

- **Mainframe:** IBM 3090/200E, HDS EX100  
MVS XA, MVS ESA, VSAM,  
ADABAS/NATURAL, RACF
- **Disk:** IBM 3380, EMC 4832, HDS 7390,  
Masstor M860
- **Tape:** Storage Tek 4410 - silos  
IBM 3420 9-track
- **Printers:** IBM 3380 - laser  
IBM 4235, IBM 4248
- **Front End:** IBM 3745
- **Workstations:** IBM 327X terminals
- **Telecommunications:** T1 lines connected to five nodes throughout  
the State with 56 KB lines from the network  
to 9600 KB local lines

A detailed listing is provided as Exhibit A-6.1 in Appendix A.

## **6.2 Description of Operating Environment**

The operating environment consists of several components. This section describes these components, which include the current operating environment, maintenance, telecommunications, performance, response time, system downtime, and plans for future hardware and software enhancements.

### **6.2.1 Operating Environment**

The State's Office of Management Information Services, which includes the Bureau of Computer Services, operates seven days a week, 24 hours a day. The on-line system is available from 7:30 a.m. to 5:00 p.m. Monday through Friday and by request on Saturday. Batch processing is performed and batch reports are run between 5:00 p.m. and 7:30 a.m. The peripherals supporting the system are detailed in Exhibit A-6.1. Most tapes and disk drives are shareable and switchable between the IBM and the HDS mainframes, which are dedicated to the systems that support the State's assistance programs. Older systems use VSAM, but the newer systems use ADABAS. ADABAS allows the user and MIS staff to produce reports in NATURAL and SUPER NATURAL. This alleviates some of the workload on MIS staff.

The State has a security plan in place that is perceived as adequate. Security is provided through RACF and NATURAL security features. There are additional security features in each system and the telecommunications network.

The State has a disaster recovery plan; however, State staff expressed some concern about the plan. The contingency site, the Massachusetts Department of Licensing, does not have some of the database software or the telecommunications devices necessary to operate the DPW systems. The disaster recovery plan is tested quarterly.

### **6.2.2 State Operations and Maintenance**

There are 73 staff in the DPW MIS. Ten analysts, 23 programmers, and 13 operations staff support the existing systems. Sixteen of these staff and two contractors are dedicated to Food Stamp Program system support. Other MIS personnel are involved in management, database administration, and BEACON development.

The State has experienced problems with technical staffing. In recent years, MIS staffing reductions have occurred and training time and funds have not been adequate. Despite a 13 percent salary increase in 1992, the State's wages still are below market value for technical staff. These factors have contributed to the scarcity of technical skills among Massachusetts MIS staff.

Although no single methodology is used for maintenance of the existing systems, data back-ups and archival activities are performed regularly. There are daily incremental file back-ups and weekly full file back-ups that ensure reliable data recovery capability. Data that has been inactive for seven years is purged from the database every three months.

### **6.2.3 Telecommunications**

Massachusetts has a statewide, state-owned telecommunications network, COMNET. It is comprised of T1 lines at five nodes in the State. COMNET also incorporates 56KB lines to connect the network to 9600 KB local lines. The State is setting up the system to handle voice, data, photo ID, and image data. The network is capable of supporting automatic teller machines (ATM) and frame relay transmission. The State's telecommunications network is supported by OMIS and two managers and 12 staff in the DPW MIS telecommunications group.

### **6.2.4 System Performance**

State staff indicated that the amount of direct access storage devices (DASD) currently is more than adequate, as is central processing unit (CPU) performance. Average CPU utilization for the two mainframes is approximately 68 percent; peak performance is around 89 percent utilization. When system performance suffers, OMIS gets a larger processor or adds DASD to alleviate the problem.

There are an average of 19,000 transactions daily for Massachusetts' assistance programs. This transaction count; however, is not comparable to other states transaction counts because Massachusetts considers a transaction to be a change to a case or the addition of a new case. Each transaction, by Massachusetts' definition, generates multiple transactions by other states' standards. Peak processing time is between 8:00 a.m. and noon; 70 percent of all data entry is done during this timeframe.

There are 600,000 records (400,000 recipient and 200,000 dependents) in the database with a theoretical maximum of over 16 million. An average recipient record is only 3,008 characters, a dependent record is 115 bytes.

### **6.2.5 System Response**

Response time is between two and six seconds per transaction. On-line response time primarily impacts data entry clerks because eligibility workers have limited access to the system. Computer matches and the results from many inquiries and requests are provided in paper form the next day rather than through on-line system responses.

### **6.2.6 System Downtime**

State staff indicated that system downtime is not an issue in Massachusetts. The system is up more than 98 percent of the time. The impact of the downtime is reduced because limited functions are done in a real time mode. Even month end processing does not affect the on-line data entry capability.

### **6.2.7 Current Activities and Future Plans**

The State's future direction involves the inclusion of local area networks, graphic user interfaces, relational databases at the local and mainframe levels, local office and user initiated reporting capabilities, and greater on-line functionality. The State also plans to continue its efforts in the business area analysis process used in developing PRISM.

The main focus in Massachusetts is on developing BEACON. This system, and all other new systems in the State, will be client-based rather than case-based.

## **7.0 COST AND COST ALLOCATION**

This section addresses BEACON estimated development costs and level of Federal funding, operational costs for existing systems, and cost allocation methodologies for BEACON development and existing system operational costs.

### **7.1 BEACON Development Costs and Federal Funding**

The PAPD for BEACON initially was prepared in November 1992, revised in February 1993, and approved by FNS in March 1993. The total planning cost approved was \$2,657,157. The FSP share of this amount was 25.56 percent or \$679,169. With FNS funding at a 63 percent Federal financial participation (FFP) rate, FNS' share of planning costs are budgeted at \$427,877. The budgeted planning phase costs include: 11 State full-time equivalents (FTEs) for 21 months, a planning contractor, travel to potential transfer states, and technical consultants to assist in the requirements analysis and business requirements definition.

A PAPDU was prepared in December 1993, after the State visit was completed. Revised cost data from this document are provided in Appendix D.

#### **7.1.1 BEACON System Components**

The determination of which program areas will be supported by the new system has not been finalized. Currently, State staff expect that BEACON will support AFDC, FSP, Refugee Resettlement (RR), EAEDC, and several smaller programs. System support for Medicaid and Child Support Enforcement interfaces and a Child Care component also will be included.

#### **7.1.2 Major Development Cost Components**

The IAPD for BEACON has not yet been developed; therefore, detailed implementation and operational costs have not been projected. The PAPD estimate of the total project cost is approximately \$35 million.

## 7.2 Operational Costs

ADP operational costs are billed by the Office of Management Information Systems on a monthly invoice. These ADP costs can be grouped under the following categories:

- Direct Management Information System Costs - direct ADP charges to programs
- Indirect Cost Pool # 1 - various OMIS charges allocated to all programs
- Indirect Cost Pool # 2 - various OMIS charges allocated to some programs

Actual ADP operational costs -- total, Food Stamp Program share, and FNS share after FFP -- for Federal fiscal year (FFY) 1990 through the third quarter of FFY 1993 are documented in Table 7.1. The FSP cost allocation (CA) percentages also are provided.

**Table 7.1 ADP Operational Cost**

FFY	Total ADP Operational Cost	Average FSP CA %	FSP Share (before FFP)	FNS Share (after 50% FFP)
1990	\$3,559,540	17.11%	\$609,034	\$304,517
1991	3,521,504	13.99%	492,723	246,362
1992	3,588,056	11.47%	411,432	205,716
1993	3,176,166 <sup>3</sup>	--	265,677	132,839

### 7.2.1 Cost Per Case

The cost per case for FY 1992 was \$0.19. This cost was calculated using the 1992 Food Stamp monthly caseload of 182,405 households and the FSP share of average monthly ADP operational costs, \$34,286.

### 7.2.2 ADP Cost Control Measures and Practices

The cost accounting systems are managed by the Federal Revenue Unit (FRU) under DPW. FRU monitors the Massachusetts Management Accounting and Reporting System (MARS), the State accounting system which is used to enter all payment vouchers. The key account code in this system is the program code, which is synonymous with a cost center.

After all DPW expenditures have been processed, MARS generates two reports that are used by FRU: the 711A, which contains all monthly expenditures by program code, and the 643A, which contains only personnel expenditures. A separate utility, IMAGINE,

<sup>3</sup> This amount represents the ADP operational cost total for three quarters; therefore, an average CA percentage was not computed.

produces a detailed ledger from the 711A. This ledger subsequently is used in cost allocation.

Administrative charges incurred by the DPW through the use of services provided by OMIS are accumulated using the *OMIS Chargeback Summary*, which is utilized by FRU to monitor and allocate these ADP operational costs. This summary takes the charges itemized on the monthly invoice for various Federal and State programs and categorizes them into one of two cost pools: Indirect # 1 and Indirect # 2. Each funding source is billed based on CPU time, software, maintenance, and overhead costs. Some of these costs are direct charges, but the majority of the ADP operational cost is allocated to benefitting programs.

A partial list of account codes used on the OMIS invoice to accumulate direct and indirect ADP operational costs are presented in Table 7.2.

**Table 7.2 ADP Operational Cost Account Codes**

<b>OMIS INVOICE ACCOUNT CODES</b>	
<b>Direct ADP Account Codes (FSP)</b>	
<b>ACCOUNT NUMBER</b>	<b>ACCOUNT NAME</b>
0120	Food Stamp
<b>Indirect Cost Pool #1</b>	
0300	FMCS
7704	Central Recoupment - Finance
7902	Human Resources
7903	Budget
7904	Accounting and Finance
7918	Legal
7919	Affirmative Action
7930	Systems
7940	Contracts/Finance
7952	Policy and Procedures
7999	Other
<b>Indirect Cost Pool #2</b>	
0305, 0984	PACES - MIRS
7915	Housing
6553	RES PLNG and EVAL

**7.3 Massachusetts Cost Allocation Methodologies**

This section describes the methodologies that are used to allocate ADP development and operational costs.

**7.3.1 Historical Overview of Development Cost Allocation Methodology**

The current approved methodology applies only to the planning costs incurred in conjunction with the BEACON development and implementation effort. This methodology is based on actual system transactions for a given year. The cost allocation among various programs resulting from this analysis is documented in Table 7.3.

**Table 7.3 BEACON Planning Cost Allocation Percentages**

<b>Program</b>	<b>Cost Allocation Percentage</b>
AFDC	49.97%
FSP	25.56%
Medicaid	16.22%
EAEDC	7.55%
RR	0.70%
TOTAL	100.00%

These standard percentages are used to allocate all costs accumulated under the program code 2845, FAMIS Development. Salaries charged to this code are extracted from 643A and other expenses are obtained from 711A. After the two amounts from the MARS reports are added together, the above percentages are applied to the total to determine each program's share of the cost. This allocation is performed on a quarterly basis.

The December 1993 PAPDU, provided in Appendix D, presents the State's revised cost allocation percentages.

**7.3.2 Operational Cost Allocation Methodology and Mechanics**

Cost allocation for ADP operational costs is performed on a monthly basis using input from MARS reports and the *OMIS Chargeback Summary* for direct and indirect cost totals. For FSP, percentages applied to indirect pools are calculated as follows:

$$\text{INDIRECT COST POOL \# 1 \%} = \frac{(\text{FSP DIRECT FIELD OFFICES COST} + \text{INDIRECT FIELD OFFICES COST} + \text{FSP DIRECT CENTRAL OFFICE COSTS})}{(\text{TOTAL FIELD OFFICES AND CENTRAL OFFICE COSTS})}$$

$$\text{INDIRECT COST POOL \# 2 \%} = \frac{(\text{FSP DIRECT FIELD OFFICES COST} + \text{DIRECT FIELD OFFICES COST} + \text{FSP DIRECT CENTRAL OFFICE COSTS})}{(\text{TOTAL FIELD OFFICES AND CENTRAL OFFICE COSTS FOR INDIRECT COST POOL \#2})}$$

The ADP operational costs which are accumulated under OMIS Indirect Cost Pools # 1 and # 2, as discussed in section 7.2.2, are multiplied by the above percentages to determine each programs's share of the indirect cost. The indirect totals are added to the direct cost to arrive at the monthly ADP operational cost.

The cost allocation for ADP operational cost, as well as other administrative costs, is summarized monthly on a spreadsheet report (e.g., *CAPAJ93*). The results from the monthly analysis then are combined for the three months of the quarter. The quarterly

summary for all programs is used to develop the *Food Stamp Quarterly Summary*, (e.g., *FSAJ93*), which consolidates many of the column totals to facilitate the preparation of the SF-269.

**APPENDIX A**

**STATE OF MASSACHUSETTS**

**EXHIBITS**

**Exhibit A-2.1  
Response to Regulatory Changes**

Code	Regulation	Provision	Federally Required Implementation Date	Implemented on Time (Y/N)?	Computer Programming Changes Required (Y/N)?	Changes to State Policy/ Legislation Required (Y/N)?
1.1	1: Mickey Leland Memorial Domestic Hunger Relief Act	1: Excludes as income State or local GA payments to DHHS provided as vendor payments. 273.9(c)(1)(ii)(F)	8/1/91	N/A	N/A	N/A
1.2	1: Mickey Leland Memorial Domestic Hunger Relief Act	2: Excludes from income annual school clothing allowance however paid. 273.9(c)(5)(i)(F)	8/1/91	Y	N	Y
1.3	1: Mickey Leland Memorial Domestic Hunger Relief Act	3: Excludes as resource for Food Stamp purposes, household resources exempt by Public Assistance (PA) and SSI in mixed household. 273.8(e)(17)	2/1/92*	N	N	Y
1.4	1: Mickey Leland Memorial Domestic Hunger Relief Act	4: State agency shall use a standard estimate of shelter expense for households with homeless members. 273.9(d)(5)(i)	2/1/92*	N	N	Y
2.1	2: Administrative Improvement & Simplification regulations of the Hunger Prevention Act	1: Extended resource exclusion of farm property and vehicles. 273.8(e)(5),etc.	7/1/89	Y	N	Y
2.2	2: Administrative Improvement & Simplification regulations of the Hunger Prevention Act	2: Combined initial allotment under normal time frames. 274.2(b)(2)	1/1/90	N	N	N
2.3	2: Administrative Improvement & Simplification regulations of the Hunger Prevention Act	3: Combined initial allotment under expedited service time frames. 274.2(b)(3)	1/1/90	N	N	N

**Exhibit A-2.1  
Response to Regulatory Changes**

Code	Regulation	Provision	Federally Required Implementation Date	Implemented on Time (Y/N)?	Computer Programming Changes Required (Y/N)?	Changes to State Policy/ Legislation Required (Y/N)?
3.1	3: Disaster Assistance Act & Non-Discretionary regulations of the Hunger Prevention Act	1: Exclusion of job stream migrant vendor payments. 273.9(c)(1)(ii)	9/1/88	--	--	--
3.2	3: Disaster Assistance Act & Non-Discretionary regulations of the Hunger Prevention Act	2: Exclusion of advance earned income tax credit payments. 273.9(c)(14)	1/1/89*	N	N	Y
3.3	3: Disaster Assistance Act & Non-Discretionary regulations of the Hunger Prevention Act	3: Increase dependent care deductions. 273.9(f)(4), etc.	10/1/88	Y	Y	Y
3.4	3: Disaster Assistance Act & Non-Discretionary regulations of the Hunger Prevention Act	4: Eliminate migrant initial month proration. 273.10(a)(1)(ii)	9/1/88	Y	N	Y
4.1	4: Issuance	1: Mail issuance must be staggered over at least ten days. 274.2(c)(1)	4/1/89	Y	N	N
4.2	4: Issuance	2: Limitation on the number of replacement issuances. 274.6(b)(2)	10/1/89	Y	Y	Y
4.3	4: Issuance	3: Destruction of unusable coupons within 30 days. 274.7(f)	4/1/89	Y	N	Unknown

\* These dates were changed after the State completed this form and the site visit occurred; therefore, the responses to these particular regulatory changes may be inaccurate.

**Exhibit A-6.1  
State of Massachusetts Hardware Inventory**

<b>Component</b>	<b>Make</b>	<b>Acquisition Method</b>	<b>Number/ Features</b>
<b>CPU</b>			
3090/200E	IBM	Purchase	32 MIPS
EX/100	Hitachi Data Systems (HDS)	Purchase	88 MIPS
<b>DISK</b>			
3380	IBM	Purchase	Triple density (TD) (6) Double density (DD) (10) Single density (SD) (22)
4832	EMC	Purchase	60 GB (1)
7390	HDS	Purchase	TD, 294 GB (11)
M860	Masstor	Purchase	220 GB (1)
<b>TAPE</b>			
9-track	IBM	Purchase	3420 (4)
Cartridge Drives	Storage Tek	Purchase	4410 - silos (2)
<b>PRINTERS</b>			
Impact	IBM	Purchase	4235 (1) 4248 (1)
Laser	IBM	Purchase	3380 (2)
<b>FRONT ENDS</b>			
FEP	IBM	Purchase	3745 (1)
<b>REMOTE EQUIPMENT</b>			
Workstations	IBM	Purchase	327X Terminals (6,590)

**APPENDIX B**

**STATE OF MASSACHUSETTS**

**ANALYSIS OF OPERATOR USER SATISFACTION SURVEYS**

## OVERVIEW

This appendix presents the results of the Operational Level User Satisfaction Survey. Frequency counts of responses to all applicable items on the survey are included, grouped by the topic covered by the item. The results for the items covering each topic are summarized as well.

The responses to the Operational Level User Satisfaction Survey are the perceptions of eligibility workers in Massachusetts. In other words, these responses do not necessarily represent a "true" description of the situation in Massachusetts. For example, the results presented regarding the response time of the system reflect the workers' perceptions about that response time, not an objective measure of the actual speed of the response.

### Description of the Sample

The survey was sent to 63 eligibility workers. The following table summarizes the potential population size and the final size of the sample who responded.

Number of EWS in Massachusetts	Number Selected to Receive Survey	Percentage Selected
268	63	23.5%
	Number Responding to Survey	Response Rate
	14	22%

The eligibility workers selected to receive the survey were selected randomly so their perceptions should be representative of eligibility workers in Massachusetts. The response rate of 22 percent, however, is very low producing a sample whose responses may not be representative of eligibility workers in Massachusetts.

### Summary of Findings

Most of the respondents are satisfied with the computer system in Massachusetts. They generally find it responsive, accurate, and fairly easy to use. Two complaints are that response time is sometimes too slow and that the system is down too often.

Only half of the respondents think the computer system is a great help to them in their jobs and 43 percent feel that the system adds stress to their jobs.

## SYSTEM CHARACTERISTICS

### Response Time

What is the quality of overall system response time?

	Number of Respondents	Percentage of Respondents (%)
Poor	3	21.4
Good	8	57.1
Excellent	3	21.4

What is the quality of system response time during peak periods?

	Number of Respondents	Percentage of Respondents (%)
Poor	5	35.7
Good	8	57.1
Excellent	1	7.1

How often is the system response time too slow?

	Number of Respondents	Percentage of Respondents (%)
Rarely	2	14.3
Sometimes	11	78.6
Often	1	7.1

Almost all of the eligibility workers think the system response time is generally good but a significant proportion (79 percent) indicate that response time is sometimes or often too slow.

**Availability**

How often is the system available when you need to use it?

	Number of Respondents	Percentage of Respondents (%)
Sometimes	2	14.3
Often	12	85.7

How often is the system down?

	Number of Respondents	Percentage of Respondents (%)
Rarely	4	28.6
Sometimes	9	64.3
Often	1	7.1

Most of the eligibility workers feel the system is available when they need to use it, although 71 percent also think that the system is sometimes or often down which detracts from the perception that the system is generally available.

**Accuracy**

What is the quality of the information in the system?

	Number of Respondents	Percentage of Respondents (%)
Poor	1	7.1
Good	10	71.4
Excellent	3	21.4

How often is a case terminated in error?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	78.6
Sometimes	2	14.3
Often	1	7.1

How often is eligibility incorrectly determined?

	Number of Respondents	Percentage of Respondents (%)
Rarely	12	85.7
Sometimes	2	14.3

How often is the systems data out-of-date?

	Number of Respondents	Percentage of Respondents (%)
Rarely	9	64.3
Sometimes	4	28.6
Often	1	7.1

The eligibility workers feel that the information in the system is generally good or excellent and that its automatic operations are error free.

**Ease of Use**

How often do you have difficulty obtaining necessary information from the system?

	Number of Respondents	Percentage of Respondents (%)
Rarely	9	64.3
Sometimes	5	35.7

How often do you have difficulty learning to use the system?

	Number of Respondents	Percentage of Respondents (%)
Rarely	9	64.3
Sometimes	5	35.7

How often do you have difficulty tracking receipt of monthly reporting forms?

	Number of Respondents	Percentage of Respondents (%)
Rarely	6	85.7
Sometimes	1	14.3

How often do you have difficulty automatically terminating benefits for failure to file?

How often do you have difficulty generating adverse action notices?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	78.6
Sometimes	2	14.3
Often	1	7.1

How often do you have difficulty generating warning notices?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	91.7
Sometimes	1	8.3

How often do you have difficulty determining monthly reporting status?

	Number of Respondents	Percentage of Respondents (%)
Rarely	4	80.0
Sometimes	1	20.0

How often do you have difficulty restoring benefits?

	Number of Respondents	Percentage of Respondents (%)
Rarely	10	76.9
Sometimes	2	15.4
Often	1	7.7

How often do you have difficulty identifying recipients already known to the State?

	Number of Respondents	Percentage of Respondents (%)
Rarely	10	71.4
Sometimes	3	21.4
Often	1	7.1

How often do you have difficulty updating registration data?

	Number of Respondents	Percentage of Respondents (%)
Rarely	9	75.0
Sometimes	2	16.7
Often	1	8.3

How often do you have difficulty updating eligibility and benefit information from recertification data?

	Number of Respondents	Percentage of Respondents (%)
Rarely	12	85.7
Sometimes	2	14.3

How often do you have difficulty identifying cases which are overdue for recertification?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	84.6
Sometimes	1	7.7
Often	1	7.7

How often do you have difficulty monitoring the status of all hearings?

	Number of Respondents	Percentage of Respondents (%)
Rarely	6	60.0
Sometimes	3	30.0
Often	1	10.0

How often do you have difficulty tracking outstanding verifications?

	Number of Respondents	Percentage of Respondents (%)
Rarely	5	50.0
Sometimes	3	30.0
Often	2	20.0

How often do you have difficulty automatically notifying households of case actions?

	Number of Respondents	Percentage of Respondents (%)
Rarely	8	66.7
Sometimes	3	25.0
Often	1	8.3

How often do you have difficulty notifying recipients that recertification is required?

	Number of Respondents	Percentage of Respondents (%)
Rarely	9	64.3
Sometimes	2	14.3
Often	3	21.4

How often do you have difficulty identifying cases making payments through recoupment?

	Number of Respondents	Percentage of Respondents (%)
Rarely	7	58.3
Sometimes	5	41.7

How often do you have difficulty identifying error prone cases?

	Number of Respondents	Percentage of Respondents (%)
Rarely	4	36.4
Sometimes	7	63.6

How often do you have difficulty identifying cases involving suspected fraud?

	Number of Respondents	Percentage of Respondents (%)
Rarely	7	63.6
Sometimes	4	36.4

How often do you have difficulty assigning new case numbers?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	84.6
Sometimes	2	15.4

The eligibility workers generally feel that the system is easy to use. Most report rarely having difficulty performing most of their usual functions. More than half, however, indicated some difficulty identifying error prone cases.

**FOOD STAMP PROGRAM NEEDS**

**Worker Satisfaction Levels**

How often is the system a great help to you in your job?

	Number of Respondents	Percentage of Respondents (%)
Sometimes	7	50.0
Often	7	50.0

How often is the system an added stress in your job?

	Number of Respondents	Percentage of Respondents (%)
Rarely	8	57.1
Sometimes	5	35.7
Often	1	7.1

How often is the system more of a problem than a help?

	Number of Respondents	Percentage of Respondents (%)
Rarely	10	71.4
Sometimes	4	28.6

Only half of the eligibility workers feel that the system helps them with their work while 43 percent feel that it adds stress to the job.

### Client Service

How often is expedited service difficult to achieve?

	Number of Respondents	Percentage of Respondents (%)
Rarely	5	35.7
Sometimes	8	57.1
Often	1	7.1

How often do you have difficulty providing expedited services?

	Number of Respondents	Percentage of Respondents (%)
Rarely	11	78.6
Sometimes	1	7.1
Often	2	14.3

Over 78 percent of the eligibility workers who responded agree that they rarely have difficulty providing expedited services.

### Fraud and Errors

Because the Massachusetts system was implemented more than five years ago, this section comparing the current system to the previous system was not applicable.

**APPENDIX C**

**STATE OF MASSACHUSETTS**

**ANALYSIS OF MANAGERIAL USER SATISFACTION SURVEYS**

## OVERVIEW

This appendix presents the results of the Managerial Level User Satisfaction Survey. Frequency counts of responses to all items on the survey are included, grouped by the topic covered by the item. The results for the items covering each topic are summarized as well.

The responses to the Managerial Level User Satisfaction Survey are the perceptions of supervisors in Massachusetts. In other words, these responses do not necessarily represent a "true" description of the situation in Massachusetts. For example, the results presented regarding the response time of the system reflect the managers' perceptions about that response time, not an objective measure of the actual speed of the response.

### Description of the Sample

The survey was sent to 30 local office supervisors. The following table summarizes the potential population size and the final size of the sample who responded.

Number of Supervisors in Massachusetts	Number Selected to Receive Survey	Percentage Selected
N/A	30	N/A
	Number Responding to Survey	Response Rate
	8	26.6%

The supervisors selected to receive the survey were selected randomly so their perceptions should be representative of the population of supervisors in Massachusetts. The response rate of 27 percent, however, is very low producing a sample whose responses may not be representative of supervisors in Massachusetts. Because the number of responses to the questions comparing the current and previous systems was so low as to be not statistically significant, these questions could not be addressed.

### Summary of Findings

Most of the supervisors think the system is very good and helps them in their jobs. Almost all respondents found the system easy to use although most had some difficulty learning to use it. More than fifty percent of the respondents also felt that mass changes were difficult to accomplish with this system.

## SYSTEM CHARACTERISTICS

### Response Time

What is the quality of overall system response time?

	Number of Respondents	Percentage of Respondents
Poor	1	12.5
Good	6	75.0
Excellent	1	12.5

What is the quality of system response time during peak periods?

	Number of Respondents	Percentage of Respondents
Poor	2	25.0
Good	6	75.0

How often is the system response time too slow?

	Number of Respondents	Percentage of Respondents
Rarely	2	25.0
Sometimes	6	75.0

The supervisors who responded almost all agree that the system's response time is generally good or excellent although most (75 percent) think the system response time is too slow sometimes.

### Availability

How often is the system available when you need to use it?

	Number of Respondents	Percentage of Respondents
Often	8	100.0

How often is the system down?

	Number of Respondents	Percentage of Respondents
Rarely	3	37.5
Sometimes	5	62.5

The supervisors who responded think the system is generally available but many also think it is sometimes down.

### Accuracy

What is the quality of the information in the system?

	Number of Respondents	Percentage of Respondents
Good	7	87.5
Excellent	1	12.5

The supervisors who responded generally find the information and algorithms of the system to be accurate. All of them think the information in the system is either good or excellent.

**Ease of Use**

How often do you have difficulty obtaining necessary information from the system?

	Number of Respondents	Percentage of Respondents
Rarely	6	75.0
Sometimes	2	25.0

How often do you have difficulty learning to use the system?

	Number of Respondents	Percentage of Respondents
Rarely	2	25.0
Sometimes	5	62.5
Often	1	12.5

How often do you have difficulty tracking receipt of monthly reporting forms?

	Number of Respondents	Percentage of Respondents
Rarely	5	100.0

How often do you have difficulty automatically terminating benefits for failure to file?

	Number of Respondents	Percentage of Respondents
Rarely	5	83.3
Sometimes	1	16.7

How often do you have difficulty generating adverse action notices?

	Number of Respondents	Percentage of Respondents
Rarely	7	87.5
Sometimes	1	12.5

How often do you have difficulty generating warning notices?

	Number of Respondents	Percentage of Respondents
Rarely	5	83.3
Sometimes	1	16.7

How often do you have difficulty determining monthly reporting status?

	Number of Respondents	Percentage of Respondents
Rarely	5	100.0

How often do you have difficulty restoring benefits?

	Number of Respondents	Percentage of Respondents
Rarely	5	71.4
Sometimes	2	28.6

Most of the supervisors responding have no difficulty obtaining information but a significant percentage (75 percent) experience some difficulty in learning the system. Those who responded generally do not have difficulty performing such specific tasks as tracking monthly reporting forms or automatically terminating benefits.

**FOOD STAMP PROGRAM NEEDS**

**Supervisor Satisfaction Levels**

How often is the system a great help to you in your job?

	Number of Respondents	Percentage of Respondents
Often	8	100.0

How often is the system an added stress in your job?

	Number of Respondents	Percentage of Respondents
Rarely	6	75.0
Sometimes	1	12.5
Often	1	12.5

All of the supervisors who responded think that the current system is a great help to them in their work and a majority (75 percent) do not feel that it contributes added stress.

**Management Needs**

What is the quality of the reports produced by the system?

	Number of Respondents	Percentage of Respondents
Good	7	87.5
Excellent	1	12.5

What is the quality of the support provided by the technical staff supporting the automated system?

	Number of Respondents	Percentage of Respondents
Poor	1	12.5
Good	6	75.0
Excellent	1	12.5

How often do you have difficulty making mass changes to the system?

	Number of Respondents	Percentage of Respondents
Rarely	3	42.9
Sometimes	4	57.1

How often do you have difficulty meeting Federal reporting requirements?

	Number of Respondents	Percentage of Respondents
Rarely	5	62.5
Sometimes	2	25.0
Often	1	12.5

All of the supervisors responding think the system helps them in their management tasks, although 37 percent reported difficulty in meeting Federal reporting requirements and a majority reported difficulty making mass changes. Most think the support provided by the technical staff is good or excellent.

#### **Client Service**

Because too few responses to the questions comparing the current and previous systems were received, this section comparing the current system to the previous system was not applicable.

### **Fraud and Errors**

Because too few responses to the questions comparing the current and previous systems were received, this section comparing the current system to the previous system was not applicable.

**APPENDIX D**

**STATE SUPPLEMENTAL INFORMATION**

The PAPD used for the creation of the draft report was dated March 1993 and was received by the Orkand project team during the November 3-5, 1993 site visit. An updated PAPD dated December 20, 1993 was received with the State and Region comments on the draft report and is provided in its entirety in this final report at Appendix D.

**COMMONWEALTH OF MASSACHUSETTS**

**BEACON**

**PLANNING APD UPDATE FOR  
MASSACHUSETTS WELFARE  
ELIGIBILITY SYSTEM**

Updated  
December 20, 1993

## MASSACHUSETTS PLANNING APD UPDATE

### INTRODUCTION

This Planning Advance Planning Document Update (PAPDU) is a revised request for prior approval of Massachusetts' planning effort for a new automated eligibility system for the following public assistance programs: Refugee Resettlement (RRP), Aid to Families with Dependent Children (AFDC), Emergency Assistance (EA), Child Care, Food Stamps, Medical Assistance (Medicaid) - categorical eligibility only - and Emergency Aid to the Elderly, Disabled and Children (EAEDC). This system is the Benefit Eligibility and Control On-line Network, or BEACON.

As of July 1993, Massachusetts transferred the administration of the Medicaid and CommonHealth programs from the Department of Public Welfare to the Executive Office of Health and Human Services (EOHHS). These programs will now be administered by a new Division of Medical Assistance (DMA), reporting directly to the EOHHS Secretary. The Department of Public Welfare will continue to determine categorical Medicaid eligibility for its public assistance clients. Medicaid-only eligibility, as well as CommonHealth eligibility, will be determined by DMA. State fiscal year 1994 will be a transition period during which this transfer will be implemented and operationalized on a phased basis.

This PAPDU is also a request to the U.S. Department of Health and Human Services and to the U.S. Department of Agriculture for enhanced funding for their portions of the cost for the planning of this new automated system, through March 31, 1994. Effective April 1, 1994 enhanced funding will no longer be available. The cost allocation formula has been revised, excluding Federal Financial Participation by the Health Care Finance Administration (HCFA) as of October 1, 1993 to reflect the transference of MA-only and CommonHealth eligibility from the Department of Public Welfare to DMA.

### NEED

The Massachusetts Department of Public Welfare has already made substantial progress in automating the administration of public assistance programs. However, the data processing environment is still constructed around a 20 year old batch processing system (the Financial Management Control System - FMCS), augmented by the Monthly Reporting System (MRS). Recently this system has been expanded with the addition of the Program Automated Calculation and Eligibility System (PACES), which automatically determines financial eligibility and calculates benefits and notices clients for all public assistance programs administered by the Department. Because of changes to these public assistance programs, for example, with the Family Support Act of 1988, and because of the growing information needs of the Department, other application systems have also been built around this core.

Despite this level of automation, the data processing environment remains fragmented and technically limited. Systems have been developed piecemeal over the years, in response to particular problems, for particular users in the Department. Consequently, these systems are fragmented and suffer from inherent deficiencies:

- o Some components of new and on-going eligibility determination, such as application/reapplication processing and data collection or verifications recording and tracking, are still not fully automated.
- o Data integrity is a serious problem. Data may be inaccurate or insufficient. Data is stored in different systems in two different technical environments and is often redundant and may not

be defined or updated consistently across systems.

- o There is a lack of ready access to accurate historical data, eg, for federal reporting purposes.
- o The ability to uniquely identify individuals, so that information specific to individuals can be stored and retrieved, is limited, since our architecture has a multiple category, case/case member orientation.
- o There is limited flexibility to incorporate new requirements that result from ever-changing federal and state legislation, court mandates, or ongoing mass changes such as COLAs.
- o Current computer programs are cumbersome and time-consuming to maintain.
- o Management reports are inadequate, which makes management control and accountability more difficult.

Basically, these systems are not integrated. Separate systems encompass separate databases. Thus workers cannot view all the relevant case and/or client information at the same time, but must move from system to system. Even with time-consuming cross-checking and manual reconciliation, inaccuracies remain in the data from these different systems that can cause inappropriate or erroneous eligibility and benefit determination.

The physical environment utilized by workers in the local offices to access client information also is not adequate:

- o Workers have to wait for a terminal to become available, since they do not all have individual terminals/workstations.
- o Local office printers have lasted beyond their life expectancy, break down frequently, and cannot handle the volume required of them.
- o Printing reports centrally and then distributing them to local offices causes substantial delays in workers getting the information they need.

## **PLANNING APD UPDATE OBJECTIVES**

The objective of the PAPDU is to request prior approval to prepare the business and technical requirements for Massachusetts' new welfare eligibility system, to prepare an Implementation APD (IAPD), and to prepare one or more Implementation Request for Proposals (IRFP). The IAPD will specify the full design, development, and/or implementation process the Department will use to acquire a new system. It will include, in addition to business and technical requirements, the feasibility study, alternatives analysis, general systems design, resource requirements, schedule, budget, cost allocation plan, cost-benefit analysis, and security plan.

Other states have developed high quality, FAMIS-certified systems. As part of the alternatives analysis, Massachusetts intends to evaluate transferring, to the maximum extent possible, a proven base system that might meet our requirements. We will also evaluate whether a new development would be a more cost effective alternative to meet our business and technical requirements. In addition, we will evaluate whether one consolidated software development/hardware procurement best meets our needs or whether separate hardware and software procurements would be best. We will also evaluate whether software development should be further separated into two procurements, one for design and one for development/implementation. Finally, we will evaluate whether it would be more cost effective to operate the completed BEACON system at the Commonwealth's data center or whether outsourcing to a facilities management vendor would be best. Based on the outcome of the alternatives analysis, we will select, via one or more IRFPs, a vendor(s) to assist us in the design, development and

implementation of the system. An IAPD Update, reflecting any revisions to the IAPD required by the impact of the procurement schedule and the outcome of the selection process, will then be prepared.

Because Massachusetts is requesting, through March 31, 1994, enhanced Federal Financial Participation (FFP), at the 90% rate from the Administration for Children and Families and at the 63% rate from the Food and Nutrition Service, the proposed systems design and development effort will conform to the requirements of 45 CFR 95 Subpart F, 7 CFR 272.10, and 7 CFR 277.18.

The goals of the new welfare eligibility system are:

- o To utilize the Department's experience in already partially automating the administration of public assistance programs;
- o To address the limitations of the current environment enumerated above;
- o To incorporate the relevant advances in information technology that will improve the workers' ability to do their job more efficiently and accurately;
- o To maximize the ease of maintenance and update.

The realization of the following objectives would help to meet these goals:

- o Improving the Department's error rates for all public assistance programs;
- o Maximizing automated eligibility determination, benefit calculation, noticing, and case management functions;
- o Maximizing automated Food Stamp issuance and reconciliation;
- o Maximizing on-line policy and procedure;
- o Maintaining effective interfaces with DMA, MMIS, Child Support, JOBS, and other relevant systems;
- o Meeting IEVS matching requirements;
- o Ensuring complete and timely verifications;
- o Reducing the amount of data entry required by eliminating redundant data entry and by automatically updating all related data elements when one is updated;
- o Storing information, which is currently fragmented within the Department or received from outside (i.e. the federal government), in one integrated database, utilizing an appropriate database management system;
- o Providing for an interactive client interview and for collecting and storing application data;
- o Reducing the volume of paper required to administer public assistance programs;
- o Providing for adequate remote printing in the local offices;

- o Reducing the time required for eligibility determinations and case maintenance activities;
- o Ensuring timely access to the information workers, supervisors, and managers need to meet agency goals.

The Department's business and technical requirements will be defined so that they encompass these goals and objectives of the new welfare eligibility system, as well as comply with applicable federal regulations, but do not impose design limitations on the state's alternatives in response to the Implementation RFP.

## RESOURCES

Planning for Massachusetts' new welfare eligibility system will be completed by the Department of Public Welfare. The state's Office for Management Information Systems (OMIS) will participate in an oversight and planning role. The state's Bureau of Information Technology Acquisitions (BITA) will participate in all procurements. The current Massachusetts Administration is very supportive of this project and has authorized the necessary funding.

The Department will assume overall responsibility for the three major milestones listed below: completion of the Massachusetts welfare eligibility system business and technical requirements, completion of the IAPD, and completion of the IRFP. The Department is preparing its business and technical requirements utilizing the ForeSight Information Engineering methodology and KnowledgeWare workstation CASE toolset (release 2.7). These requirements, in turn, constitute the basis for the BEACON IAPD and IRFP. Information Engineering and CASE have already established their value in the preliminary, high level definition of the Department's requirements. Based on the Department's Enterprise Model, planning and analysis on BEACON has been delineated into nine Business Area Analysis (BAA) Projects. Utilizing Information Engineering and CASE will allow us to complete our business and technical requirements to a precise level of detail. This approach requires additional user resources, as well as technical resources, for the planning phase.

Thus, the PAPDU has been revised to include more permanent state staff working on the project. Substantial numbers of users are included, on a part-time basis, in the BAA Workshops. Attachment 2 indicates the staff, by name and by functional job description, assigned to each Workshop. Extensive involvement by the users of the system in the initial analysis of business requirements is essential. A full-time data administrator and an encyclopedia manager have been hired, and other systems staff have been included on the project on both a part-time and a full-time basis. In addition to these permanent state staff, the Department will require temporary technical staff - skilled information engineers - to facilitate the BAA workshops.

The Department had intended to procure the services of a planning contractor to assist in the preparation of the IAPD and the IRFP. However, as summarized in our memorandum of August 16, 1993, this procurement had to be canceled because all vendors were non-responsive, failing, among other deficiencies, to propose the required technical staff. Thus, the Department will assume responsibility, instead of a planning contractor, for managing the planning process in order to produce the IAPD and IRFP. We will still require additional, temporary staff to provide planning and procurement support services. These staff assist us in the preparation the IAPD document.

resources. Unfortunately, implementation of this contract was unexpectedly delayed at the last minute, and, while we still expect it to become available in the near future, we have received no firm commitment on a date from BITA. In the interim, there are other, more specific blanket contracts, which the Department will be able to use for most temporary staff. These blanket contracts include: Applications/Systems Software Support Services in the IBM Environment, Adabas/Natural Application Programming Support & Programming Services (although this one is quite limited), and Temporary Clerical Help. However, for information engineers, hiring temporary individual consultants remains the only vehicle currently available from BITA. This Department, along with other state agencies, has utilized individual consultants to provide, on a limited temporary basis, specific technical skills for specific projects, when hiring permanent staff would not be cost effective. On the BEACON Project, we have been extremely pleased with the performance of the information engineers who have facilitated the start of the BAA Workshops, and we propose retaining two of them until the Technical Vendor Consultant Contract is finalized. Should that contract not be finalized, then the Department would require the technical expertise offered by these individuals to complete the BAA Workshops on schedule. Retaining the individuals through the completion of the BAA Workshops could, however, involve expenditures exceeding \$100,000 at enhanced FFP rates, and the Department requests approval to pursue this alternative, should it become necessary.

As for the planning/procurement support services to complete the LAPD and IRFP, permanent state staff will have to take the lead role in document preparation, although we propose hiring at least one temporary individual, a planning/procurement specialist. With the detailed business and technical requirements that we will obtain from the BAA Workshops, preparation of the LAPD and IRFP documents will be expedited.

An organization chart of the Department is included in Attachment 1, along with an organization chart of the full BEACON Project. The organization is designed to ensure that roles and responsibilities are clear and that the project is managed effectively through the Implementation Phase. The initial project team for the Planning Phase, all permanent state employees, now includes 13 full-time program and systems staff, including the project manager. Additional employees will participate on a part-time basis as needed for the requirements workshops.

The Department is utilizing Project WorkBench as the project management tool for BEACON. All resources participating in the BEACON planning phase, both full-time and part-time, are fully documented in Project WorkBench. Project WorkBench management reports are available for review.

The Assistant Commissioner for MIS has overall and final responsibility for the project. The Project Manager is responsible for project planning and project management, for establishing control and reporting processes, for identifying problems and resolutions, and for monitoring project progress to assure compliance with approved project and work plans.

The Contract Officer is responsible for managing any contracts established in support of the BEACON Project, including contract monitoring and assuring the compliance of contract deliverables with approved specifications.

The Technical Director is responsible for all technical components of the project; the Administrative Director is responsible for all administrative components; and the Policy and Field Operations Directors are responsible for the programmatic components of the project. The BEACON Coordinating Committee includes representatives from all divisions within the Department and from OMIS and is responsible for the involvement of Department staff as needed.

The Executive Committee includes the agency's top management and is responsible for management oversight of the project. The Committee is responsible for Department strategic planning, for authorization of project phases, for approval of project plans and budgets, and for the identification and resolution of Department-wide issues.

**SCHEDULE**

The three major milestones of the planning effort are:

- o Completion of the Massachusetts welfare eligibility system business and technical requirements. (BAA Workshops #1 - #9)
- o Completion of the Implementation APD.
- o Completion of the Implementation RFP.

**Project Timeline**

The currently estimated updated timeline for project milestones is:

	<u>Prior Estimate</u>	<u>Updated Estimate</u>	<u>Completed</u>
o Submit PAPD	11/2/92	11/2/92	Completed
o Initiate the planning period	11/2/92	11/2/92	Completed
o Submit Planning Contractor RFP	12/14/92	12/14/92	Completed
o Federal approval of PAPD (final)	3/15/93 3/15/93	3/10/93 (FNS) 3/29/93 (DHHS)	Completed Completed
o Federal approval of Planning Contractor RFP (final)	2/16/93 4/9/93	2/16/93 (FNS) 4/30/93 (DHHS)	Completed Completed
o Release Planning Contractor RFP	4/15/93	5/4/93	Completed
o Complete Planning Contractor RFP evaluation process	6/30/93	7/27/93	Completed
o Notify vendors of Planning Contractor RFP cancellation	*	8/17/93	Completed
o Notify federal government of Planning Contractor RFP cancellation and selection of self-managed alternative	*	8/16/93	Completed
o Federal approval of self-managed alternative	*	9/9/93 (FNS) 9/23/93 (DHHS)	Completed Completed
o Submit PAPD Update	*	12/22/93	Completed
o Federal approval of PAPD Update	*	2/22/94	
o Complete Department Enterprise Model	*	6/25/93	Completed
o Complete BAA #1. Client Data Collection	*	9/24/93	Completed

o Complete BAA #2, Eligibility Determination	*	7/27/94
o Complete BAA #3, Program Evaluation	*	2/25/94
o Complete BAA #4, Client Administration	*	5/5/94
o Complete BAA #5, Benefit Payment	*	6/8/94
o Complete BAA #6, Collections	*	7/29/94
o Complete BAA #7, Financial Management	*	3/28/94
o Complete BAA #8, Federal Reimbursement	*	7/29/94
o Complete BAA #9, Client Issue Resolution	*	7/18/94
o Complete Feasibility Analysis and Alternatives Analysis	*	4/30/94
o Complete Cost/Benefit Analysis	*	5/31/94
o Complete IRFP Technical Specifications	*	6/30/94
o Complete and submit IAPD and IRFP	1/31/94	7/29/94
o Federal approval of IAPD and IRFP	4/29/94	11/30/94
o Release IRFP	5/2/94	12/1/94
o Complete contractor selection and submit contract	10/3/94	5/31/95
o Complete and submit IAPD Update	12/1/94	6/30/95
o Federal approval of contract and IAPD Update	12/1/94	7/31/95
o Complete preliminary conversion planning and implementation planning	*	7/31/95

\* There are no prior estimates for these milestones, which have been added to the updated project schedule.

The updated project timeline is represented graphically on the following two pages.

	Start	End	1993		1994		1995		1996	
			Jul	Jan	Jul	Jan	Jul	Jan	Jul	Jan
<b>BEACON Planning Phase</b>										
Planning APD/RFP	10/01/92	09/24/93	████████████████							
Business & Technical Requirements (BAAs)	09/27/93	07/29/94		████████████████						
Re-engineering/Conversion Planning	08/01/94	07/31/95			████████████████					
IAPD/IRFP	03/01/94	07/29/94			██████████					
Federal Rev/Appv	08/01/94	11/30/94				██████████				
Vendor Selection	12/01/94	05/31/95					██████████			
Federal Rev/Appv	06/01/95	07/31/95						██████████		

BEACON BAAs

BEACON BAAs	Start	End	1993												1994											
			Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
BAA#2 - Eligibility Determination	09/29/93	07/27/94	[Gantt bar spanning from Sep 1993 to Jul 1994]																							
BAA#3 - Program Evaluation	09/29/93	02/25/94	[Gantt bar spanning from Sep 1993 to Feb 1994]																							
BAA#4 - Client Administration	09/29/93	05/05/94	[Gantt bar spanning from Sep 1993 to May 1994]																							
BAA#5 - Benefit Payment	02/14/94	06/08/94	[Gantt bar spanning from Feb 1994 to Jun 1994]																							
BAA#6 - Collections	05/02/94	07/29/94	[Gantt bar spanning from May 1994 to Jul 1994]																							
BAA#7 - Accounting	09/29/93	03/28/94	[Gantt bar spanning from Sep 1993 to Mar 1994]																							
BAA#8 - Federal Reimbursement	05/02/94	07/29/94	[Gantt bar spanning from May 1994 to Jul 1994]																							
BAA#9 - Client Issue Resolution	04/04/94	07/18/94	[Gantt bar spanning from Apr 1994 to Jul 1994]																							

This updated project schedule indicates an estimated completion and submittal date for the IAPD and IRFP of July 31, 1994, which compares to the estimate of January 1, 1994 in the most recent Update (memorandum of March 9, 1993). This difference reflects the Department's determination that the completion of detailed and accurate business and technical requirements for BEACON, utilizing Information Engineering methodology, will require additional effort now, during the planning phase of the project. The precise and detailed requirements produced by Information Engineering will allow both the Department and any prospective vendors to accurately scope the design and development effort. Fully preparing blueprints prior to building the system will result in significant time and cost savings during later phases of the project, so that the expected completion date of BEACON will not change. Blueprints also provide the metrics to benchmark and evaluate the system during the procurement cycle, as well as it is being designed and developed, so that the final product will be a system that truly meets the Department's requirements.

Utilizing the ForeSight IE methodology resident in the CASE technology, the Department has estimated that completing the requirements workshops for all nine BAAs through ForeSight's preliminary design and documenting the resulting business and technical requirements, including precise graphical depiction of all data and processes, will require the effort shown in this updated schedule. This precision is essential if the Department is to be able to adequately describe its business and technical requirements in the IRFP, so that vendors have a clear understanding of the Department's needs. Vendors would then be able to submit accurate proposals for the design, development and implementation of a system that truly meets those needs. Not only will this result in a more satisfactory completed system, but the time and cost required for design, development and implementation can be estimated with greater precision.

Releasing the IRFP prior to completion of the nine BAA Workshops would be unsatisfactory. If the business and technical requirements in the IRFP are not completely and unambiguously defined in sufficient detail, then vendors are not clear what they are bidding on. Bids are likely to be inappropriate in major business or technical areas; they may reflect no more than the vendor's pre-determined expectations. Bids are also likely to be costly, since vendors will build in margins to cover the uncertainties. And the Department, in turn, cannot accurately evaluate the bids and select the most appropriate one. As a result, the design, development and implementation phases of the project are marked by numerous change orders, which are required to clarify the vague and ambiguous IRFP requirements, and which add more time and costs to the project. End users are still likely to be dissatisfied with the completed system, since it was not based on a clear statement of their needs to begin with, but is the product of ad hoc changes to a basically inappropriate base.

Thus, the Department feels that planning to the appropriate level of specificity is an investment that will result in a more efficient and effective system, completed in the same time period, at a lower cost.

Once the IRFP has been prepared and until the implementation vendor is selected and starts system design and development, the Department still has to complete significant preparatory work. Implementing the new business requirements specified in the IRFP will require a major business process re-engineering effort. Everything from the work flow in the local offices to the job descriptions of agency workers will change. Planning for this re-engineering effort must start as soon as the requirements are finished. The Department will also have to identify and convert the data from its current automated and manual systems to BEACON. Given the fragmented and technically incomplete nature of these systems, this conversion planning represents a complex technical task that also must start as soon as the requirements are finished.

## **BUDGET AND COST ALLOCATION**

The budget for the planning phase is \$5,827,554, which covers a 33 month period from November 2, 1992 to July 31, 1995. It includes permanent state staff working full-time on BEACON (currently 13), as well as those working

part-time on requirements workshops (BAAs). Detailed resource schedules are available through Project WorkBench management reports. It also includes the acquisition of the necessary automated development tools, of the temporary information engineers to facilitate the BAA workshops, of the temporary planning and procurement support services for the preparation of the IAPD and IRFP, of data center costs, of materials/supplies costs, and technical conferences/site visits. This initial planning phase will fall within three federal fiscal years (FFY 1993, FFY 1994, FFY 1995). See Attachment 3 for budget details, including an estimated quarterly breakdown of costs.

Costs will be allocated to the participating federal agencies based on the previous year's actual systems transactions. This methodology was chosen because it most accurately reflects the distribution of the Department's work effort in support of the public assistance programs it administers. These transactions (eg, opening, closing, or redetermining a case) are initiated by worker activity. They involve processing the client information (data elements) recorded on the relevant systems input documents (application, turnaround document, worksheet, monthly report). All transactions are categorized by the particular public assistance program (RRP, AFDC, Food Stamps, MA or EAEDC) supported by the inputted information.

For expenditures from November 2, 1992 through September 30, 1993, the cost allocation based on the frequency distribution of the previous year's systems transactions includes MA. For expenditures from October 1, 1993 through July 31, 1995, the cost allocation has been adjusted to exclude MA, which essentially increases the percentages proportionately for the remaining participants. Through March 31, 1994, ACF and FNS will reimburse states for their portion of the funding allocation at enhanced FFP rates. After April 1, 1994, they will both reduce their reimbursement to the 50% level. HCFA has reimbursed at the 50% level throughout the BEACON planning phase.

The following table summarizes the allocation of BEACON expenditures to each participating federal agency, as well as to Massachusetts, for the three time periods encompassed by the changes in reimbursement noted above. It also summarizes each agency's FFP, with the remainder (that is, non-FFP expenditures) being charged to Massachusetts. For FFY 1993, actual expenditures are given; for FFY 1994 and 1995, estimated expenditures are given.

**Cost Allocation/FFP**

	Cost	Cost			
	Allocation	Allocation	FFP		
	Percent	Funds	Rate	FFP	
	11/92-9/93	11/92-9/93	11/92-9/93	11/92-9/93	
ACF(RRP)	0.70%	\$6,433	100.00%	\$6,433	
ACF(AFDC)	49.97%	\$459,240	90.00%	\$413,316	
FNS(FS)	25.56%	\$234,905	63.00%	\$147,990	
HCFA(MA)	16.22%	\$149,067	50.00%	\$74,533	
Mass	7.55%	\$69,387		\$276,759	
Total	100.00%	\$919,032		\$919,032	
	10/93-3/94	10/93-3/94	10/93-3/94	10/93-3/94	
ACF(RRP)	0.83%	\$15,899	100.00%	\$15,899	
ACF(AFDC)	59.64%	\$1,142,414	90.00%	\$1,028,173	
FNS(FS)	30.51%	\$584,424	63.00%	\$368,187	
HCFA(MA)					
Mass	9.02%	\$172,780		\$503,258	
Total	100.00%	\$1,915,517		\$1,915,517	
					Total FFP
	4/94-7/95	4/94-7/95	4/94-7/95	4/94-7/95	11/92-7/95
ACF(RRP)	0.83%	\$24,842	50.00%	\$12,421	\$34,753
ACF(AFDC)	59.64%	\$1,785,029	50.00%	\$892,514	\$2,334,003
FNS(FS)	30.51%	\$913,166	50.00%	\$456,583	\$972,760
HCFA(MA)					\$74,533
Mass	9.02%	\$269,969		\$1,631,488	\$2,411,505
Total	100.00%	\$2,993,006		\$2,993,006	\$5,827,554

## STATUS UPDATE

Actual expenditures on the BEACON Project have been significantly lower than originally estimated in the Planning APD. The following table compares the actual project expenditures to date (that is, FFY1993) with the estimates :

	<u>Estimated</u>	<u>Actual</u>
Permanent State Staff Resources*	\$946,606	\$605,460
Travel	25,000	7,916
ADP Support	300,000	305,656
Contractor Support	400,000	0
Total	\$1,671,606	\$919,032

\*includes direct salaries, fringe, and indirect costs

The differences are explained by various impacts on the project schedule. Fewer state staff were required at the beginning of the project, while awaiting Federal approvals of the Planning APD and Planning Contractor RFP. Hence actual expenditures are lower than estimated for the entire year. Since the Planning Contractor RFP was not responsive, the estimated contractor expenditures for FFY1993 did not occur. Intended site visits have been postponed, hence actual expenditures are lower than estimated.

## THE TOTAL PROJECT

The experience of other states indicates that the cost of the total project -- planning and analysis through design, development and implementation -- varies widely. It depends on the extent to which the state is already automated, the scope and level of additional automation required, the overall development strategy, etc.

We anticipate that the planning effort covered by this Planning APD Update will clarify the impact of these variables in Massachusetts. A completed estimate will be prepared as part of the Implementation APD.

## CONTACT PERSON

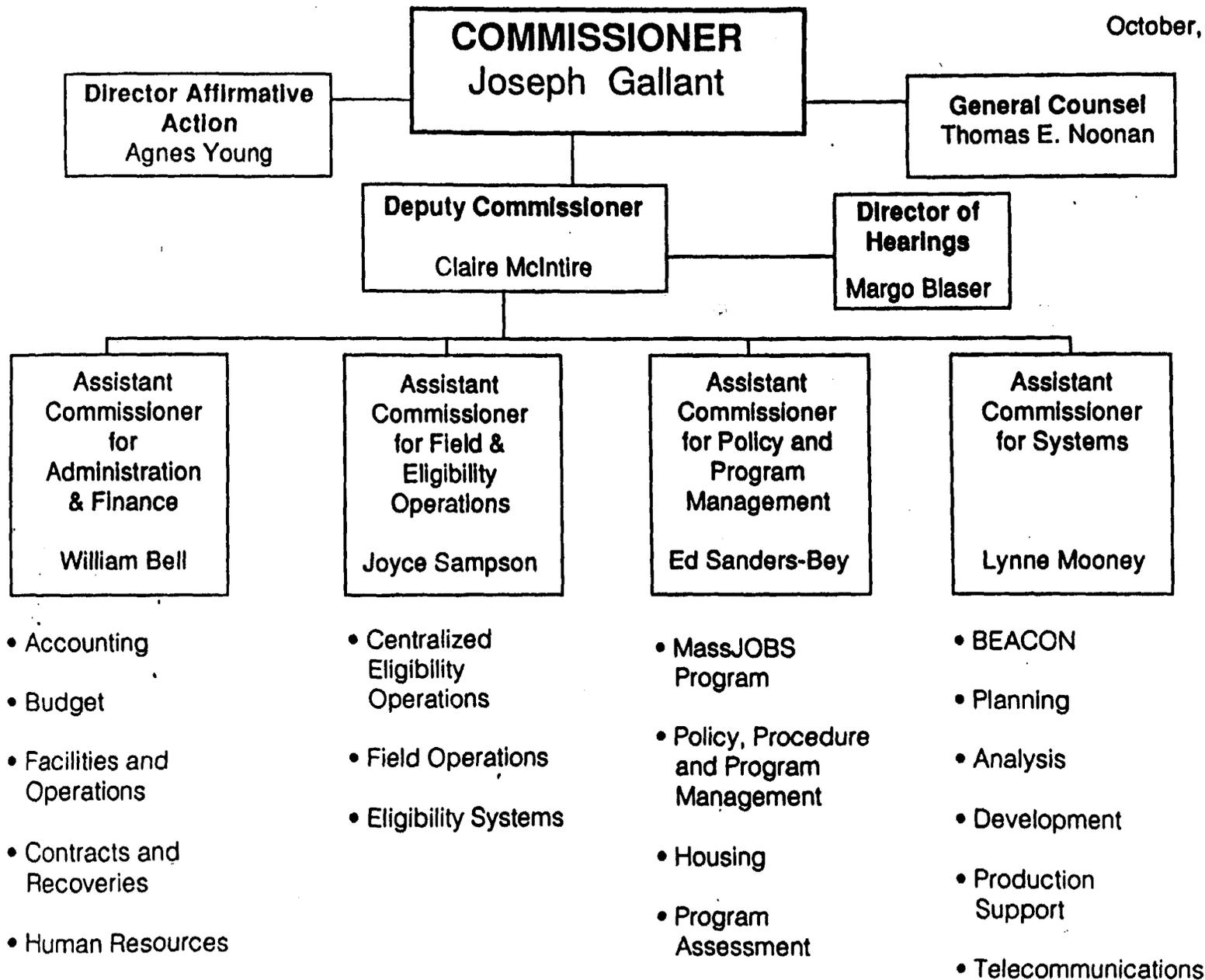
The contact person for this Planning APD Update and for the entire BEACON Project is:

Lynne A. Mooney  
Assistant Commissioner for MIS  
Massachusetts Department of Public Welfare  
600 Washington Street  
Boston, MA 02111

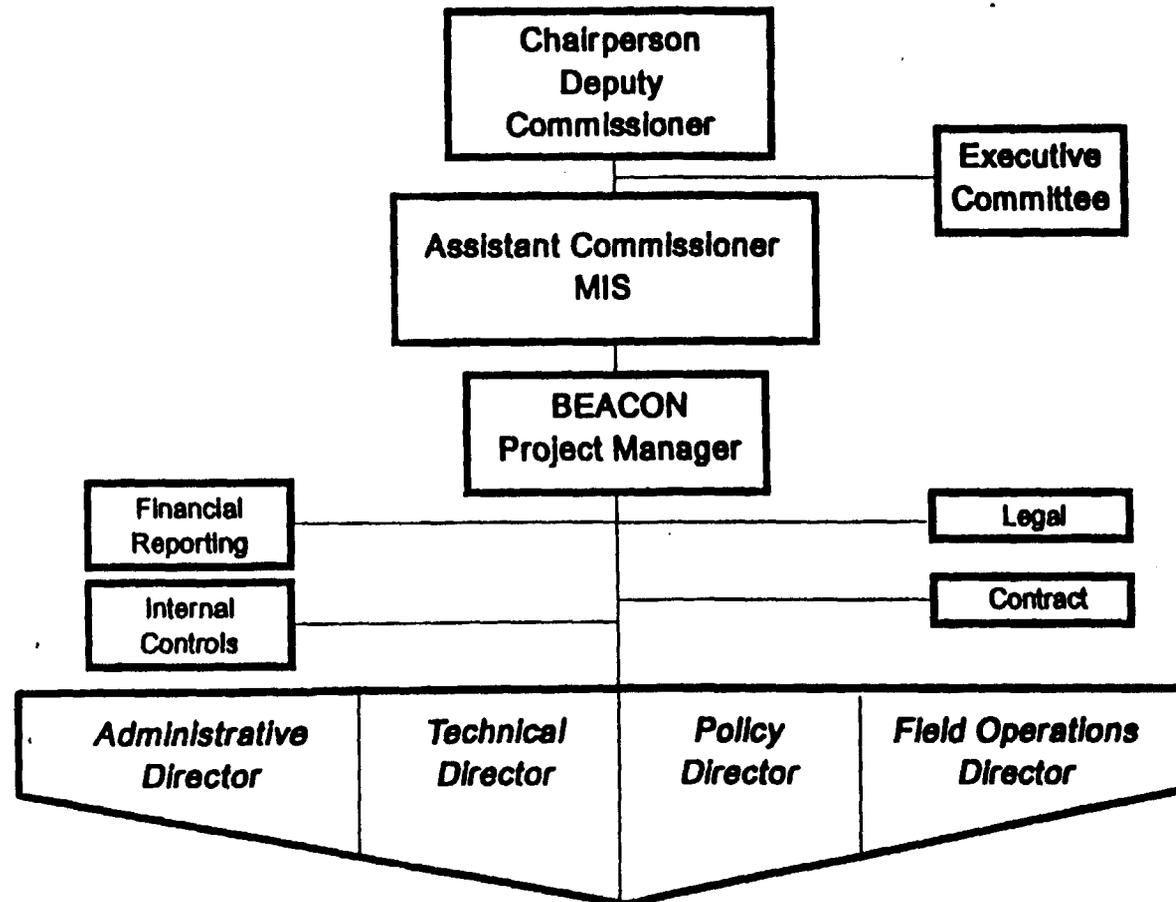
Telephone: 617-348-8408

**Attachment 1**

October, 1993



# BEACON Project Management Structure



BEACON Coordinating Committee																	
Budget	Facilities & Operations	Accounting & Federal Reporting	Contract	Personnel Performance Mgt Labor Relations Training	Affirmative Action	MIS	OMIS	Policy & Procedure	JOBS	Housing	Legal	Program Assessment	Medicaid	Hearings	Field Operations	Centralized Eligibility Systems & Operations	DOR

**Attachment 2**

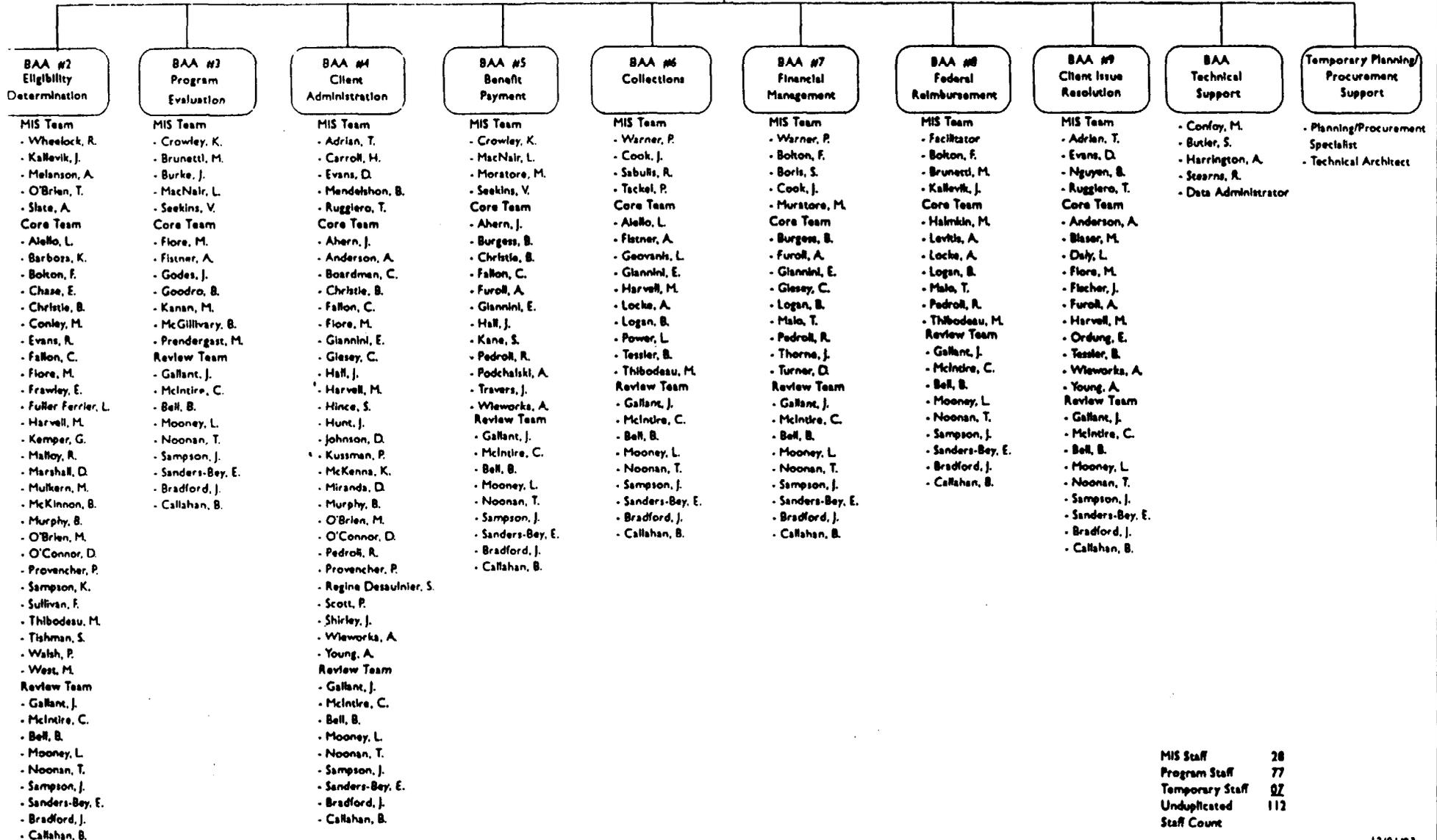


# BEACON Business Area Analysis (BAA) Projects

## Workshop Participation Organization

### Planning Team

- Judge, S.
- Fiore, M.
- Hall, J.
- Logan, B.
- Murray, R.



MIS Staff	28
Program Staff	77
Temporary Staff	92
Unduplicated	112
Staff Count	

**Attachment 3**

**PLANNING PHASE BUDGET**  
(33 months)

<u>Permanent State Staff Resources</u>	<u>Estimated Expenditures</u>
o Direct Costs	
Salary (1)	\$2,773,437
Fringe (2)	\$1,066,042
o Indirect Costs (3)	\$ 922,809
 Subtotal	 \$4,762,288
 <u>Temporary Staff Resources</u>	
BAA Workshops (business & technical requirements) (4)	\$ 511,273
 <u>Temporary Staff Resources</u>	
Implementation APD and RFP preparation (5)	\$ 56,250
 <u>Data Center Resources</u> (6)	 \$ 36,667
 <u>ADP Support</u> (7)	
o CASE tools (software and training)	\$ 284,800
o hardware (networked PCs)	\$ 80,633
o PC software	\$ 8,243
 Subtotal	 \$ 373,676
 <u>Materials &amp; Supplies</u> (8)	 \$ 8,800
 <u>Conferences/Site Visits</u> (9)	 \$ 78,600
  <b>TOTAL</b>	  <b>\$5,827,554</b>

**Notes:**

(1) Permanent state staff direct costs include current salary increases for Massachusetts state employees: 6% as of December 1992 for collective bargaining employees, 7% as of October 1993 for all employees. They also include an estimated 5% increase for all employees as of July 1994. Costs include both staff working full-time on BEACON (13 during the requirements workshops, 17 during re-engineering/conversion planning), as well as the BEACON-specific percentage of those working part-time on the requirements workshops (BAAs). Detailed resource commitments are available through Project WorkBench management reports.

(2) The fringe percentage is 31.5% through June 1993, 39% thereafter.

(3) Per the Department's approved Cost Allocation Plan, BEACON indirect costs are assigned to Indirect Cost Pool #1. The indirect costs are allocated to the participating programs in direct proportion of their share of the direct costs. For purposes herein, this is estimated to be 23% of BEACON direct costs (based on the Department's FFY1992 experience). Actual indirect costs will be charged based on actual expenses upon approval of the Planning APD Update.

(4) These include information engineers to facilitate all or part of key BAA Workshops, especially BAAs #2 through #7. It is estimated that from five to eight staff will be involved over a ten month period.

(5) These include an estimated one or two planning/procurement support staff to assist in the IAPD and IRFP document preparation over a five month period.

(6) Data Center resources include the estimated additional computer processing time, data storage, and printing that will be required because of the BEACON planning effort.

(7) ADP hardware will be utilized solely to support the CASE tools and software utilized for the preparation of the business and technical requirements, Implementation APD, and Implementation RFP and will then be utilized for conversion planning and integrated into the completed Massachusetts welfare eligibility system. It is envisioned that 10 networked workstations (with CASE tools and project management/ spreadsheet/word processing software) will be required. It would not be possible to prepare the business and technical requirements, Implementation APD, Implementation RFP, or conversion planning manually, without CASE tools and software support.

The Department does not currently have any hardware with the technology to support the necessary CASE tools and

software. Budget constraints have precluded any hardware upgrade procurements for the last five years.

(8) Materials and supplies include the estimated paper, diskettes, printer and photocopy supplies, postage, etc. required for the preparation of BEACON project deliverables.

QUARTERLY COST BREAKDOWN

	FFY 1993				FFY 1994				FFY 1995				Total
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	
<b>Permanent Staff Resources</b>													
Direct Salaries	\$18,468	\$59,895	\$129,814	\$134,140	\$411,829	\$438,966	\$437,665	\$327,102	\$245,338	\$245,338	\$246,338	\$81,747	\$2,773,437
Fringe	\$5,817	\$18,867	\$40,828	\$52,315	\$160,613	\$170,418	\$170,689	\$127,570	\$95,682	\$95,682	\$95,682	\$31,881	\$1,066,042
Indirect Costs	\$5,953	\$18,526	\$82,507	\$38,530	\$131,662	\$139,698	\$139,821	\$104,575	\$78,434	\$78,434	\$78,434	\$26,134	\$922,809
<b>Temporary Staff Resources</b>													
BAA Workshops					\$192,421	\$162,059	\$161,605	\$16,188					\$611,273
<b>Temporary Staff Resources</b>													
IAPD/RFP Preparation						\$11,250	\$33,750	\$11,250					\$56,250
<b>Data Center Resources</b>					\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$1,667	\$36,667
<b>ADP Support</b>			\$222,321	\$83,335	\$68,020								\$373,676
<b>Supplies &amp; Materials</b>					\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$400	\$8,800
<b>Conferences/Site Visits</b>	\$775		\$5,541	\$1,600	\$18,184	\$10,000	\$17,500	\$10,000	\$7,500		\$7,500		\$78,600
<b>Total</b>	\$31,013	\$87,288	\$480,811	\$308,920	\$988,929	\$926,687	\$957,331	\$601,884	\$433,154	\$425,654	\$433,154	\$141,829	\$5,827,554