Chapter 3

ANALYSIS AND RECOMMENDATIONS

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List of Technical Exhibits

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3-001	Functional Alignment of PWS Requirements
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Chapter 3

ANALYSIS AND RECOMMENDATIONS

3.1 INTRODUCTION

This chapter presents analysis and subsequent recommendations for improving the efficiency and cost effectiveness of Devens Reserve Forces Training Area Plans, Training, Logistics, Public Works, and Information Management functions. The changes are expected to allow the organization to be more competitive against a potential contractor. Analysis included in this section correlates specific PWS tasks to times and personnel requirements, with assignment to organizational elements as well.

Recommendations include specific items that require process or procedural changes in order to perform more competitively. These recommendations, in general, arise from MAI's experience with other organizations similar to those at Devens. The application of these recommendations will provide a sound basis on which to produce the required level of service

3.2 ANALYSIS OF STAFFING

A detailed analysis of all workload captured in the PWS has been completed for Devens RFTA. The following pages, with the referenced technical exhibits, provide full visibility into the analysis. The result is the staffing assigned to the MEO.

3.2.1 FUNCTIONAL ALIGNMENT OF WORK

Each functional area of the PWS was reviewed, at the fourth level, to determine the most appropriate organizational alignment for the area. These alignments are shown in Technical Exhibit 3-001. The assignments evolved over several iterations of organizational possibilities. The first set of assignments was based on a purely functional approach to the work. For example, Supply and most of the Training Support Center (TSC) were consolidated in the initial functional review. In several cases, however, this assignment left small elements of the organization isolated, with little cross-functional training capability and too small a supervisory span of control. An example is that Supply/TSC and Transportation were originally categorized as separate entities, but turned out to be too small separately to be workable organizational units. As further iterations of the organizational elements were completed, these remainder organizational elements were consolidated with closely related functions to create organizational groupings that were both logical and of an appropriate size. Supply, Transportation, and most of the Training Support Center (TSC), for example, were consolidated into a single organizational element.

3.2.2 WORKLOAD DATA

Workload data for direct functions (Sections C-5.2 through C-5.5 of the PWS) at Devens RFTA are shown in Technical Exhibits 3-002 (Plans and Training), 3-003 (Logistics), 3-004 (Public Works), and 3-005 (Information Management). General Sections requirements of the PWS (Sections C-1 through C-4 and C-6) are handled similarly to the direct functional area portions of the PWS. Technical Exhibit 3-006 shows the times assigned for each General Section task.

The first two columns show the PWS paragraph number and a short description of the work to be performed. The second two columns show the source of workload and the workload count. When a paragraph does not contain a specific PWS work requirement (such as for informational paragraphs, standards, and paragraphs that are solely headings), the word "Information" is included in the workload column for completeness. When a task is a concurrent task or one that is included in the time for other work, reference is made to the paragraph where the work is contained. For example, "Included in 5.2.2.3" would indicate a requirement whose time for performance is included in the time indicated in 5.2.2.3. Where one of these two occurs, "NA" has been inserted in the other cells of the row to indicate that no other information is needed in the column.

The PWS workload was, in most cases, projected from Devens RFTA's historic workload levels from Fiscal Year (FY) 1999. Major sources of workload are listed in the following table. These are not intended to be a comprehensive list of the workload sources, but to indicate the largest sources of workload in each Functional Area.

Functional Area	Functional Area Title	Major Sources of Workload
5.2.1	Plans, Operations, And Training Support Services	Local automated systems
5.2.2	Range Control	RFMSS
5.2.3	TSC Services	TSAMS and MATS
5.2.4	Reserve Component Billeting Services	Local automated systems
5.3.1	General Logistics Services	No specific workload
5.3.2	Supply Services	SARSS, SPBS-R/DPAS
5.3.3	Ammunition Supply Point	SAAS-MOD
5.3.4	Transportation Services Division	Manual counts
5.4.1	General DPW Services	Manual counts
5.4.2	Environmental Activities	Manual counts and estimates
5.4.3	Maintenance And Repair	Manual count of Service Orders. IJO hours from IFS. Inventories from physical counts and RPMA databases
5.5.1	Mail Support Services.	Logs and meters (as tracked from Fort Dix)
5.5.2	Publications & Forms Services	Manual counts and estimates
5.5.3	General Information, Telephone Services	Local automated systems

In the case of Supply Services (C-5.3.2) and the Directorate of Public Works Service Orders (C-5.4.3), however, workload from that Fiscal Year was inappropriate to project into future requirements. In the case of Supply, this is due to the significantly changed operation associated with the implementation of the 94th Reserve Support Command (RSC) SARSS operation, along with the changes associated with the implementation of SARSS at Devens itself. Workload from FY 2000 was used instead.

In the case of the Public Works Service Orders, the electronic data were found to be poorly gathered and entered into IFS, and did not reflect all of the work requirements. The FY 2000 data has been taken directly from counts and sampling of hard-copy documentation of Service Orders, and is more accurate due to the additional information available in the hard-copy data.

3.2.3 ANALYSIS OF TIME REQUIREMENTS

Continuing the analysis of the staffing requirements, times per task and their sources are shown in the fifth and sixth columns of the PWS crosswalks (Technical Exhibits 3-002 through 3-006). No standard automated system sources were available for use. Given this, several alternate sources were used.

The first, preferred source gathered documented times from historical records. These documented times were available from Service Order documents, but were not available for any other work. Service Order document history is shown in Technical Exhibit 3-016, with the summary of assigned trades in Technical Exhibit 3-015.

The second source was a set of task times developed by Devens RFTA in preparation for their A-76 study. These task times are shown in Technical Exhibit 3-007, Times Per Task Database. This source of times provides the basis for development of the times used in development of the MEO. The Times Per Task Database provides times required for various work tasks, as recorded by Devens RFTA employees on their task lists. The task lists in the database are not, however, fully aligned with PWS requirements since they were gathered before the PWS was developed. In particular:

- Task times were not gathered for Public Works functions. This is because it was believed at the start of the study that the Integrated Facilities System (IFS) would provide accurate time data. Unfortunately, this was not the case and the data from the IFS had to be discarded. Public works data was therefore gathered from other sources, as discussed below.
- The task times were completed without specific direction to employees as to tasks to be recorded. Because of this, many of the tasks do not correlate directly to PWS requirements. For example, a task of “Check e-mail” may be recorded by an employee as a daily task requiring 30 minutes. However, no specific requirement in the PWS requires a daily e-mail check in that functional area. These e-mail checks may include PWS-related work, but may also include overhead tasks such as reading general announcements, and personal items such as responding to a message from a friend or family member.
- No attempt was made to ensure that employees recorded no more than a full work-year of tasks. In some cases, task lists provided by employees reflect well over 2,000 hours worked per year.
- Task lists reflect workloads that are not supported by the workload derived from validated historical databases. In most cases, counts are given that are considerably

higher than that projected for the period of performance of the PWS. This tends to inflate the total time required to provide a service.

- Task lists were developed for positions that were vacant during the period of task list collection. These positions' times were developed by personnel who work in the same area as the vacant position. However, there is no guarantee that these task lists accurately reflect a true work requirement.

These difficulties have been mitigated in several ways. First, data from the full task list database was reviewed in detail several times. Devens functional managers and CA team members attempted to validate, with each employee, the amount of time required to perform tasks that appeared to be out of line with their expectations. The times in the database were adjusted wherever inaccuracies were identified.

Second, task times have been applied to PWS requirements only when a reasonable level of certainty exists that the task reflected the full requirement as listed in the PWS. In some cases, tasks correlate directly and have been applied directly. In other cases, the average of tasks with the same units (issues per day, for example) performed by different employees has been applied. In a final set of cases, the total annual time required for a task in FY 1999 has been applied to the workload in FY 1999 to result in an average annual task time.

Where data from the task time database was not explicit enough to provide a time for a specific PWS requirement, two other sources have been used. In the case of public works functions, RS Means and the Park Maintenance Standards have been used. In all cases where this occurred, functional managers at Devens confirmed that their equipment and requirements matched the RS Means assumptions, and that these times could be used for Devens' requirements.

Finally, where no other information was available, functional managers have provided technical estimates for times per task. Devens RFTA subject matter experts made these estimates.

3.2.4 LEVEL OF EFFORT STAFFING

In most cases, staffing is based upon actual hours required to perform PWS work. However, several areas of the PWS require a minimum staffing level as well as completion of specific PWS requirements. Most of these are straightforward requirements for onsite personnel to be available to perform work from 0730 to 1600 either Monday through Friday or seven days a week. In almost all of these cases, the PWS requirements indicate a staffing level higher than this minimum level (e.g., more than one person is required during at least some of these times, or expanded hours are appropriate), and the staffing has therefore been calculated from the actual, higher, staffing requirement.

Areas where true required staffing is higher than the minimum include Plans, Operations, and Training (C-5.2.1), Billeting Services (C-5.2.3), and Ammunition Supply Point (C-5.3.2). (Note: Each of these requires operation on Sunday, which has an impact on cost that has been included in the In-House Cost Estimate). Further detail is provided in Chapter 4 for each organizational element's schedules.

In the areas of Project Management (Section C-1), Range Control (Section C-5.2.2), and Work Reception (Section C-5.4.3), staffing has been based upon the actual hourly staffing requirements. For Project Management and Work Reception, the weekday requirement (0730 to 1600) has been staffed with personnel who, where possible, have also been assigned other PWS-related work to fill any non-productive time. For Work Reception

requirements outside of weekdays, an MEO subcontract answering service will be used to answer emergency calls with the required timeliness (included as an MEO subcontract in the In-House Cost Estimate).

Range Control has a more complex requirement, as follows:

> "The contractor shall provide on-site range control services from one hour before scheduled use of ranges continuously to one hour after range usage ends. See TE 5.2.2-002 for a listing of historical range use." (Section C-1.2.3.6.2.2.)

PWS Technical Exhibit 5.2.2-002 provides the start and stop time for each range for an entire year. By taking the earliest start time and latest end time for each day, the total staffing requirement can be calculated. This staffing calculation is shown in Technical Exhibit 3-019 Range Operating Hours. The total is 4,624 hours, with the spreadsheet also showing night, Sunday, and holiday times. The times have been included in the In-House Cost Estimate. The requirement has been interpreted to mean that during these times there must be an MEO staff member available in the Range Control building, and that any PWS activity that can be completed from that area is included in the work. Such paragraphs are so noted in the Range Control portion of Technical Exhibit 3-002 ("Included in 5.2.2.3"). Work requiring that staff members leave the building has been separately staffed. These include items such as issue and clearance inspections, quarterly conferences, and maintenance activities. Times for these items are shown separately in Technical Exhibit 3-002.

3.2.5 ADJUSTMENTS DUE TO PROCESS IMPROVEMENTS AND CHANGES

Where changes in process or procedures will be implemented, the fractional reduction in the time required to perform the work is applied at this stage. Each reduction is discussed below, with reference to the PWS paragraph numbers to which it has been applied.

3.2.5.1 Maintenance and Repair Work Practices Changes

The Devens RFTA Maintenance and Repair organization is, in some ways, typical of many Army installations. In particular, it is common management practice to allow personnel to return to the shops at lunch time, during breaks (outside of the actual lunch or break time), and early at the end of the day. This practice involves a loss of productive time to travel and other non-productive activities outside of the usual breaks. In addition, Devens RFTA standard practices are to allow relatively long periods of time during which personnel are allowed to wash up at the end of the day, to replenish supplies, and other indirectly productive periods. All of these times can be significantly reduced with relatively straightforward management emphasis on ensuring that these practices are not continued. The Maintenance and Repair Division Chief confirmed that these practices are standard at Devens, and that personnel normally return to the shops twice a day, with approximately 15 minutes of lost time for each return. In addition, more than 15 minutes per employee is lost at the end of each day due to early returns and excessive cleanup and re-supply times. In total, these changes can result in savings of as much as 0.75 hours per day.

A second significant improvement over the historical practices of FY 1999 (and the historical data of FY 2000 used in the PWS and in the development of the historical Service Order times) has been the advent of cellular telephones, which were obtained in the middle of FY 2001. All Maintenance and Repair personnel have cellular phones. This has allowed significant improvements in coordination and planning efforts for personnel who are in multiple locations across the installation. The Maintenance and Repair Division Chief

estimated that well over 15 minutes per employee per day was saved due to this change in practices.

In total, these changes amount to more than an hour of savings in an eight-hour day, or a 12.5% savings. The savings can only be applied to historical times, however, and not to times that are developed from sources such as RS Means (which already assumes good work practices are in place). The savings have been applied, therefore, only to the Service Order times used in paragraph 5.4.3.3.6.1 in Technical Exhibit 3-004, reducing the Service Order time from 3.06 hours to 2.68 hours

3.2.6 ASSIGNMENT OF APPROPRIATE GRADES AND SERIES

Each PWS line that has a task time was then assigned one or more position types to complete the work. In one case, that of Service Order work, the analysis is done via the sample of types of Service Order work shown in PWS Technical Exhibit 5.4.3-005. Analysis of the work types is shown in Technical Exhibit 3-016, with a summary shown in Technical Exhibit 3-015. In the rare cases where multiple position types are needed, multiple rows in the database show the separate position types. Work grade level was determined by a comparison of the knowledge or skills required to perform PWS tasks to the Office of Personnel Management (OPM) General Schedule and Federal Wage Standard job classification standards. If any uncertainty as to the required grade existed, the higher grade was chosen in order to present the most conservative approach to the work. In the case of WG personnel, this grade level was then used to determine the overall grade of the position, discussed in more detail in Section 3.2.7 below. For GS employees, however, OPM classification policy allows that a lower-graded employee can perform higher level work so long as it is less than 20% of the time. The MEO takes advantage of this rule for two positions performing supply work, as shown in Technical Exhibit 3-014.

3.2.7 DETERMINATION OF STAFFING REQUIREMENTS

The above methods of assigning times per task and position types result in a set of work-hours identified by the most appropriate grade and series for the work. In order to determine full staff positions, these hours are summarized by organizational category, as shown in Technical Exhibits 3-008 through 3-012. At this stage, the raw workload requirements for the direct functional areas are combined so that all work to be performed by a single organizational element for a major section of the PWS is shown together. For example, Technical Exhibit 3-008 shows the combination of work previously performed by the DPT Range Section that will be part of the SSD Maintenance and Repair Division's responsibilities in the MEO. A summary of the direct, raw FTE and their source for each of the MEO organizational elements is shown in Technical Exhibit 3-013.

Finally, in order to arrive at full and part-time positions, a final adjustment was made. This adjustment was performed in the following standardized manner:

- The highest-grade partial FTE in any series was rounded up to the next full position, with the available time filled by work from the next lower grade.
- Each succeeding grade level was filled as required by the raw FTE of that grade needed, then rounded to the nearest fraction of a position, using yet lower-graded work to fill the available time, or sharing across appropriate series to consolidate work into a single position.

- Remnant fractional FTE were filled on a part time basis or with moderate amounts of overtime. The overall overtime for the MEO is approximately 0.68%, with no one employee providing more than 150 hours of overtime in a year.

The specific assignments of work to positions are shown in Technical Exhibit 3-014. This technical exhibit is the source for the staffing shown in Chapter 4, in the organizational charts in Technical Exhibit 4-001, and for the TDA crosswalk staffing shown in Technical Exhibit 6-001.

3.2.8 OVERTIME USAGE

The last column of the assignment of fractions of FTE of effort in Technical Exhibit 3-014 is overtime. In Fiscal Year 1999, Devens RFTA used more than 19,000 hours of overtime. Historical overtime use is shown in Technical Exhibit 3-020. This is more than ten times the amount expected for an installation of its size and composition, and is therefore worth separate analysis and consideration.

3.2.8.1 Maintenance and Repair Overtime

The vast majority of the overtime hours were in the Directorate of Public Works (15,401 hours). Several items contributed to the Public Works overtime usage. First, many of the hours were associated with Reserve Component support that has been excluded from the PWS and from the work requirements of the MEO and RO. Among the activities that were performed on overtime in FY 1999 was the construction of a new Marine Corps facility at Devens RFTA. None of these requirements is included in the PWS; they are not projected to continue during the performance period.

Also of note was an extremely heavy, and unusually timed, snowfall pattern in FY 1999. While this may recur during the course of the time period of the MEO, it is impossible to predict. Further, the MEO is designed to make maximum use of available on-duty personnel for snowfall. All HVAC personnel, as well as all Maintenance Workers, will hold the licenses required to operate snow removal equipment. These personnel are required to work shifts outside of normal duty hours during the heating and snow season. These shifts do not require a specific duty station, and personnel assigned to the non-duty hours work will be available for snow removal at any time when there is not a heating emergency. (See Chapter 4 and Technical Exhibit 4-004 for more information regarding HVAC and Maintenance Worker shift work.) These shift schedules, along with the fact that there is no specific requirement for timing of snow removal, will allow Devens RFTA personnel to remove snow in the most cost-efficient manner possible while still providing access to facilities needed for work.

Finally, in the Public Works arena, there were a series of heating and cooling emergencies. These have been mitigated with replacement and upgrade of the underlying systems, and with implementation of a rigorous preventive maintenance program. This cause for overtime is not expected to recur.

In spite of the above measures, overtime work will be associated with some maintenance and repair requirements in the PWS. In particular, emergency Service Orders may occur anytime during the day or night. Section C-5.4.3.4.6 of the PWS provides that 21 of 1,411 Service Orders are Priority 1. Since 1,500 Service Orders are projected in the PWS, a total of 22.32 Priority 1 Service Orders are projected. Since the average Service Order time is projected to be 2.68 hours, this corresponds to a total of 59.8 hours of overtime if all of the emergency service orders occur after hours (a worst case scenario). A total of 0.130 FTE

(230 hours) of overtime have been included for Maintenance and Repair in the MEO; however, to cover this and any other possible overtime requirements that be included in the PWS requirements.

3.2.8.2 Training Support

In Range Control and Ammunition Supply Point, personnel were providing evening and weekend services on overtime, rather than with changes to regular work schedules. These practices have been changed, and will continue in the new mode (with regularly assigned shifts to cover hours outside of normal duties times) during the MEO performance period.

Sample schedules for the busiest months in Range Control and the Ammunition Supply Point are included in Technical Exhibits 4-006 and 4-008. These two sample schedules include limited overtime, showing that the schedules can be met with appropriately scheduled resources rather than with large amounts of overtime. A small amount of overtime has been included in the MEO, mainly for periods of heavy training. Range Control overtime is 0.141 FTE (251 hours), and Ammunition Supply Point overtime is 0.027 FTE (48 hours). These are included as cost reduction measures rather than including additional staffing, and will be available for use during high-demand and emergency periods. The overtime staffing in this portion of the MEO is therefore deemed to be adequate and appropriate to the organization.

In Billeting and Operations, a seven-day week schedule is used. Overtime is applied for periods of heavy training, a total of 0.050 FTE (89 hours).

3.2.8.3 Transportation and Supply

In the remainder of the DOL covered under Transportation and Supply, the situation has also changed dramatically. Since the implementation of SARSS, there has been a significant reduction in workload. (The 94th RSC, previously a major customer, has its own SARSS system.) In addition, the time to complete supply processing has dramatically decreased due to the system implementation.

Finally, the Supply personnel in the current organization provided support to the Food Service COR (who was historically a part of the DOL) for oversight of the dining facilities. This GIN work has been shifted to Active Duty Special Work (ADSW) personnel who are now assigned to support the DPT (where the Food Service COR will be located in the MEO).

For the purposes of the MEO, required overtime in Transportation and Supply is limited to emergency requirements. Overtime in the Transportation Division occurs occasionally in Passenger Travel section when emergency travel arrangements have to be made or if there are last minute requests from Reserve Component travelers attending schools (i.e. late receipt of orders, change in mode of transportation, etc). A small amount of overtime has been included in the MEO (0.011 FTE or 20 hours) as a cost reduction measure rather than including additional staffing, and will be available for use during high-demand periods and for emergencies.

3.2.8.4 Information Management Office

The contractible portions of the Information Management Office (excluding the functions transferred from the Training Support Center) have not historically had any overtime work, nor are any requirements outside normal working hours included in the PWS for this function. Given this, no overtime hours have been included in the MEO. Please note, however, that the intermittent Mail Clerk position can be used during unusually timed requirements, should any occur.

In the portions of the IMO transferred from the Training Support Center (photography and visual aids), a small amount of historical overtime occurs, and there is a requirement for work outside normal duty hours in the PWS. This requirement is covered with 0.013 (23 hours) of overtime for the Photographer. In addition, flexible scheduling will allow the photographer to cover additional requirements that may occur outside normal duty hours.

3.2.8.5 Summary

All in all, the historically high level of overtime used at Devens RFTA does not reflect most efficient method of staffing the true work requirements, and will not be continued in the future. Instead, a level of overtime appropriate to the organization and its requirements has been developed and implemented in the MEO. It is shown in Technical Exhibit 3-14 and costed in the In-House Cost Estimate.