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Monterey, California

THESIS

WORK-LOAD PLANNING FOR
NAVY STOCK POINTS

by
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With the ever changing environment of Navy stock points, the Navy Supply Systems Command saw the need to design and develop a course in Stock Point Operations for mid-grade managers. This thesis is a part of that effort. The focus of the thesis research was the design and development of eight hours of course material on work-load planning to be included as a finishing section of the 40-hour Stock Point Operations course. Included in this thesis are a history of the need for the course development and the management methodologies incorporated in the course material. Chapter IV provides the framework for mid-grade managers to standardize the formulation of the most effective and efficient work-load plan for their own organizations.

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Navy Stock Points

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ABSTRACT

With the ever changing environment of Navy stock points, the Navy Supply Systems Command saw the need to design and develop a course in Stock Point Operations for mid-grade managers. This thesis is a part of that effort. The focus of the thesis research was the design and development of eight hours of course material on work-load planning to be included as a finishing section of the 40-hour Stock Points Operations course. Included in this thesis are a history of the need for the course development and the management methodologies incorporated in the course material. Chapter IV provides the framework for mid-grade managers to standardize the formulation of the most effective and efficient work-load plan for their own organization.

TABLE OF CONTENTS

I. Introduction

A. Background

Work-load planning is a complex and often overlooked component in the management and daily functioning of Naval Supply Centers. In previous times of unlimited resources most managerial problems within a center were fixed by "throwing money" at them. But circumstances have changed and resources have become scarce resulting in an emergence of ideas from the operations/production community melded into the stock point mentality. As in private industry, the Navy tried automation as a way to improve inventory accuracy, shorten lead time, and improve customer service. Although automation did enhance certain areas within the center, the overall performance level did not appreciably improve. This fact did not amaze the operations analysts, but it did surprise first and second line managers who had hoped the robotics would be a panacea for their problems.

Managers and decision makers required a new way of thinking for looking at problems and organizations. It became necessary to view the organization as a living, breathing organism which, when well tended, functioned well. The old thinking of the past, of separate components within the center, no longer worked.

Now, as changing military needs dictate the closing and combining of many of the services' logistic supply centers, the drive for survival is stronger than the resistance to change.

One of the global control mechanisms currently under implementation at various supply centers is known as work-load planning. **Work-load planning** is the combining of known resources coupled with optimizing their use to increase the efficiency and effectiveness of Supply Center operations. It involves every department and division within the center and attempts to provide the necessary tools to enable first-and second-line supervisors to better manage their resources.

With the evolution of work-load planning, an important phenomena emerged at various sites. Work-load planning was successful, but it was more efficient when combined with the ideas and principals applied in **Total Quality Management**(TQM). The basic idea behind TQM is as follows:

> "...that each process is the customer. This requires that every person and every unit in the company team regard itself as both the producer and customer. Each insists on receiving and delivering products and services of perfect quality at each stage of the process until they reach the end user. Perfection is the goal." [REF 1]

Everyone has a stake at making the system function well. Even the most junior level worker has important ideas and criticisms. TQM is about personal pride in an individual's job output and also the willingness to " go the extra step " not only to perform the minimum level of work required, but to check its quality and be satisfied that the job was done well.

> "Lest the benefits of TQM seem too good to be true, consider that it is a difficult process for a company to embrace. It involves a change in culture for the company since the principal ingredient of TQM is motivation and training of people in statistical thinking techniques. As such, TQM cannot be mandated; it must evolve starting with a religious-like zeal for the process by the company president and proceeding across to every employee within the company and at all suppliers to the company." [REF 1]

To avoid invading the system with just another " Quality" program, many insightful managers have implemented the methodologies without the frills of a "Program." This has been typical of the more successful military applications.

The recent push for a balanced Federal Budget through reduced spending makes it increasingly difficult to do effective work-load planning. Traditionally, work-load planning has been based on historical trends in workload. But, with the advent of this new pressure to reduce spending throughout the government, a different operating environment has been created. The historical trends, upon which work-load planning has been based, have primarily represented periods of significant budget growth. Unfortunately, the use of historical trends based on the old fiscal model are no longer applicable.

> "The day is over for a career in management. The job of management is inseparable from the welfare of the company." [REF 2]

Training managers to " manage what you measure" and " measure what you manage" is no easy task. Understanding the interrelationships which are the building blocks

of a good work-load planning organization, and understanding how the methodologies and tools of TQM have proved to be catalysts in a more efficient and effective work place, are essential.

B. Thesis Objectives

The focus of this thesis is on the evolution of work-load planning and how it is conducted generically at Stock Points. Then, in conjunction with this research, an eight-hour segment of the Stock Point Operations course was developed which specifically covers work-load planning and provides a stand-alone course for use by the thesis sponsor, NAVSUP (see Chapter IV). The course is intended for mid-level managers. It addresses the interrelationships which are present at NSC's and how these relationships can be managed by understanding the interdependancies within different operations which occur at Stock Points. The course attempts to analyze the major aspects of stock point operations which have an impact on Stock Point operations. These include (but are not limited to): purchasing, receiving, stowing, issuing, packing, and shipping. Details of these aspects are covered in separate sections of the thesis and the course. The course as a whole covers these aspects in depth prior to addressing work-load planning.

C. Scope

The bulk of this thesis centers around the development of an eight-hour segment of the Stock Point Operations course designed to teach mid-level managers the concepts and philosophies of TQM, level loading and the basics of work-load

planning. A Mid-level manager for purposes of this course is defined as a Wage grade 7 and above, Wage Grade leaders, General Schedule employees who manage warehouse operations at the GS-9 level and above, and Military Officers. The format of the course has been directed by the thesis sponsor, NAVSUP, to be a student and instructor guide in Competency Based Certification (CBC) format.

The types of questions which are examined by the course are:

- What is work-load planning?

- How does work-load planning affect Stock Point operations?

- What interrelationships are necessary to understand and apply work-load planning?

- What tools are necessary for work-load planning?

- How can work-load planning be used by Navy Stock Points to maximize quality output under conditions of decreasing resources?

Key concepts which will be expanded upon and which are essential to understanding work-load planning are:

1. Work-load planning is the key to effectively meeting customer requirements efficiently.

- Effectiveness is doing the right thing.

- Efficiency is doing things right.

2. Work-load planning applies known information regarding labor, work requirements, and priorities in the physical distribution process to optimize use of resources.

3. If requirements exceed labor, what is the priority of work?

4. Backlogs are unavoidable (and sometimes desireable). They must be managed through work-load planning.

5. Work backlogs should be held in queues, not in process or on the floor. " Perform Today's work Today."

6. Variations exists in every process. Therefore, work load plans should not be "cast in stone," but serve as road maps, with adjustments based upon appropriate feedback.

7. Get the "big picture" on how the processes work together. The whole is usually greater than the sum of its parts.

8. Work-load planning is implemented differently at different sites depending on size, location, mission, and philosophy of the implementing center.

There is no current documentation on how each center does work-load planning. The information is hodgepodge and must be gathered through personal interviews and on-site analysis at different sized Naval Supply Centers. A major course objective is to standardize the concepts of work-load planning at stock points.

D. Preview

Chapter II discusses the historical evolution of the topic of this thesis, the design of a course to teach managers the requirements of managing a stock point. Chapter III investigates various methodologies which might be appropriate to include in a course on work-load planning and the benefits and disadvantages of each. It concludes with a list of the methodologies which appear best suited to meet the

needs of a NAVSUP Stock Point management course. Chapter IV is the eight-hour course segment and is devoted to Work-load planning. The course is designed to be a working guide for both student and instructor. Chapter V summarizes the thesis, presents conclusions and suggests areas for future development.

II. Background

A. Evolution of Course Content

In April of 1989, the Naval Transportation Management School (NTMS) in Oakland, California, was tasked by the Naval Supply Systems Command (NAVSUP) with coordinating the development of a course to address warehouse management under the Naval Integrated Storage Tracking and Retrieval System (NISTARS). The Commanding Officer of the school, CAPT Sam Majors, contacted LCDR Julie Webb, who previously had worked at the Navy Supply Center (NSC) Oakland NISTARS site, to help with this project as part of her thesis work at the Naval Postgraduate School (NPS). By November of 1989, NAVSUP had decided they wanted to have more taught than just NISTARS and consequently subsumed the NISTARS course into a larger Stock Point Operations course.

The background behind the development of the Stock Point Operations course was the need to ensure that mid-level managers knew the " nuts and bolts" of managing a Stock Point. The advent of a changing environment, and newer and more complex data processing systems, made the training of management a necessity in order to reap any benefits of consolidation in an era of the Defense Management Review (DMR) by the Department of Defense (DOD) and its emphasis on Total Quality Management (TQM). The course, at its inception, was to emphasize the major functions of receiving, storage, physical inventory, issue, transportation, and

control of material. The focus was to be primarily on the relationships among functions in order to understand the overall system, its tools and management reports.

With field assistance from the Fleet Material Support Office (FMSO), NSCs' San Diego and Norfolk, the Navy Supply Corps School (NSCS), NTMS and the Naval Postgraduate School (NPS), NAVSUP code 064 (TQM division) outlined key concepts for a curriculum and started material development for a 40-hour Stock Point Operations course.

A steering committee of personnel from the commands mentioned above was formed in September, 1989 to design, write and review a curriculum based on the aforementioned key concepts which could be used as an on-site course. This course would be taught at the Navy Supply Corps School in Athens, Georgia or at the Navy Transportation School in Oakland, California. The objectives of the committee were to ensure that the course be tailored to the needs of the mid-level manager at Stock Points.

The committee saw the largest problems facing mid-level managers at Stock Points as:

- Being confused by the minutia of day-to-day operations;

- Not understanding enough about the mission and interrelationships of a stock point to make decisions in line with the overall goal of the organization (Not having the big picture);

- Being more concerned with their " slice of the pie" than the well-being of the organization as a whole;

- Lacking an ability to communicate between departments and divisions within the organization.

With these concerns in mind, the committee saw the benefits of an overview training about Stock Point Operations, as well as an inter-weaving of the concepts behind TQM.

During the various steering group meetings a list of key concepts for each section of the course was developed together with topic outlines, and reviews were made of completed sections of the course. A copy of the revised list of key concepts is provided in Appendix (1). This list of shows the emphasis of the course on interrelationships and a total operations overview of Stock Point management.

With the advent of the Defense Management Review in 1988 and its required consolidations it is expected that this course, with minor modifications, will become the Stock Point Operations course for the entire Department of Defense.

The portion of the Stock Point Operations course that this thesis is concerned with is the topic of Work-load planning.

B. What is Work-load Planning?

Work-load planning is the matching of available resources to the required work at hand. To some extent there has always been some form of work-load planning. Hundreds of years ago, a carpenter would look at an architect's drawings and decide what part of the job to do first and what materials he needed to do that job. This was indeed, albiet crude, work-load planning. During the industrial revolution, the onslaught of assembly lines made it apparent to management that jobs

needed to be planned and that material and resources (both human and machine) be available for the job when needed. Numerous techniques were developed to enhance the efficiency of operations. These evolved from F.W. Taylor's Scientific Management, F.B. Galbraith' motion analysis, Harris' Economic Order Quantity (EOQ), ABC job shop scheduling,etc. These early techniques were found to improve the flow of operations and avoid costly delays in manufacturing.

As advances in technology and consumer desire squeezed the market place for newer and cheaper products brought faster into the market place with higher quality, manufacturing firms started to systematically look at the over-all operation of the plant versus the division-by-division approach to solve their problems.

A great deal of research was devoted to elements of work-load planning, such as IBM's order release planning (COPIC). This plan argued that shop performance is enhanced through controlled release of work to the factory. Another product of IBM called Material Requirements Planning or MRP argued similarly that controlling the schedule, release of work and receipt of work can benefit efficiency. Still another approach was Deming's positive personnel approach to statistical evaluation and evolution of TQM. The work of Deming comes very close to providing a total overall cohesive approach to work-load planning for the private sector.

The introduction of TQM and other similar models into the American corporate structure has provided a platform for increased interest in work-load planning. However, the federal government has been slow to introduce TQM. In

federal service the largest stumbling block to operating in a total TQM environment is its rigid structure creating a semi-flexible organization. The time lag in upgrading billets, training and communication systems and the inability to provide a stable managerial base (military and career civil servants tend to move every two to three years) are only a few of the many causes of this loss of flexibility (although no single item alone creates this type of environment). Part of this loss of flexibility is systemic, but the remainder can be managed and alleviated by enlightened management.

The key to work-load planning in a semi-flexible organization (such as the military) is to use the standardized tools provided and incorporate the management philosophy of the local area commander. This allows for implementing a standardized, yet distinctly unique, system by which people versus work required/available can be managed at any given locality.

Fortunately, as the benefits of TQM have proved themselves in work places such as NISTARS at NSC Oakland, more and more stock points are seeing TQM as a necessary foundation to a good operational organization.

The Navy Supply System has historically operated in an environment where work is controlled but not planned. The stochastic nature of the demand and the over-emphasis on customer service and operational availability have made it very difficult for work-load planning to survive. Requirements controlled the resources, rather than available resources structuring and prioritizing the requirements to be completed and by whom.

During the early sixties the Fleet Material Support Office wrote software for both the Inventory Control Points (ICP) and the Stock Points, which included logic parameters to allow work-load control. These programs are still being used today and, with modifications for upgrades in software and hardware, they form the basis for information used in Navy stock point work-load planning.

The current "tools of the trade" are the Uniform Automated Data Processing (UADPS) system within NAVADS, NISTARS, DLA Warehousing and Shipping Program (DWASP), and microcomputers using various "home-grown" programs. These tools can be used to assist managers in statistical analyses of available manpower and current requirements. Information obtained and effectively communicated from one operating center to another can increase the overall efficiency of the organization. However, these programs fail to perform work-load planning.

C. Course Goals and Objectives

As part of the key concepts that the NAVSUP sponsored team developed, the need for a standardized yet flexible system was paramount. Every NSC should operate approximately the same so that those moving from one to the other could become an asset versus a new training requirement. The need for clear course goals and course objectives to teach all involved the tools necessary to succeed as a mid-grade level manager was of core importance. The development of course goals and objectives is discussed in the next sections.

When identifying goals for a course one needs to specify what a student really needs to know at the end of the course. The course goals should be made clear right from the start. In Goal Analysis by Robert Mager [REF 3], it states that course goals are to be described in such a clear and concise form that the instructor will be able to determine if the student has truly obtained the given information, thereby achieving the goals.

D. Instructional Objectives

Instructional objectives are an outgrowth of course goals. These are specific tasks, the achievement of which can be demonstrated and tested; they form the building blocks of the course goals. The course objectives, as described in Preparing Instructional Objectives by Robert Mager [REF 4], should be action oriented, soliciting a specific behavior or response on the part of the student. This means that at the completion of instruction the student can show to the satisfaction of the instructor that the material taught was actually learned.

E. Goals and Objectives for the Work-load Planning Segment of the Stock Point Operations Course

In developing the goals and objectives for the stock point operations course care was taken to ensure that the spirit, as well as the intent, of the thesis sponsors was taken into account. The basic thesis research questions developed were:

- What is work-load planning?

- What interrelationships are necessary to understand and apply work-load planning?

- What tools are necessary for work-load planning?

- How does work-load planning affect stock point operations?

- How can work-load planning be used by NSC stock points to maximize quality output under conditions of decreasing resources?

These questions were then expanded into an overall goal for the course as well as specific instructional objectives. They are as follows:

Goal: To provide mid-grade level Navy management with a set of concepts and tools which allow them to work-load plan in the NSC environment of decreasing resources and ever increasing complexity.

Instructional Objectives:

- Define work-load planning.

- Define the Per Unit Resource System (PURS).

- Be able to list work centers where PURS applies at a stock point.

- Be able to describe briefly the annual PURS negotiation process.

- Based upon work center manning, define labor and management asset availability.

- Discuss the means available to determine priority of work for routine and holiday work.

- Discuss different evaluation criteria and how each would apply.

- Be able to list internally and externally generated sources of work and describe how they arrive at a manager's work center.

- List ways to avoid falling into the crisis management mode.

- Define and discuss the concept of a "bottleneck".

- List tools available in the work-load planning effort.

This list of instructional objectives can be expanded or modified in order to allow tailoring of the course to a specific group of students.

III. Management Methodologies

There are a number of management methodologies which are valuable in the operational implementation of work-load planning. In this chapter we will look at various management techniques and scheduling techniques with respect to their advantages and disadvantages and whether they are feasible or logical to use in the development of a course on the management of work-load planning for Navy Stock points.

The term **method** refers to empirical techniques and devices of various sorts. To a philosopher the term refers to the scientific method: the whole process of obtaining knowledge, including the theoretical and empirical steps. [REF 9] Empirical research involves gathering and examining factual data to develop and test models of real-world behaviors or systems.

The chapter begins by defining what good managers do and the general techniques the use to manage assets both pysical and personnel.

A. Characteristics of Good Managerial Techniques

What is a manager? A **manager** is an individual who plans, leads, and controls an organizational unit toward its stated goals. Managers do this through a variety of means which will be described later in this section.

In order to describe more completely what a manager is, we must specify what a manager does.There are ten basic elements of what a manager does. They are: [REF 5]

- Managers work with and through other people.
- Managers act as channels of communication within an organization.
- Managers are accountable and responsible.
- Managers balance competing goals and set priorities.
- Managers must think analytically and conceptually.
- Managers are mediators.
- Managers are politicians.
- Managers are diplomats.
- Managers are symbols.
- Managers make difficult decisions.

How a manager chooses to implement a specific goal or strategy is a matter of methodology; but how a manager is evaluated is nearly universal. According to Peter Drucker, a manager's performance can be measured in terms of two concepts: efficiency and effectiveness. "Efficiency" means doing things right, and "effectiveness" means doing the right thing. [REF 5]

There are six basic theories or techniques which have been adopted by good managers. They are:

1. **Scientific Management**
2. **Classical Organization Theory**
3. **Human Relations Approach**
4. **Behavioral Science Approach**
5. **The Quantitative School of Management (Operations Research)**
6. **Total Quality Management (TQM)**

Each theory will be discussed below. The discussion will provide a brief overview of the theory and its advantages and disadvantages.

1. **Scientific Management**

The Scientific Management movement started in the early 1900's because of an acute shortage of labor. Frederick W. Taylor noted that there had to be a way to increase productivity and efficiency of the available work force. His new way of thinking led to a number of production line studies which analyzed time and movement. Each job was broken down into its component parts and a method was designed for the fastest and most efficient way to accomplish each operation. Taylor also encouraged employers to pay a higher rate for those workers who increased their performance. This system was a dramatically new way of looking at production line

operations. The four basic principles behind Taylor's work were: [REF 5]

- The development of a true science of management: Find the best method.

- The scientific selection of the worker: Find the best suited person for the job.

- The scientific education and development of the worker: Train and evaluate.

- The development of positive relationship: Foster an intimate, friendly cooperation between management and labor.

Taylor's new ideas about management became quickly accepted and significantly increased productivity. The essential idea behind scientific management was that a team of people working together on specialized tasks can outproduce the same number of people each of which is performing all of the tasks. This idea, although not new, was quite revolutionary.

However, Taylor's scientific management is not a panacea for all "efficiency and effectiveness" problems in a production/ manufacturing environment. The biggest drawback is that it makes some basic invalid assumptions about people. Among these is the assumption that man is only motivated by economic incentives. Thus, as more and more firms began to implement this new technology of production line efficiency, others interested in the scientific method and its use in management began to look at motivation, motion and fatigue in the work place. These included Lillian and Frank Gilbreth, who were more concerned with the ability of the worker

to perform to their potential vice only working efficiently. Investigators such as the Gilbreths discovered that the basic human need for job satisfaction overrides thedesire for higher pay, so long as the pay is adequate to the individual worker. [REF 5]

The possible benefits of scientific management may be realized as industry moves into the age of robotics and advanced computer intelligence. Since pay cannot be varied much for either civilian or military workers the ecconomic assumption behind scientific management does not work in a military Stock Point environment. Therefore emphasis on scientific management despite its efficiency improvements in production line operations did not seem justified in a course for mid-level managers on work-load planning at a military Stock Point.

2. Classical Organizational Theory

Classical Organizational theory (evolved in the early 1900's by Henri Fayol and Max Weber) subscribes that there are certain identifiable principles which underlie effective managerial behavior and, moreover, that these principles can be learned. This theory was a major departure from previous managerial theories. Managerial leadership had been thought to be a trait which you were born with rather than something that could be learned. Henri Fayol, considered to be the founding father of the classical movement, believed that "with scientific forecasting and proper methods of management, satisfactory results are inevitable." Fayol

developed a set of functions which were the building blocks of managing. They are: (1) planning, (2) organizing, (3) commanding, (4) coordinating and (5) controlling. Each of these functions should be defined in terms of its ability to achieve the desired goal. [REF 5] During his tenure as a management theorist (1841-1925) Fayol evolved 14 principles of management which apply as well today as they did nearly a century ago. They are as follows: [REF 5]

1. Division of labor or specialization
2. Authority
3. Discipline
4. Unity of Command
5. Unity of Direction
6. Subordination of the individual interest to the "Common Good"
7. Remuneration
8. Centralization
9. The Hierarchy: Lines of authority
10. Order
11. Equity
12. Stability of Staff
13. Initiative
14. Esprit de Corps

These principles have endured to the present day because they are general enough in nature to provide both guidance and practical application.

The other classical theorist, Max Weber, believed that a good organization is one in which there is a strictly defined hierarchy governed by clearly defined regulations and lines of authority. This philosophy emphasizes a more technical competence point of view of performance and managerial skills. Weber's views on management seemed to be far more suitable to large bureaucratic governmental organizations than to mid-sized or entrepreneurial firms. [REF 5]

Classical management theory has been most criticized for its generalist approach and lack of flexibility in today's tumultuous business environment.

The largest benefit of classical management theory is that it helps isolate major areas of concern to the working manager by allowing him or her to break down a problem into one of five functions thereby helping solve problems. This may be good for new or inexperience managers but for those such as military or senior civilian managers who have some experience in the field these functions are well known. It therefore seems unecessary to repeat them in a course on the management of work-load planning at Stock Points.

3. The Behavioral Science Approach

By the 1920's, the study of people in their environment in conjunction with psychology, sociology, and anthropology was termed "**Behavioral Science** ". This vector of research ventured into the interpersonal relationships that managers and workers should have, as well as the desire for people, in general, to have some form of bonding with others. This research, as well as studies on self actualization, (Maslow) [REF 6] showed that people have an innate need to fulfill certain "ego needs" once basic physical requirements are met. These ego needs include the desire to achieve fulfillment from personal achievement or activities (self actualization). Managers who are aware of these needs can employ differing methodologies (such as a combination of scientific, classical and behavioral) to motivate the individuals who work for them.

Because the Behavioral Science approach is one which looks at the total environment as well as the person, it is the best suited for incorporation in a course on work-load planning for mid-level managers. The ever changing environment at stock points requires the flexibility provided and can benefit from the holistic approach to management.

4. Human Relations Approach

The Human Relations Approach is an outgrowth of the Behavioral Science school of thought. As more and more managers implemented the methodologies in the classical and scientific methods of management, they found that these methods did not significantly improve the productivity of the worker. People, they found, do not follow deterministic patterns of behavior. Nor do they necessarily react in a rational manner as expected of one motivated by economic incentives. So, to strengthen the basic principles and precepts of the classical movement, many management theorists turned to the disciplines of psychology and sociology for answers. Numerous studies have been done on the concept of the "social man". The most famous of these, known as the Hawthorne experiment, showed that there are numerous reasons why productivity of a group does or does not improve.

The importance of a manager's style was becoming at least as important as his technical competence. Questions a good human relations manager should be able to answer include: Are personnel put in groups which correspond to their function or their product? Do these groups make sense? Who are the official and unofficial leaders of these groups?, etc.

The basic assumption in this school of management thought is that a happy worker is a productive worker. Nevertheless, the productivity of people is far more complex than taking into account only job satisfaction, motivation and a good working environment. The human relations approach only touches the surface of this complexity even within a harmonious work environment. [REF 5]

However, because it was an important outgrowth of behavioral science the Human Relations Approach is also an ingredient in the management of Stock Point operations.

5. **The Quantitative School**

The quantitative school of management science evolved from the need of the military to have an array of solutions to complex battlefield problems. The applicability of these methodologies in industry during the industrial explosion following World War II was immediately apparent to senior and mid-level management. With the new available technologies and increased use of communication and transportation networks, problem solving for the business manager simply became too complex for the routine conventional methods. The development of high-speed integrated computer systems provided operations researchers with the needed technology to use various mathematical models for optimizing business decisions. These methodologies have proven to be a true

organizational asset, especially in the planning and control areas of business operations. In fact, the quantitative school's scheduling techniques will be discussed in depth in the next section.

The largest drawback to the quantitative school is its inability to incorporate adequately the psychological and behavioral aspects of daily operations into their models. More work is needed to incorporate successfully human factors into the quantitative models. More work is needed to incorporate successfully human factors into the quantitative models. It is therefore unsuitable to focus an entire course on work-load planning from the point of view of quantitative models.

6. **Total Quality Management**

Total Quality Management (TQM) is the current trend in manufacturing organizations today. Its goal is **perfection** of the product, its production, and the production environment. This perfection is built into the product from its inception in the design phase to customer service after the sale has been made. The building-in of quality at each stage is done by incorporating various statistical processes into the production process. This means that quality is looked for at each and every stage of the production process rather than having inspections at the completion of each step of the process. This procedure requires that production personnel take an active role in maintaining quality, being responsible for their own work and refusing to accept faulty or shoddy workmanship from their contemporaries. The basic concepts

of good honest management abound in TQM. Train your people, make them responsible for their own work, and allow them to provide input into the production process: all of this comprises TQM. The ideas and the statistical processes which make up a good TQM environment are successful because people are the most important resource. Respect and appropriate training for people is the TQM hallmark for good solid management and a smooth operation. The benefit of TQM is a highly efficient work environment. The disadvantage of TQM is that, because most firms have a rigid organizational structure, it is difficult to break with tradition and allow employees to have a say in how a process or production line functions. TQM requires management to interrelate with the workers they manage.

TQM incorporates aspects of scientific management through its use of statistical methodologies for finding problems and doing a function right the first time and continuing to do it right each and every time. It also incorporates ideas from the behavioral science approach by keeping workers involved in the processes, training them and soliciting their advice. TQM appears to have incorporated the best of the management techniques reviewed and has an innate flexibility which allows its principles to operate in nearly any environment. As a consequence, its ideas and methodologies should be incorporated into a course on work-load planning.

7. Conclusion

In conclusion, of the management techniques reviewed the Behavioral Science, Human Relations, and TQM approaches hold the most promise for providing managers with the tools necessary to operate effectively in a Stock Point environment. These management methodologies help the manager in knowing and understanding the environment in thier division, including its personnel and personal motivators and implementing the appropriate statistical methodologies to ensure that the "product" is completed correctly the first time.

B. Work-load Planning/Scheduling Techniques

Since the course being developed is concerned with work-load planning, various analytical methods of work-load planning and scheduling will be reviewed next. These methods span the gamut from "Material Requirements Planning" to "Level loading" and are products of the Quantitative School of management science.

1. Material Requirements Planning

Material requirements planning (MRP) and its extension, manufacturing resource planning, are based on a technique of production planning which carefully reduces a production plan into a master schedule. The technique creates schedules and identifies specific parts and materials required in the production or

manufacturing process. MRP determines the exact number and type of raw materials required, as well as the time when the orders should be placed for these materials, to insure a smooth flowing production line. The major assumption involved in the use of MRP is that a demand is known and it is inforced by "freezing" the schedule up to a certain time in the future. This is good from two vantage points; one, that the customer is happy because on the date the part is promised it arrives (the schedule makes it so); and two, once the schedule is frozen there is no need to expedite.

The objectives of MRP are explained well by the following table. [REF 7]

Inventory

Order the right part.

Order it in the right quantity.

Order it at the right time.

Priorities

Order with the correct due date.

Keep the due date valid.

Capacity

Plan for a complete load.

Plan an accurate load.

Plan for an adequate time to view future load.

The benefits of MRP include reduction of inventory, and therefore, a reduction of work-in-process inventory, reduced idle time, and these in turn can actually reduce the sales price. The main disadvantage of MRP is that it requires an exceptionally large and expensive computerized system to support it. The result is that master schedules are changed as infrequently as possible because of the computing power required to drive them. Hence monthly or weekly production schedules are as accurate as the management system operating them. If management refuses to freeze the schedule, the schedule will never be accurate and MRP will not work.

Although MRP does not handle stochastic demand well, it has been successfully implemented in numerous military organizations which require intensive planning and organization to ensure a product arrives when the customer wants it. Therefore, some of the ideas behind MRP techniques will be incorporated in the development of the work-load planning course.

2. **Optimize Production Technology**

Optimize Production Technology (OPT) represents a recent approach to the problems of operation planning and material control. It can be viewed as an acceptable alternative to MRP because it provides a complete system for production planning, materials planning and resource scheduling. OPT is a software package

marketed by Creative Output Inc. This package is sold as a software system and philosophy, not just as a tool to manage a manufacturing or production system. As a comprehensive package, training is included with the software. The biggest difference between OPT and MRP is that OPT combines all of the product networking data into one file and manipulates that file to achieve the desired results. As a philosophy, OPT has developed a number of rules which form the logic used throughout the software. These rules are: [REF 8]

1. Balance the through flow, not capacity.

2. The level of utilization of a non-bottleneck is not determined by its **own** potential, but by some other constraint in the system.

3. Utilization and activation of a resource are not synonymous. Utilization is doing the right work, activation is performing work not needed at a particular point in time.

4. An hour lost at a bottleneck is an hour lost for the total.

5. An hour saved at a non-bottleneck is a mirage.

6. Bottlenecks govern both throughput and inventory in the system.

7. The transfer batch may not (and many times should not) be equal to the process batch. A subdivision of a batch resulting from splitting of the batch into two or more is known as a transfer batch. The process batch represents the entire batch of parts material. The flexibility made available by subdividing a batch or overlapping batches can be significant.

8. The process batch size should be variable, not fixed. What this means is that a process batch should not necessarily be of a predetermined size.

9. Schedules should be established by looking at all of the constraints simultaneously.

10. Lead times are the result of a schedule and cannot be predetermined.

The benefits of OPT are that it does produce reasonable schedules. However, like MRP it does not have the flexibility to easily deal with a stochastic demand environment. Because of its ability to facilitate management of bottlenecks, OPT ideas will also be incorporated into the course.

3. The Just-In-Time Production System

Just-in-Time (JIT) is a management philosophy which subscribes to pulling the material through a production process and other pulling that material which is required to complete the process in front of it. JIT operations management encompasses all aspects of a firm's production endeavors, from technology and human relations to vendor relationships and raw material. JIT attempts to drive down inventory cost, hence manufacturing cost, by implementing two fundamental concepts: one, elimination of waste, and two, respect for people. F. Cho of Toyota Motor Company [REF 7] defines waste in the JIT process as

> "anything other than the minimum amount of equipment, materials, parts and workers absolutely essential to production."

This means no safety stock, no surplus, no holding work-in-process in queues or "banking", and no level loading. If something cannot be used right now, don't make it now; because it is waste. JIT is best summed up in the following table [REF 7 Exhibit 16.5] :

WHAT JIT IS

- Management Philosophy
- Pull system through the plant (time,inventory, scrap)

WHAT JIT DOES

- Attacks waste
- Exposes problems and bottlenecks
- Achieves streamlined production

WHAT JIT REQUIRES

- Employee participation
- Industrial engineering basics
- Continuing improvement
- Total Quality Control
- Small lot sizes

WHAT JIT ASSUMES

- Stable environment (i.e., non-stochastic)

The ideas behind JIT have a great deal of merit and, if it could be implemented as a total system in the military environment, it could save considerable time and inventory. However, ideas and implementation are not the same. JIT assumes a stable demand environment and therefore it is not a good foundation for a course on work-load planning.

4. **Level Loading**

Level Loading, or stabilized scheduling, is a system which requires efficient repetitive production over a long time horizon. The term "level loading" refers to a system design which builds in a buffer of inventory to be worked during periods of little demand. This type of system is typically used when the demand for the product is stochastic in nature. This system allows management to keep a stable work force at a constant level of production. Its drawbacks are higher inventory levels (work in process) and under-utilization of capacity as a hedge against stochastic customer demand.

5. **Conclusions**

During the thesis research it was found that work-load planning is a significant part of Stock Point operations. As such, the philosophies of level loading and OPT are extremely relevant to include in a course on Stock Point Operations for mid-level managers.

Each technique mentioned above has specific attributes which make it individually unsuitable for use totally in a course on work-load planning for mid-level managers. Of the scheduling methodologies listed, Level Loading and OPT were deemed to be the most useful to include in a course which meets the sponsors objectives.

IV. Work-load Planning at Stock Points
8 Hours of Instruction
For the Stock Point Operations Course

This chapter comprises hours 26 to 34 of the Stock Point Operations Course. The format of the following chapter was determined by the thesis sponsor. Slide recommendations were developed and provided to the thesis sponsor. The phrase "INSERT SLIDE _____ HERE" is an instruction to the course compiler to insert a view graph. These view graphs contain highlights and key phrases from the areas under discussion. Actual placement of view graphs and organization of course material will be determined by the course compiler. All sections of the Stock Point Operations course will be collated by the thesis sponsor using Word Perfect 5.0 and Free Lance Plus for graphics. The work-load planning segment is one of the last sections of the Stock Point Operations course to be taught. For a complete copy of the Stock Point Operations course contact:

NAVSUP Code 064T

Naval Supply Systems Command

Washington, D.C.

Work Load Planning Overview
Section I

INSERT SLIDE 1-1 HERE

Work-load planning is the means by which the work to be performed is accomplished at a quality level within budget constraints. Work-load planning is a method of analysis and a tool.

INSERT SLIDE 1-2 HERE

It is meeting customer requirements effectively and efficiently. What is the difference between effectiveness and efficiency? Effectiveness is "doing the right thing" and efficiency is "doing things right". Work-load planning takes specific factors such as labor, work requirements, and priorities and applies them in such a way as to optimize material movement.

Work-load planning begins with six key questions concerning environment and assets. Frequently, answers to these questions trigger other questions. Finding the answers forces an in-depth evaluation of your division. Armed with these answers, work-load planning begins.

INSERT SLIDE 1-3 HERE

Work-load planning is not a one-shot exercise but rather a dynamic, on-going, flexible process that continually needs redefining, refining and updating.

The key questions to begin the work-load planning process are:

INSERT SLIDE 1-4 HERE

- o What is the budget?
- o What is the nature of the work requirement?
- o What labor assets are available?

INSERT SLIDE 1-5 HERE

- o What management assets are available?
- o If requirements exceed labor, what is the priority of the work?
- o What are the evaluation criteria used to measure work performed?

In the following six sections, each of the above questions will be examined in turn. At the end of each section, some additional questions that may have occurred to you are given. Each section is designed to be used separately and to be incorporated with the other five sections to present an over-all approach to work-load planning.

INSERT SLIDE 1-6 HERE

WHAT IS THE BUDGET?

INSERT SLIDE 1-7 HERE

Money is budgeted each year by appropriation through Congress and passed through the DOD/DON chain to the Administering offices. NAVSUP is an Administering Office. The budget money is paid out to the Supply Centers on the basis of work that is expected to be performed. DOD bases its budgeting on the Unit Costing Concept. Functions targeted include recruiting, medical care, commissaries and supply operations.

INSERT SLIDE 1-8 HERE

Unit costing is a philosophical concept which ties dollars to workload. Stated simply, all of the costs incurred at an activity or within a function should be expressed as part of an output measure. The goal is to have each product or output bear as accurate a cost as possible. Then, as workload fluctuates, the revenue and costs (theoretically) remain in balance.

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Recognition of costs, along with flexibility to manage costs, allows opportunity for improvement throughout the system.

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The Navy implementation of unit costing is called Productive Unit Resourcing (PUR). Under the PUR concept, activities are funded on the basis of actual work performed. The activity assumes the responsibility to reduce the unit cost of processing work. Using this method, the Navy expects to achieve substantial gains in workforce productivity and economy of operations.

The PUR system is a method of monitoring costs and costs are regarded as a key indicator of resource management effectiveness at all levels in the organization. The Navy believes that resource effectiveness can be managed on divisional and departmental levels as well as a command wide basis. Under the PURS system, a command is divided into cost centers, each of which has one or more readily discernable units of output. Listed below are a few examples of PUR cost centers together with representative units of output:

INSERT SLIDE 1-11 HERE

- o SERVMART: Dollar value of sales,
- o Procurement: A contract action or weighted purchase action,
- o Personal Property: A shipment unit,
- o Disbursing: Checks issued,
- o Fuel: Barrels pumped.

INSERT SLIDE 1-12 HERE

Presently, data processing, maintenance of real property (MRP), and general and administrative (G&A) costs are not broken into cost centers. Their budgets are negotiated with NAVSUP separately. Data processing includes ADP support. MRP covers expenses for the recurring maintenance and repair of real property, such as buildings, streets and water mains. Additionally, MRP covers non-recurring maintenance of real property, including one-time or special projects. (Reroofing a building would come under this category.) G&A expenses are essentially overhead. These costs can not be reasonably associated with any group of products. G&A costs generally include functions such as local command and control personnel, comptroller, training, base security, and fire protection.

The Physical Distribution Department includes the following cost centers:

INSERT SLIDE 1-13 HERE

- o Inventory Control Function,
- o Physical Distribution Function,

o Functions necessary for support of assigned aviation units,

o Planning/Management Function,

Analysis and Inventory Accuracy,

o Special Weapons Function (Oakland only),

o Installation Services Function,

Automated Material Handling System Maintenance.

A dollar amount per movement unit is negotiated between NAVSUP and each Supply Center. Rates will be determined each year after the current year Comptroller of the Navy (NAVCOMPT) budget guidance is received and the outcome of Congressional actions on the current year budget can be reasonably projected. Normally this is three to four months prior to the start of the fiscal year. The Supply Center will develop and submit productive unit rates based on the actual rates being experienced. Adjustments are made by the Supply Center and NAVSUP for changes such as pay raises, gains in efficiency or anticipated gains in productivity. A critical factor in work load planning is performing all work required within the financial constraints imposed by the Supply Centers' budget.

For the Physical Distribution Department the following movement units are included in the negotiated rates:

INSERT SLIDE 1-14 HERE

o Issues,

o Receipts,

o Inductions,

o Returns,

o Disposals,

o Excess (FTRs),

o Redistribution Orders (Document Identifier A2-),

o Transhipments.

Throughout the year, both NAVSUP and the local command carefully track and compare the quantity of negotiated movement units to movement units actually accomplished by the Supply Center. The Supply Center runs weekly, monthly and quarterly trend lines

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and submits a monthly message to NAVSUP. On a quarterly basis, NAVSUP makes payout or recapture adjustments based on two separate calculations. One calculation uses a comparison of that quarter's actual work-load to plan, and the other determines the activity's "profit or loss" which results from their actual performance measured against their planned rate over the period.

INSERT SLIDE 1-16 HERE

If you have any questions on how PUR is negotiated or administered, ask your cost center manager.

As mentioned earlier, there are several physical distribution department functions not directly funded by NAVSUP, which must be performed and paid for from the money received for the above listed movement units. Examples include rewarehousing, stock consolidations, stock rotation and warehouse cleanliness. Additionally, NISTARS will frustrate/suspend issues when certain warehouse maintenance actions, such as inventories, have not occurred. The time spent to research and release the suspended actions is not paid for by NAVSUP. When managing work load the unfunded requirements have to be managed along with the paid movement units. Each supervisor must understand what is "paid for" and what is not and control their aggregate work load accordingly. For example, material turned into stores (MTIS), excess and disposal workload can be done near the end of the quarter to produce extra movement units.

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Actions must be performed with the goal of keeping the system in balance. Key areas in which the command will look to save money include:

o overhead reductions,

o personnel vacancy control,

o overtime control.

Make sure you are informed about your department's budget planning process and that your contributions reflect an understanding of the PUR process.

INSERT SLIDE 1-18 HERE

Questions to ask at your command include:

o Which paid movement units can I control?

o How many movement units were predicted for this year?

o Are we on schedule for the quarter? For the year?

o When is the annual budget submission due?

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WHAT IS THE NATURE OF THE WORK REQUIREMENT?

Work can arrive at a warehouse either in a batch or over a time interval according to work center procedures. Work can come at scheduled intervals from data processing or as a "bearer walk through", where a local customer brings an issue document directly to the warehouse.

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The first arrival pattern is termed static, the second is termed dynamic. A static situation occurs if all of an area's work for the day is known at the beginning of the day. For example, a static situation would be a bulk storage section where, due to equipment and transportation scheduling, issue documents accumulate to a certain point and the material is issued all at once. In a dynamic arrival situation, work is dispatched as it arrives, and the overall schedule is updated to reflect the new work. A common occurrence of a dynamic arrival situation is the sporadic arrival rate of requisitions at a warehouse based on computer runs. Although the morning shift starts with a certain number of requisitions,

additional computer runs during the day will generate additional Issue Group I requisitions which must be worked that day. Almost every work environment at a Supply Center receives input in a combination of static and dynamic patterns.

At any given time, every manager faces a number of conflicting problems, needs, and priorities; all of which compete for scarce resources. Because such resources are always limited, whether it be personnel, packing stations or material handling equipment, the manager must strike a balance between the various needs. This balance takes the form of controlling the flow of work through the work center from start to finish. The key concept here is level loading.

INSERT SLIDE 1-21 HERE

Work must be scheduled taking into account limited facilities, material handling equipment, time, personnel and any other constraints that would affect the warehouses' ability to adhere to a schedule.

An operation, whether it be issue, stow or MTIS, can only move as fast as the slowest component in that operation.

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That slowest component is termed a "bottleneck." Understanding and controlling bottlenecks is crucial to the implementation of level loading. Bottlenecks must be monitored carefully because they can disrupt the entire process. For example, if you could pick 35 issues per hour but, due to packing station availability, (a bottleneck) you could only pack 20 issues in an hour, then the total output will be limited to 20 issues per hour.

Any additional picks beyond 20 per hour over the course of a day would build up a packing backlog and increase the chances of the picked material getting lost, separated from its paperwork or damaged.

A bottleneck may be a machine, scarce labor or special packing boxes. Finding out where the bottlenecks occur in an organization will yield significant benefits because it will help focus management attention.

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The best way to find a bottleneck is to use your supervisors' knowledge of the warehouse, look at the system in operation and talk to the workers. Going back to the example above, for the case of the packing station, the problem may be that the label printer is too slow. This does not necessarily mean that the cure is a new label printer. A new label printer is only one of a wide variety of options that a resourceful manager has available.

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A careful examination of how the rest of the division (or department) supports the packing station may reveal methods of working with the bottleneck to maximize its usefulness. For example, perhaps staggering issue hours to ensure the packing station always has work would minimize idle time and allow for the packing station to work uninterrupted.

The first step in level loading, which is the heart of work-load planning, is to examine what you know about the type of work which needs to be done the next day.

INSERT SLIDE 1-25 HERE

For example, how many trucks have pre-lodged at truck control? What are the trucks carrying? What are your average daily UPS and U.S. mail receipts? How much MTIS will need to be put away? How many inventories need to be done? Numbers such as these can be obtained from the Receiving and Inventory Accuracy divisions and by asking your supervisors.

INSERT SLIDE 1-26 HERE

The second step is to examine historical records concerning work flow in the division. How many IG I's and II's arrive at the Supply Center each day? What type of work load can you expect? MTIS receipts in the mechanized division will be stowed much faster than steel can be issued from the Supply Center's steel lot. Carousel issues take less time to make than bulk issues and NISTARS mechanized issues can be done faster than most bin complex issues. Evaluate historical trends for these different areas and compare them with the work you expect to come in for the next day. All Supply Centers require IG I's to be worked daily.

The third step involves examination of your personnel system for the next day. Are people distributed in accordance with the priority of the work? Next, examine the bottlenecks. If machines, are involved, are they all up and running? Have you done everything possible to ensure that the bottleneck will be running tomorrow? Finally, pull down from the data processing system only that work (IG III's, disposals, inventories, rewarehousings, etc.) that the division expects it can do the next day. This control over issues is your tool to coordinate the balancing of the work load.

INSERT SLIDE 1-27 HERE

Work-load backlogs should be held in data processing, not in the work center. Work held in the work center for longer than one day increases its probability of being misplaced. A divisional policy of "Do today's work today" must be followed. With control over the work flow, the management process is dramatically improved.

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Variations exist in every process and work-load planning is no exception. Work-load plans should not be cast in concrete but serve as daily and weekly roadmaps with adjustments made based upon feed-back received. This feedback includes walking around in your spaces and reports from UADPS, NISTARS, your supervisors, seniors in the chain of command and, of course, your customers.

INSERT SLIDE 1-29 HERE

Questions to ask at your command include:

o What are the priority rules?

o When and how does work (issues, receipts, disposals, etc.) usually arrive at work centers throughout the day?

o What is the flow rate of work to the work center and what is the variation in that flow?

o Who controls the flow of work from the computer to the work centers?

INSERT SLIDE 1-30 HERE

o What are the bottlenecks in my work center?

o What has been done to eliminate them?

o What controls are in place in each work center to ensure all documents and matching material are accounted for?

INSERT SLIDE 1-31 HERE

WHAT LABOR ASSETS ARE AVAILABLE?

Your greatest assets are the people who work for you. Work in the physical distribution function is performed by both wage grade (WG) and general schedule (GS) personnel.

INSERT SLIDE 1-32 HERE

Wage grade personnel are paid by an hourly salary which is fixed in accordance with the prevailing rates in the local geographic area. General Schedule personnel are paid an annual salary which is at the same rate throughout the country. Civilian personnel costs are a significant portion of an activity's annual budget, frequently totalling over 60% of the budget.

Although there are six categories of personnel for civilian personnel payroll accounting, in work-load planning personnel are available either full or part time. Under full time is the 40-hour per week worker for whom the command pays basic pay plus fringe benefits. Fringe benefits include: health insurance, life insurance, paid holiday and retirement pay. Under the part time category are intermittent, college or summer-hire students and U.S. Naval Reserve personnel on drill.

It is helpful to realize how much actual productive time any individual has during an eight-hour day.

INSERT SLIDE 1-33 HERE

Although a normal work day consists of eight hours, there are numerous interruptions which take away from the time an individual has to do assigned work. These include transit time to and from assigned warehouses, packing areas and shipping terminals, looking for a supervisor if there is a question, stopping assigned work to help a bearer walk through customer, lunch time, breaks required under union agreements, divisional training and Command sponsored events. Additionally, of course, sick leave and vacation will affect daily manpower levels.

Although divisional training takes time away from issues and stows, it is essential to mission accomplishment.

INSERT SLIDE 1-34 HERE

How often is training held? Is the right material presented at training? By walking around the warehouses and talking to people, it is easy to see areas where training is needed. Certain warehouse statistics also indicate the need for training. A high percentage of warehouse refusals, hazardous material mismarked or stored improperly and boxes returned from shipping are indications that training is needed.

Productivity reports for personnel should be closely monitored by first-line supervisors. They are usually the first people to notice when an employee is not performing up to par. Many Supply Centers have developed local reports. These reports can be based on manual counts of work performed or spot checks by supervisors.

INSERT SLIDE 1-35 HERE

NISTARS puts out daily reports on individual worker productivity. Historical production rates should also be examined. When examining past data, remember to consider circumstances at that point in time, (i.e., number of people working in the warehouse, location of packing station, layout of warehouse, and so forth) and how they could have affected work performed.

Quantity of output is only part of the total productivity equation. The quality of work must also meet the Supply Center's standards. Quality of warehouse output and conformance to procedures are frequently checked by a Quality Control division.

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If you regularly walk around in your spaces, the Quality Control division will rarely have any suggestions which are surprising to you.

U.S. Naval Reserve units occupy a unique position in divisional work-load planning strategy. U.S. Naval reserve personnel drill for periods of two weeks, four days (usually Thursday through Sunday) or on weekends, depending on the unit and their active duty for training schedule (ACTDUTRA). Naval Reserve policy is to assign reserve units to drill in their recall to active duty billets, if it is at all possible. Having the same reserve personnel return to your division during each ACDUTRA is essential for their successful use. Some commands assign full time personnel to difficult issues/stows and problem solving during the week, allowing some routine work to accumulate for Reserve personnel over the week end. Having a strong supervisor readily available to the Reserve personnel for answering any questions as they arise will ensure that problems, if any, do not escalate.

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In summary, the three elements to successfully managing Reserve personnel are:

- o Good functional training,
- o Get the same Reserve units as often as possible,
- o Provide good supervision.

Once you have a realistic view of divisional assets, examine how they are used. What is the present shift structure? Could the shifting of personnel make them work more effectively? For example, one Supply Center started their issues at 0630 but their packers did not come to work until 0800. By staggering the shifts this way, the packers had work ready for them when they arrived each morning and were able to "clean out" the packing area before leaving each night. Another Supply Center experimented with over-lapping shifts. Shift I worked 0630 to 1500. Shift II worked from 0800 to 1630 at which time the Supply Center duty section assumed responsibility for the warehouse.

INSERT SLIDE 1-38 HERE

Ensure effective utilizati of part-time personnel. Part time personnel can be used to ensure that people match the work flow. For example, college students may not work more than 20 hours per week. (Note: The exception to this is over school holidays.) Scheduling of personnel must take into account this requirement and could bring in college students in the evenings to assist the regular work force.

Is there a strong supervisor on week-ends? Does your week-end shift know exactly what work is required? Supervisors assume that their employees understand what to do but sometimes this is not the case. If there are any doubts, a written procedure should be available which lays out the priority of work.

Close tabs must be kept on daily manpower levels. The entire pick - pack - ship process can only move as fast as its slowest component. Sickness, unofficial "holidays" and scheduled leave can strip down a functional area or section of the warehouse. Cross-training allows people to be shifted to where they are needed; either between warehouses or to different jobs within the same warehouse.

INSERT SLIDE 1-39 HERE

Questions to ask at your command include:

o Is my division using part-time personnel effectively?

o How many wage grade and general schedule employees are there?

o Is each individual doing what is on his Position Description/Job Description?

o How long since the Position/Job Descriptions have been reviewed and updated?

o How are the U.S. Naval Reservists managed?

o Who is the command's reserve coordinator?

INSERT SLIDE 1-40 HERE

WHAT MANAGEMENT ASSETS ARE AVAILABLE?

A good manager is more than just a leader. He or she must take on a wide range of roles.

INSERT SLIDE 1-41 HERE

An effective and efficient manager is a planner, an organizer, and a controller as well as a leader. What roles must a manager fill? Although this is not a course in management, by discussing in more detail what managers do, you will see more clearly what managers are.

INSERT SLIDE 1-42 HERE

o Managers work with and through other people. The term "people" includes not only subordinates and superiors, but also other managers in the organization. "People" also includes the truck drivers at the loading dock, personnel from disbursing and union representatives: anyone who can help the manager accomplish the plan.

o Managers communicate. Every organization has official and unofficial channels of communication. The manager is responsible for the official channel of communication including dissemination of command information and ensuring false rumors do not spread.

o Managers are responsible and accountable. He or she is in charge of seeing that specific tasks, assigned or unassigned, are done successfully. A manager is also responsible for the actions of subordinates.

o Managers are mediators. A division is made up of people who may, at times, disagree. Disputes can lower morale and productivity so a manager must resolve disputes as they occur.

A manager must "change hats" frequently during the course of the day and always be alert to the particular role needed at a given time.

INSERT SLIDE 1-43 HERE

A manager, as loosely defined by the above discussion, can be a foreman, a shift supervisor, the general foreman and, of course, military officers.

You need to know where you are in the management hierarchy and which managers report to you.

INSERT SLIDE 1-44 HERE

An evaluation of your subordinate managers, to identify their strengths and weaknesses, should be performed. Can an individual produce the results you expect? If not, why not?

INSERT SLIDE 1-45 HERE

Is there a problem that can be corrected? Sometimes, the problem is a lack of clarification of what is expected. Other times it is a lack of skills which can be corrected through training (either organization-sponsored training or one-on-one training with you and the supervisor). Still other times, a lack of feedback may be the problem. Perhaps, the supervisor is unaware that your expectations are not being met.

INSERT SLIDE 1-46 HERE

After the evaluation period, a counselling session should be set up. There are no hard and fast rules regarding counselling. What works in one counselling session with one person may be wrong to do with another. However, the manager must be prepared to clearly state his or her:

- o perception of the situation,
- o assessment of the supervisor's performance,
- o expectations for improvement in performance.

Documentation of the counselling session and careful monitoring of supervisor performance after the counselling session are essential. Should follow-up action be required, either positive or negative, documentation will then be in place to support appropriate actions.

Note: The idea that leadership is a synonym for management is not completely valid. Most groups have informal leaders. Informal leaders are not always formal managers in the division. None the less, they do exist and they can support or sabotage the division and its work.

INSERT SLIDE 1-47 HERE

What if you have too few supervisors? Occasionally, due to illness, scheduling or workload, there are not enough supervisors to cover all of the assigned shifts and the assigned spaces. Most frequent responses to this situation are to use work leaders (WL), or offer temporary promotions to wage grade personnel. Union regulations at most Supply Centers require that the most senior worker in the area be offered the promotion to leader or supervisor, or a rotation system be set up. If you are considering the temporary promotion route, check with civilian personnel and union regulations to examine your options.

INSERT SLIDE 1-48 HERE

Questions to ask at your command include:

o What are your supervisors' strengths and weaknesses?

o Who are your strong supervisors?

o Who are the informal leaders?

o What training do your supervisors need?

INSERT SLIDE 1-49 HERE

IF REQUIREMENTS EXCEED LABOR, WHAT IS THE PRIORITY OF THE WORK?

Although we all try to plan each day's tasks ahead of time so that the work proceeds smoothly, some days just do not work that way and you will require crisis management.

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There are two key elements of good crisis management. The first element is to anticipate obstacles and have a plan. This will be discussed in detail later on in this segment. A second key element of crisis management is being able to differentiate between urgent and important.

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An "urgent" task is usually temporary rather than long term. Unfortunately, urgent tasks get done and the important tasks often do not (that is, not until they become urgent). Poor crisis management frequently disguises the search for clear priorities. In fact, a crisis may not occur if the problem is well understood and anticipated ahead of time.

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Guidelines to determine priorities must be set by interaction between first-line supervisors, assistant managers, yourself and the chain of command. A hierarchy of priorities must be established and followed. Are issues the highest priority? Is the priority IG I's followed by stows, then IG II's? The priorities will change over time. However, the division should be able to start each week with a clear understanding of the order in which work will be accomplished. Otherwise, each division will determine its own rules for prioritizing work.

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Priority rules for allocating work: Some of the more common rules are:

o First come, first served within the priority group. In this case work is done in the order in which it arrives at the warehouse. The IG I documents which arrive first are worked first, followed by IG IIs and then IG IIIs.

o Shortest operation time. Here work is performed in the order opposite to the time required for processing. That is, the work which takes the least amount of time and effort to complete is done first. This is more commonly referred to as "Do the easy stuff first method."

o Due date (earliest due date first). This work load allocation can be based on either required deliver date (RDD) or mandatory issue date (MID). UADPS places the RDD or MID on each issue document. Whether RDD or MID is used depends on a local command decision.

o Last come, first served. This rule occurs frequently by default. As work arrives, the documents are placed on the top of the stack and the warehouse worker usually picks up the document on top first.

o Random order - whim. The supervisor or warehouse worker selects the requisitions according to their personal preference. For example, those on upper shelves, requiring special tools etc., keep moving to the bottom of the stack.

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WHAT ARE THE EVALUATION CRITERIA USED TO MEASURE WORK PERFORMED?

No matter what type of priority scheme is used to determine your schedule, a set of evaluation criteria will be used to measure and make reports on the effectiveness of the work performed. (Note: These evaluation criteria may be formal or informal, and more than one set of criteria may be applied at any time.)

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Evaluation criteria may include:

- o quality of work performed,
- o meeting due dates,
- o average time required to issue material,
- o average idle time of machines and workers,
- o NAVSUP key indicators.

All of these evaluation criteria focus on the same issue: SERVICE TO THE FLEET. Providing quality service to the "fleet", whether ashore or afloat, is why Navy Supply Centers exist.

The Uniform Automated Data Processing System for Stock Points (UADPS-SP) provides numerous reports to monitor issue and stow performance. Examples include: Not Stored Receipts and the Issue Processing Time Analysis Report. Local command programs are also used to evaluate performance. Frequently the underlying assumptions of the local reports differ from the underlying assumptions of the UADPS reports.

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UADPS and local reports will be discussed in the Reports Section of this segment of instruction. An informal criterion might be "Is the boss walking around and seeing idle workers or a messy warehouse?"

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The question to ask at your command is:

o What are the formal and informal criteria for evaluation of work performed?

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In conclusion, the previous six sections have examined six of the basic questions inherent in work-load planning and explained the underlying factors for each. Each section probably triggered several additional questions in your own mind on how work-load planning can be applied at your command. There are no easy answers in work-load planning. The environment is complex, the requirements placed on us as managers are continually changing, and no two commands are run in exactly the same way. This section presented a "broad brush" approach to work-load planning. The next segment will outline some of the tools available to assist you in the work-load planning effort.

Work Flow Arrival
Section II

This section examines in broad terms how different types of work-flow arrive at the departmental level at a Supply Center.

EXTERNAL SOURCES OF WORK FLOW

A Naval afloat or shore unit is assigned a servicing Supply Center based on the unit's mission and geographical location. This Supply Center serves as a point of entry (POE) to the DOD supply system for these units.

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All requisitions, whether they be for commercial purchase or supply system assets are submitted to that servicing Supply Center which performs edit and validation checks. After these procedures are completed, if the material must be released by an Inventory Control Point (ICP), or a Defense Logistics Agency (DLA) Item Manager, the requisition is routed to the command having cognizance over that item. If the requisition is for Navy owned material, an attempt will be made to fill the requisition from stock.

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Both the ICP and DLA examine the requirement and, if their records indicate that the submitting Supply Center can fill the demand, they route the requisition to that Supply Center. If the submitting Supply Center has insufficient stock on hand to fill the requisition, the DLA and ICP activities send the requirement to a stock point which can fill the requisition.

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This procedure is called a referral. If a referral is rejected by a Supply Center, then a bounce-back occurs. When a bounce-back happens, the requisition is automatically routed to another Supply Center by the DLA or the ICP's computer system.

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Additionally, ICPs issue redistribution and disposal orders based on an ICP analysis called Supply Demand Review (SDR). A redistribution order is a re-location of ICP controlled assets. A disposal is a transfer of material from DOD stock to outside of DOD. The material will either be sold commercially or physically mutilated beyond servicable condition and discarded as scrap. During an SDR, system-wide assets are compared to requirements and numerous variables are adjusted to bring the whole system into balance. One of these variables is the movement of material from one stock point to another. Another variable is disposing of material as scrap or transferring it to DLA's Defense Reutilization Marketing Office (DRMO) for commercial sale.

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In summary, an issue may be the result of a requisition, a referral, a disposal or an ICP directed redistribution.

ISSUE PROCESSING

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UADPS-SP

Having reached the Supply Center the requirement is submitted to the UADPS-SP program. UADPS-SP is the Uniform Automated Data Processing System for Stock Points which controls all of a Supply Center's data processing needs. UADPS was designed by the

Navy's Fleet Material Support Office (FMSO) to standardize all automated data processing at NAVSUP stock points.

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UADPS contains application programs that perform a variety of functions, from payroll computations to demand processing. These application programs are called upon to carry out the routine functioning of stock point data management.

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Application C, Demand Processing, is the UADPS set of programs which process a customer's requisitions and the ICP's redistribution orders and referrals. Excesses and disposals are processed by Application M, Excessing.

Each input to a program is first edited and validated. The program corrects standard documents when possible and outputs exceptions when the data cannot be corrected. These exceptions are usually corrected and re-input to the program by Customer Services Department.

Once the requirement has passed the edit check the Master Stock Item Record (MSIR) is accessed. If no requirement for an ICP release exists, as discussed above, the next step is to determine material availability. If the material is available, data required for the Issue Release Receipt Document (IRRD) is assembled from the original requisition and MSIR information and passed to the Navy Automated Transportation and Documentation System (NAVADS). At this point, depending on certain computer software system pre-set parameters contained in the Systems Constant Areas (SCA), issue information is either batched on the computer or output to a remote unit for immediate printing and issue action.

SCAs are tables in the computer into which the user enters selected variable values. Through their SCA's, activities can control numerous parameters. For example, they may select routing of output, criteria for on-line document printing, and determine the number of status messages to be sent per requisition.

NAVADS

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As mentioned earlier, UADPS takes the batched information from the demand processing application and feeds it into the Navy Automated Transportation Documentation System (NAVADS).

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NAVADS is the means by which UADPS controls its routine work load and expedites high priority material by determining issue consolidation and mode of shipment. NAVADS can consolidate IG II and IG III documents into shipment units to take advantage of the cost savings and increased control benefits. Physical Distribution work-load is determined by management of the NAVADS Issue File (NIF). The NAVADS Issue file is also known as "the bank." Management of the bank, as discussed in the first segment of instruction, is the key to effective work-load planning.

INSERT SLIDE 2-11 HERE

The NIF, through the SCA, can be instructed to hold IPG II and III issues for work-load planning and shipment consolidation. Consolidation occurs as NAVADS combines requisitions with the same Unit Identification Code (UIC) and priority group into one shipment unit.

At most Supply Centers, IPG I material is free flowed directly to the work centers. Many Supply Centers also print IG II requisitions on a daily basis, not allowing them to stay on the NIF. Issue Group III documents may be pulled from the bank stratified by a number of methods. These methods include:

INSERT SLIDE 2-12 HERE

- o pull by geographical area of delivery,
- o pull by customer UIC,
- o pull by required delivery date (RDD),
- o pull by mandatory issue date (MID),
- o pull by project code,
- o pull by warehouse location.

Additionally, these stratification criteria may be combined to further refine management of work load. For example, units pulled by mandatory issue date may be further sorted by warehouse location.

Numerous local reports exist to highlight the work load in the bank and to assist in work-load planning. Visibility of the work on the bank provides the opportunity to plan how that work is to be carried out. As discussed in Section I, the amount of work arriving at your work center each day can be controlled by the amount of IG III work that you take off the bank for the next day.

Commands which do not operate under NAVADS use locally developed work-load planning systems which consist of a combination of automated and manual functions.

INSERT SLIDE 2-13 HERE

NISTARS

NISTARS can accept either tape or on-line input from UADPS and NAVADS.

INSERT SLIDE 2-14 HERE

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High priority, on-line issues travel the following path:

- o Processed by UADPS - Application C,
- o Passed to NAVADS, and then
- o Via Tandem computer to NISTARS for issue.

INSERT SLIDE 2-16 HERE

Lower priority, batched issues (IPG II and III), depending on Supply Center procedures, are processed as follows:

INSERT SLIDE 2-17 HERE

- o Processed by UADPS - Application C,
- o Passed to NAVADS,
- o Held on NAVADS Issue File for work-load planning, and then
- o Via Tandem to NISTARS for issue (either released as a group on-line or batched on tape).

NISTARS has the option to hold work received from NAVADS in an off-line queue. The off-line queue is a process which allows the NISTARS system to perform further consolidations of requisitions as they come from NAVADS. The input to the off-line queue may be received either on-line or in a batch. Essentially, the off-line queue re-sorts and re-combines the issues as they come from NAVADS to form more efficient shipment units.

Care must be exercised when using the off-line queue so that it does not become just another location for "stashing requisitions", (i.e., by moving requisitions from the NIF to the off-line queue, they are no longer visible as part of the total work load that the activity must manage.)

NISTARS has a set of programs called NISTARS Navy Systems Interface Subsystem designed to accept inputs from the Navy ADP system and convert the data into the format required by NISTARS processing. The data received from these systems are the primary drivers for the operations and functions performed in NISTARS.

The Subsystem interfaces with the following UADPS applications, either on-line or via tape:

INSERT SLIDE 2-18 HERE

- o Receipt Processing,
- o Demand Processing,
- o Quality Control,
- o NAVADS,
- o Excessing/Disposals,
- o Record Maintenance,
- o Repairables.

Additionally, information moving from NISTARS to the Navy systems is formatted by this set of programs.

The majority of data received from the Navy systems is not validated since they come from another computer system. However, when errors do occur, NISTARS moves the invalid transaction to a NISTARS error file. The reason for invalidating the transaction and the details of the transaction will be printed out by the computer during end-of-day transacton processing. Manual intervention on a NISTARS supervisory terminal will be necessary to clear and resubmit the transaction.

INSERT SLIDE 2-19 HERE

Within NISTARS, transaction priority is assigned on a relative basis from 1 to 50, where 1 denotes the highest priority of execution. Transactions having the same priority are processed in the order in which they are received.

For a normal issue, the Navy Systems Interface Subsystem will create a file which contains all of the data necessary to make the issue in NISTARS. This file is called an Issue Request Data Packet. For issuing, NISTARS recognizes the following processing groups, in the priority listed:

INSERT SLIDE 2-20 HERE

Priority	NISTARS Processing Group
1	Issue on Requisition (IOR) (See Note.)
2	Bearer Pickups
3	Batch Bearer
4	IPG I
5	IPG II

6	IPG III
7	Repair Inductions
8 - 12	Outfittings
13	Disposals
14	Excesses

(Note: Priority 1 documents include those documents with "W" and "G" in the eleventh position of the document number, and those documents with priority "999" and N01.)

The NISTARS Navy Systems subsystem passes the issue requirements to the NISTARS Work Planner/Director Subsystem (Work Planner). The Work Planner controls the planning and consolidation of all issues. Specifically, Work Planner performs the following functions:

INSERT SLIDE 2-21 HERE

- o Assigns the location(s) from which material is to be picked;
- o Defines issue consolidations;
- o Designates the packing and shipping areas; and
- o Assists in integrating stows and warehouse maintenance activities with issues.

INSERT SLIDE 2-22 HERE

RECEIPT PROCESSING

Receipts result from a purchase or a redistribution of Navy assets. The appropriate ICP initiates a buy or redistribution of a given item when their records indicate that system-wide assets do not meet system-wide demands. This situation is usually identified during an SDR.

Additionally, some items are locally managed and the Supply Center initiates procurement of those items when on-hand stock falls below pre-determined levels.

When the ICP initiates a procurement or a redistribution, they send a Prepositioned Material Receipt Card (PMRC) to the receiving stock point. A due card is initiated when any local procurement of material is done. UADPS Application B uses the PMRC or due card to establish a "Receipt due" file.

INSERT SLIDE 2-23 HERE

Material can arrive at a Supply Center by a wide variety of modes: UPS, U.S. Mail, Federal Express, Navy-owned truck, commercial truck, rail, etc. It can be part of a large group of dissimilar items called a multi-pack, simply an individual item, or be part of a shipment containing several like items.

INSERT SLIDE 2-24 HERE

UADPS

When the material is actually received, the receipt due file and MSIR are updated and the material is directed to the appropriate storage location. (Note: The MSIR record does not have the "On hand" field updated until later when the actual storage of material is recorded by Application B.)

INSERT SLIDE 2-25 HERE

During the period when the material is being physically moved from the receiving floor to the storage location, the "In process receipt" field of the MSIR is updated.

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Under Application B - Enhanced (ABE) the receipt is placed in process, at which time a Material Movement Document (MMD) and Receipt Control Number (RCN) are assigned by UADPS. When checking for the appropriate storage location, UADPS checks the MSIR for the current location of that material. If material is under NISTARS control, as determined by the first three digits of the location, it is directed to the NISTARS receiving process.

NISTARS

At the NISTARS receiving station, the material is weighed and placed in a cube-weight sensor, (which is a device that measures height, width, length and weight of the material); a stow identification number (SIN) is attached to the material and an open stow file is created in NISTARS. NISTARS assigns a storage place based on the current location of any on-hand stock of the material and item weight/size and directs the material to the proper stow location. Once the material is put away, NISTARS updates its records and reports the stow to UADPS.

INSERT SLIDE 2-27 HERE

Under Direct Enhanced ABE Receiving (DEAR), all incoming receipts are processed by NISTARS first. NISTARS receives the material, assigns a receipt control number (RCN) and sends receipt data to ABE. The material is weighed and cubed, a stow location is assigned, and the completed stow action is reported to UADPS.

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MTIS

On a monthly or as-needed basis, Special Accounting Class (SAC) 207 ships run a Shipboard Uniform Automated Data Processing System (SUADPS) Program, called Levels, which compares recent demand history to the quantity on-hand for selected items. If the quantity on-hand exceeds requirements, the material is declared excess and sent to the servicing Supply Center. Although SUADPS can produce issue documents for these turn-ins, many Supply Centers prefer preparing their own UADPS receipt documents to attach to the material.

INSERT SLIDE 2-29 HERE

After screening at the Supply Center, the material is placed into one of three categories: Navy Centrally Managed material, DLA Centrally Managed material or Retail Material. If the item is carried at the Supply Center, whether it be Navy, DLA or locally managed, it must be taken up into stock. At that point the material is treated as discussed above for regular receipts. If the material is currently not carried at the Supply Center, one of three actions may occur depending on ICP item manager discretion. The material may be

- placed in stock,
- disposed of, or
- excessed and placed in temporary storage awaiting disposition instructions from the ICP.

INVENTORIES

DLA, ICPs, local material managers and Quality Control people all require stock record accuracy with respect to location and on-hand balances of Supply Center material. As a consequence, periodic physical inventories are required. In addition, causative research may be needed on high-dollar value items to determine the reasons for loss or gain in inventory.

INSERT SLIDE 2-30 HERE

ICP controlled active items: Selected items are regularly inventoried as directed by the Item Manager. At least 45 days prior to the first day of the six month period during which the inventory count must occur, the ICP will forward Physical Inventory Requests to the Supply Center. Additional counts may be requested throughout the year.

INSERT SLIDE 2-31 HERE

Non-Navy controlled items: Selected items are regularly inventoried as directed by the Item Manager. Requests may come annually in the form of an Inventory Freeze Notification/Inventory Category Item Indicator, or on an exception basis by message.

INSERT SLIDE 2-32 HERE

Locally managed items: These items are regularly inventoried based on local command generated schedules.

Unscheduled inventories: Unscheduled physical inventories are conducted as required when significant discrepancies exist between the on-hand balance held by UADPS and on-hand balances carried in the ICP or DLA records. Unscheduled inventories are also

conducted locally when a known or suspected imbalance exists between material assets and UADPS records. For example, unscheduled or spot inventories will be generated as a result of a warehouse refusal.

INSERT SLIDE 2-33 HERE

Other scheduled inventories: Complete physical inventories of Pilferable and Classified items must be conducted according to the schedule prescribed by NAVSUP. Additionally, throughout the year, an assessment of overall inventory accuracy is performed using a statistical sampling program known as STATMAN.

Finally, the ICPs require cyclical inspections of certain material. These inspections require physical examination of the material which involves unpacking and repackaging of material.

INSERT SLIDE 2-34 HERE

For all of the above scheduled types of inventories, UADPS generates:

o Inventory cut-off notification: Notification to UADPS that an inventory count will occur in a set number of days. An inventory cut-off allows for clean up of all in-process records so an accurate on-hand balance exists when the actual count is performed.

o Inventory notification: Places the material "under inventory" so that no actions (issues or receipts) can be processed against it until the item record on the MSIR is balanced.

o First and second counts: Actual generation of the requirement to count.

Note: Under NISTARS the first count is a comparison of NISTARS records with MSIR records. This comparison is called a book count. If the comparison between the two records does not agree, the second count is a physical count.

o Exception listings, as required: Presents detailed information about those counts which cannot be reconciled.

INSERT SLIDE 2-35 HERE

NISTARS

NISTARS receives notification of required inventories from UADPS. This notification can come on-line or as tape input. The work-load planner integrates the counting effort with the regular issue and stow work flow. To speed up the process, the supervisory terminal allows the programming of specific work stations to perform only inventories.

NISTARS also generates requirements for inventories as a result of warehouse refusals and pre-set system parameters. For example, NISTARS automatically generates an inventory requirement every time the on-hand balance of a given NSN in a single location falls below ten units.

INSERT SLIDE 2-36 HERE

INTERNAL SOURCES OF WORK FLOW

This section describes sources of work flow from inside the Supply Center and the division itself. The topics covered include rewarehousing and warehouse maintenance actions.

INSERT SLIDE 2-37 HERE

REWAREHOUSING

Rewarehousing is performed for the following reasons:

- o To combine stock into a single location for issue efficiency;
- o To make more efficient use of existing storage space;
- o To move material into or out of controlled areas (e.g., pilferable material);
- o To move material into a new warehouse;
- o To bring NISTARS material from a non-mechanized warehouse to a mechanized warehouse.

Most rewarehousing actions are not paid for in terms of separate funding, but rather are performed as part of the maintenance and upkeep of the warehouse. NAVSUP will pay for rewarehousing if they direct it to be done.

NISTARS program software may generate rewarehousing actions based on the quantity of material stored in a given mechanized location. This NISTARS directed rewarehousing usually restocks a mechanized location from a non-mechanized location. Rewarehousing may be manually directed by NSN from a supervisory terminal in NISTARS. Frequently, a rewarehousing is initiated by a supervisor after examining floor space and finding that movement of the material will result in the job being done better. Rewarehousing may involve an action as simple as relocating the fastest moving material to the front of the warehouse, or to a lower shelf on the storage rack, in order to decrease the time it takes a warehouse worker to get to the material and issue it.

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A critical element of successful rewarehousing is properly updating the MSIR upon completion of the location change.

WAREHOUSE MAINTENANCE ACTIONS

INSERT SLIDE 2-39 HERE

Warehouse maintenance actions cover a wide spectrum of warehouse work. Among the most common actions are routine cleaning, restacking of material for safety or accessibility reasons, inspections and processing change notices. (Note: Most change notices, such as material price or cognizance symbol changes, are transparent to the worker. However, unit-of-issue changes frequently require repackaging, and NSN changes may require remarking of material to preclude customer returns in the future.)

CONCLUSION

Work arrives at your warehouse from a wide variety of sources, both internal and external to the Supply Center. The list above contains most but not all of the ways that work arrives at the warehouse. Although some of the actions discussed will be required daily, long time periods may pass without requiring any of these actions.

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One of your jobs as a good manager is to be aware of, and prepared for, as many of these inputs as possible in order to minimize reactive responses and to increase the efficiency of your work-load planning.

The Best Laid Plans or, The Monday Morning Crisis
Section III

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INTRODUCTION

Despite the best work-load planning efforts, conditions sometimes arise which make it impossible to carry out the plan. Some of these conditions can be foreseen and planned for, while others occur in ways for which it is impossible to be prepared in advance. At the end of this section you will understand

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advanced planning as a key element in minimizing crises and the steps to take when a crisis occurs.

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ADVANCED PLANNING

There are numerous situations that are not in the crisis category. Examples are holidays, planned computer downtime, and training evolutions. Pre-formed plans should be on file for these situations. On the other hand, with short-fuse events little or no time exists to evaluate the ramifications, weigh the options or plan appropriate action. The situation is stressful.

Contingency plans that are both thorough and current can diffuse the stress and provide the capability for rapid response. To develop contingency plans, play "what if" scenarios with supervisors, other divisions within the department and other departments.

Once plans are developed, obtain chain-of-command approval. Keep plans updated and ensure that appropriate personnel know their content and where the plans are filed.

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Holiday Plans

Many commands have holiday plans in place. If there is no particular holiday plan, then you can canvass workers, supervisors and chain of command to determine what has been expected before and then form tentative goals. Perhaps the goal is simply to be able to handle Issue Group I requisitions and bearer walk-throughs. Once command or divisional goals are established, certain questions must be addressed:

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- o How many people are required?
- o How many people are available to implement the plan?
- o Will the command pay overtime or only holiday pay?
- o Can volunteers perform the work or must a specific rotation of personnel within the division take place?
- o Are people required to be on site for the entire period or can the work be performed on a "call in as needed" basis?
- o Will the work be performed by regular staff or individuals from another branch? If from another branch, will the individuals need special instructions?

Once this information is available you should, with the help of supervisors and union personnel, set up a schedule that covers the goals at the least cost to the command.

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You should then run this schedule through the chain of command, obtaining necessary approvals. Finally be sure that certain key people know their assignments well in advance.

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The day after the holiday, the backlog will have increased. Start planning on how to decrease it before the holiday. Ensure the backlog stays on the computer. Do not remove it from the computer unless it is ready to be worked that day. Once requisitions are removed from the computer, their visibility is lost. Plans to work down the backlog can be derived from the answers to the following questions:

INSERT SLIDE 3-8 HERE

1. If there is a "normal" backlog, can it be reduced before the holiday?
2. Are any Navy Reserve personnel available for work?
3. Is overtime authorized?
4. Are volunteers available from other divisions or departments?
5. Examine those items in your work load which are not issues.
    a. Can inventories be "held" in inventory control?
    b. Can re-warehousings be stopped for a week?
    c. Can a group of planned disposal actions be cancelled?

A note of caution: Most of these "work arounds" require coordination and clearance with the chain of command and other departments.

The above listed questions give only a sample of the possibilities. The appropriate questions to ask depend on the command and the current situation.

INSERT SLIDE 3-9 HERE

COMPUTER DOWN TIME - PLANNED AND UNPLANNED

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1. Ensure current emergency issue (IG I) procedures are in place. If down time is less than 24 hours, only bearer walk-through requisitions should be processed off-line.

INSERT SLIDE 3-11 HERE

2. This is a good time to do divisional training and field day.

UADPS SYSTEM DOWN TIME

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1. Many issue documents, disposals, and rewarehouseing documents can be generated in advance of planned down time.

2. Warehouse location changes can be made physically during down time and input later when the mainframe is operational.

3. Ensure the supervisor controls the paperwork flow. It is very easy for warehouse refusals to occur during rewarehousing.

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NISTARS COMPUTER DOWN TIME

1. Little work can be done when the computer is down.

2. If pick tickets are printed in advance, non-mechanized issues may be physically pulled.

3. Receipts and inductions can be pre-counted to save time when the computer is working.

4. Work on "frustrated material" or other NISTARS computer generated reports which require manual counts.

5. Train/work under reciprocal agreements with non-mechanized divisions. Also try setting up reciprocal work agreement with other physical distribution divisions. NISTARS personnel can be trained to work in the non-mechanized divisions when NISTARS is down, and individuals from non-mechanized divisions can be trained to work in NISTARS when the system is up. This can help "make up" a portion of the work that was not accomplished when the system was down.

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a. If people are sent to other divisions to work when NISTARS is down, each individual should understand where to go and to what supervisor they should report.

b. Ensure the "gaining" division has additional supplies, equipment and adequate supervisory personnel.

For NISTARS, ensure the data base is updated prior to obtaining new work from UADPS.

SYSTEM MAINTENANCE IN NISTARS

INSERT SLIDE 3-15 HERE

a. If possible, plan hardware and software maintenance for the same time period. If at all possible, arrange for downtime during slow or "off-shift" times.

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CRISIS MANAGEMENT

Sometimes conditions occur which, despite all planning to the contrary, make it impossible to execute the plan. Examples are: weather conditions such as hurricanes (requiring a short fused departure of all ships in port), earthquakes, change in the world's political situation (requiring immediate deployment of the local fleet) and an extremely large, "unplanned drop" of requirements from either a local customer or an outfitting command. The steps to take in these situations include:

INSERT SLIDE 3-17 HERE

1. Inform the chain of command about what has happened.
2. Advise the next higher echelon, if necessary.
3. Establish priorities with concurrence of chain of command.
4. Communicate with all customers/command departments affected by the change in plans.
5. Lay out a response to the current crisis, together with a "get well" plan after it has passed. Include other departments within the affected command.

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Possible responses to a crisis include working overtime, scheduling temporary second shifts, delaying of non-priority workload, and assigning warehousing tasks to duty section personnel.

Be sure to inform the chain of command and customers regularly of the progress being made during the crisis and during the "get well" period.

Note: The top priority is to get over the crisis before accepting new routine workload.

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CONCLUSION

- o Planning ahead helps to minimize the impact the crisis will have on operations.
- o Do develop alternative plans through "what if" drills and keep the plans updated.
- o Do keep everyone who is affected by the crisis informed, both during the crisis and through the "get well" period.

REPORTS
Section IV

INTRODUCTION

This section provides an in-depth examination of the question, "What are the evaluation criteria used to measure work performed?"

As discussed in the first segment of the work-load planning module, both informal and formal criteria exist to judge the quality and quantity of work performed. This section will look at formal criteria as expressed by UADPS and NISTARS generated reports as well as those reports which are developed locally.

UADPS REPORTS

1144 Report - Supply Distribution and Inventory Control Report

This report provides the set of statistics used to evaluate how a Supply Center is performing its primary function which is service to the fleet. By the fifteenth of each month, every Supply Center submits a message to NAVSUP which contains this summary performance data for that Supply Center for the previous month. In addition to NAVSUP, the 1144 Report must be submitted to the following commands, as required:

- o Navy ICP or DLA activity (depending on cognizance symbol),
- o FMSO (for 9_ and 5_ cognizance symbol material),
- o ASO (for W purpose coded material),
- o Type Commander (as required).

Although it is due on a monthly basis, the report data can be generated more frequently if required. The data which creates the report is generated by cognizance symbol and then summarized at the end of the print-out. Application H collects and prepares the report. The data which goes into the report is extracted on a daily basis from the Transaction Reconstruction (TRANSRECON) tape. The TRANSRECON is a tape file on which all additions, changes and deletions to stock records are recorded.

The 1144 report is divided into six sections:

- o Material Availability,
- o Issue Analysis,
- o Issue by Issue Priority Group,
- o Issue Processing Analysis,
- o Miscellaneous,
- o Storage.

Each of these six sections is a summary of the data generated for each cognizance symbol throughout the month.

Material Availability: Total material requests (line 01) includes requests for issue of material which is stocked by the DOD supply system (line 03). These items are called standard stock items. Total material requests also includes those requests excluded from further computation (line 02). Requests excluded from further computations include:

- o non-standard items,
- o controlled material,
- o cog not authorized to be carried by that Supply Center.

The number of standard stock items not carried is given on line 04. Net requests for standard stock (line 05) include those for standard items not in stock (NIS) (line 06) and the number of requisitions filled of standard stock items (line 07). Line 06 includes:

- o backorders,
- o referrals,
- o local procurement,
- o warehouse refusals.

Line 07 includes the total number of:

- o issues to shop stores,
- o issues to ready supply stores,
- o issues to Servmart.

Line 07 does not include:

- o issues from shop stores,
- o issues from ready supply stores,
- o issues from Servmart,
- o credit issues,
- o disposals.

After presenting summary figures, the first section of the 1144 Report presents over-all material availability for the submitting activity. Net material availability (line 08) is found by the following equation:

$$\frac{\text{Number of issues of standard stock items}}{\text{Number of requests for standard items NIS + Number of issues of standard stock items}} \times 100.$$

or

$$\text{N.A.} = \frac{\text{line 07}}{\text{line 07 + line 06}} \times 100.$$

Additionally, activity point of entry availability (line 11) is computed by the following equation:

$$\frac{\text{POE issues of standard stock}}{\text{POE requests for standard stock}} \times 100,$$

or

$$\text{POE availability} = \frac{\text{line 10}}{\text{line 09}} \times 100.$$

Net material availability and POE availability give a snapshot of how well a Supply Center satisfied the requirements presented to it in a given month.

Issue Analysis: The next section of the 1144 Report presents a snapshot of the composition of the activity's customers. Line 12 gives the total number of issues to the fleet. Line 12 includes:

- o active ships,
- o reserve ships,
- o Military Sealift Command fleet operated aircraft.

Line 13 presents the total number of issues for Supply Center use. Lines 14 and 15 state issues for other Navy and other DOD activities. Line 14 includes:

- o overseas bases,
- o satellite activities,
- o NADEPs.

Line 16 gives other material issues. Other material issues covers:

- o other government departments,
- o military assistance programs (map),
- o cash sales to contractors,
- o government furnished materials.

Line 17, Total Issues is the sum of lines 12 through 16.

Issues By Issue Priority Group: This third section of the report breaks down the issues by IPG, with different lines for IPG I (line 18), IPG II (line 19), and IPG III (line 20). The total of lines 18 through 20 is given on line 17.

Issue Processing Analysis: Line 22 starts the fourth section which examines each issue priority group and calculates the percentage shipped on time. This is calculated by

taking the number of days between Date Shipped and Date Received. Both of these dates are found in the Requisition Status File (RSF). The lapsed time is then compared to the UMMIPS time standards to determine percentage shipped on time. Line 26, percentage shipped on time - all groups, is a weighted average of lines 22 through 24. Lines 39 through 42 present the actual number of requisitions shipped on time and shipped late from those shown on lines 22 through 24 and line 26 .

Miscellaneous: This section of the 1144 Report starts on line 27. The Miscellaneous section presents overall snapshots of how various sections of the activity are performing. Line 27 is the total number of receipts of standard stock items at the Supply Center. Line 28 is the number of standard stock items carried, end of the current quarter. Line 29 gives the number of non-standard stock items carried as of the end of the current quarter and line 30 is the sum of lines 28 and 29, total stock items carried. Line 31 presents issues from Servmarts while line 32 summarizes issues from other retail outlets. Other retail outlets include:

- o shop stores,
- o ready supply stores,
- o pools.

The final statistic presented in the section covers warehouse refusals. The total number of warehouse refusals is given on line 33 and the warehouse refusal rate is given on line 34. The warehouse refusal rate is computed by the following equation:

$$\frac{\text{total number warehouse refusals}}{\text{total number warehouse refusals + total number issues}} \times 100,$$

or

$$\text{warehouse refusal rate} = \frac{\text{line 33}}{\text{line 33 + line 17}} \times 100.$$

Storage: The last section of the 1144 Report lists measurement-ton totals stored in refrigerated spaces (line 35), covered spaces (line 36) and open spaces (line 37) of the activity. Total measurement tons stored, the sum of lines 35 through 37 is given on line 38.

While the information from the 1144 Report serves as the report card by which a Supply Center is measured and compared to other Supply Centers, it also is an indicator of trouble spots within your command. As a warehouse manager, you can have a direct impact on the statistics which reflect your command's performance. For example, as can be seen from the way the numbers are presented in the sample 1144 Report, a slight decrease in warehouse refusals, perhaps the result of an aggressive training program and increased management attention, will change the command warehouse refusal rate.

Many commands also prepare local summary reports from the data contained in the 1144 Report. For instance, a summary of warehouse refusals. To closely monitor warehouse refusals, local reports can be used to give detailed listings of the refusals to allow for follow-up research. These detailed listings may include NSN, issue quantity, and the warehouse location which refused the issue.

UB200020 - Receipt Control Report

One of the major informational elements in managing the receiving process is the UB200020 Report. This is a daily report generated by Tandem program UB46 which, using data provided by UADPS, selects all receipts placed in-process over a set number of previous days which have not yet completed stow. The number of days is programmed into a SCA table in UADPS. Most Supply Centers use three days as their parameter. Recall that a completed stow means both proper material storage and a proper UADPS MSIR update.

When material is first received, the MSIR "In-Process Stow" field is updated to reflect the quantity counted on the receiving floor. Not until the material is stowed and the stow is posted to the MSIR are the "due in" and "quantity on-hand" fields of the MSIR updated. Material which is not yet properly stowed and not yet properly posted to UADPS or NISTARS is not available for issue.

The UB200020 is divided into two section: MTIS, and regular and contract receipts. The receipts are listed by primary storage location. Secondary, tertiary and temporary locations (if applicable) are also given. The next entry is extended item value. One approach to clearing items from the UB200020 is to work those items with the highest dollar value first however, for many Supply Centers, every item on the listing must be located and properly stowed.

Other entries on the report include:

- o NSN - National Stock Number,
- o SMIC (if applicable),

o Doc Nr - document number (SF - with document number suffix if applicable),

o Con Nr - contract number,

o UI - Unit of issue,

o Qty - quantity,

o RCN - receipt control number,

o CC - condition code,

o PC - purpose code,

o IPDT - in process date,

o Days susp - number of days in process,

o Req sdt - required stow date. For NISTARS stows, two additional columns are applicable:

o Dsqty - discrepant quantity,

o Frqty - frustrated quantity.

To locate and correct errors on an in-process receipt requires a thorough knowledge of the particular receiving department's operations and procedures. There are many reasons why a receipt appears on the UB200020 Report. Some reasons are:

o Errors occur with the Unit-of-issue. Receiving floor personnel count "each" item when the actual unit of issue is by the "dozen." This error can easily happen when a change notice has been processed by the Supply Center but the manufacturer was not notified.

o Material is set aside for some reason and not put back in-process.

o The MMD becomes separated from material en route to stow location.

o The material movement document (MMD) is lost after the material is stowed, but before stow is posted to MSIR.

o Material is sent to the wrong warehouse and set aside by warehouse personnel. Thus, the material never gets moved to the proper warehouse.

Persistence coupled with thorough research will pay off dividends in a good UB200020 Report which can then be used as an effective management tool. Additionally, resolving the UB200020 problems may reveal flaws in the current receiving process, or possible personnel problems. (For example, a string of successive RCNs with errors may indicate an individual who needs additional training.)

NISTARS REPORTS

Open Stow Report: This report lists the receipts which have been inducted and directed to mechanized locations, but have not yet been stowed. The Open Stow Report is printed out sequentially according to the stow identification number (SIN) and is a cumulative report. Open stows remain on the report for 120 days or until stowed, whichever comes first. At the end of 120 days the open stows will be purged by the NISTARS system. (Note: If material is reworked and then processed under a different Receipt Control Number and SIN, both records will appear on the report. The result is that a stow appears as "open" even though it is properly stowed.) This report, used in conjunction with the UB200020 can help in tracking down open stows and determining divisional problem areas.

Open RCN Report: This report lists those receipts which have not been stowed in NISTARS for both mechanized and non-mechanized areas. This report provides detailed NISTARS information for the outstanding stows listed on the UB200020. The report is produced sequentially according to the receipt control number (RCN) and contains information on the movement unit, movement unit counter, number of SINs inducted and number of SINs stowed, the quantity invoiced, quantity received (i.e., actually inducted) quantity stowed and quantity frustrated. This report is a summary version of the Expected Stow Report and, like the latter document, is a cumulative report. The receipt remains on the report for 120 days or until stowed, whichever comes first. At the end of 120 days, the NISTARS system will purge the outstanding records.

Expected Stow Report: This report lists the receipts processed through induction into NISTARS. A separate report is generated for each building. The report is listed in NSN sequence and printed during the pre-end-of-day processing. It contains the RCN, the date NISTARS inducted the material, the document identifier, quantity actually received by NISTARS, quantity invoiced, quantity stowed and quantity frustrated. Each SIN is listed along with a quantity inducted, quantity stowed, date the SIN was stowed and location where the material is stowed. During end-of-day processing, all receipts that have been completed (inducted and stowed) are purged from the records. If the quantity inducted differs from the quantity stowed, the record is moved into the Discrepant Stow Report. All unstored receipts remain on the Expected Stow Report for 120 days or until stowed. At the end of 120 days the open stows will be purged by the NISTARS system.

Employee Production Summary: This summary is an end-of-day report which breaks down the work performed by each employee. It provides summary statistics to assist in the evaluation of worker performance. Data collection is keyed by employee badge and log-on code. For each transaction, the following information is given:

- o start time,
- o transaction quantity,
- o transaction location,
- o transaction type (e.g., issue, stow, count, etc.).

At the end of the detailed listing, a summary page is printed out for each employee which gives a daily production and hourly average production figure by equipment type. In addition, NISTARS "downtime" is broken out so that a supervisor can rapidly discover if equipment failure was a problem. By looking at the start time, transaction location and transaction type, a good overview of worker productivity emerges. This report is an effective tool for worker counselling. Some caution must be observed, however, when using this report as a counselling tool for short time frames. This report cannot monitor "system slow downs" (that is, those times when the system is physically operating at slower than normal speed.) Further investigation would detect a slow-down since it would be apparent across a wide spectrum of employees, not just occurring for a single individual.

Aisle Status Report: This report is called up on the screen of a supervisory terminal and provides the viewer with an on-line summary of where the work is located and an overview of the work process flow. This screen lists, by individual piece of equipment, the number

of issues, stows and inventories currently assigned by NISTARS work-load planner subsystem. By monitoring this screen over the course of a day, a manager can obtain a clear picture of work flow and bottleneck location. If a bottleneck appears during the day, a quick response by the manager, (i.e., shifting people to the problem area), can help alleviate the situation.

Production Summary: This report is produced during NISTARS end-of-day processing and presents a summary of issues, stows, packs, inventories, and rewarehousings. Essentially, the report presents what work was completed from one end-of-day processing computer run to the next end-of-day processing. If a day is passed without running end-of-day reports, summary figures for that specific day are lost. The Production Summary Report is your key indicator of how NISTARS performed during the previous time period.

Suspended Issue: A requisition issue may be suspended for several reasons. Two common ones are in-process rewarehousings and taking of inventories. If an NSN is being rewarehoused, all issues of that NSN will be suspended until the rewarehousing is completed. If an inventory has not been completed for a specific NSN, all issues of that NSN will be suspended. It is essential that the Suspended Issue Report be worked daily. Any transaction causing the issue to be suspended must be worked in order to release the suspended issue(s). The issues are listed in NSN sequence and, for each issue suspension, the reason for the suspension and the priority group of the issue are given.

LOCALLY GENERATED REPORTS

In the preceeding sections we discussed the reports available from both NISTARS and UADPS. Although these reports provide a great deal of information, there are times when you need additional information, or you need to rearrange the UADPS and NISTARS data to execute your duties more efficiently. This section discusses local reports generated by microcomputers and the UADPS system.

A microcomputer cannot create real-world data. It only processes data given to it according to certain explicit instructions. This data could be loaded manually, or downloaded from UADPS via Tandem. Data can also be downloaded from NISTARS. Examples of data manually loaded include:

- o personnel on board for a given date,
- o issues processed but not packed at close of business,
- o backlogs of frustrated material.

Once a shell is set up on a Lotus or similar type computer program, clerical personnel can easily enter data from a supervisors' daily report. Examples of data downloaded from UADPS to micros on a routine basis include: issue work-load arranged by issue location, by mode of shipment, or by required delivery date.

The ADP department, or a command analyst can help you with specific needs and develop a report useful to your department or division. Reports may be generated

periodically, daily, weekly, or on an "as needed" basis. The following are two examples, obtained from Navy Supply Center, Norfolk. They are used by the Command to obtain a summary snapshot of operations and assist the departments in planning work load more effectively.

Stratification of Work-Load By Mandatory Issue Date (MID): This report is the tool used by NSC Norfolk to plan its daily work. Although a local report, the data in the report is held in UADPS. Issues are stratified by priority group and location. NSC Norfolk's policy is to fill IPG I and IPG II bin issues on the same day as they arrive at the Supply Center. This policy allows the MID Report to focus on IPG II bulk and IPG III requirements since work-load planning is required to insure that these are processed within UMMIPs time standards. Binnable and bulk areas are separated and for each area the data is arranged according to location order. Within each location, each group is stratified by the mid-date. The mid-dates range from plus five days to minus seven days. That is the issue work-load covers a range of days from five days past the mandatory issue date to seven days before the mandatory issue date. The goal of the NSC Norfolk personnel is to work issues at the 0, +1, +2, or +3 dates. This report is one of the tools used each day to decide how much work to pull from UADPS for the next day. It also provides useful information on future work loads and what type of work is forth coming. This allows for more effective and efficient budgeting of your resources.

Three summary pages are printed out for the Command Group. Summaries, which are grouped by mid-date, give the command total numbers for the on-hand work load. This allows for monitoring of the entire Supply Center work load and rapid recognition of possible bottlenecks.

Bldg X-XXX NISTARS Production

This report is a divisional level report requiring manual data entry. The data is gathered from supervisors' reports, manual counts, and computer mainframe data. Although it is too detailed for upper management, the report is used by the building supervisor to manage work load and run totals for work performed. On a daily basis the program reveals to the warehouse supervisor how many rewarehousing actions, issues, receipts and inventories were accomplished for that particular day (shown at the top) and for every preceding day in the current month (by reading down the page.) Cumulative figures are also given for rewarehousings. Total numbers of transactions of all sorts for each day are summarized, as well as system availability (a key NISTARS statistic). For non-automated NISTARS facilities, other figures (such as absenteeism or hours spent in training) may need to be added.

Each command, department and division has its unique need for data. What is good for a large command may be inappropriate for a small command, and vice versa. It is your responsibility to take the available data and figure out how to format it in a way that best

suits your needs. Also, it is important to provide your supervisors with the opportunity to work with the analysts and to design the spread sheets and data tools they need. They need to know how and where both your data and the command interest data are produced, and understand how it is interpreted and used.

CONCLUSION

Data for this section was gathered by surveying a number of upper and mid-level managers at Navy Supply Centers. The reports discussed are by no means an exhaustive list of reports available to a manager. The purpose of the reports is to provide tools for feedback and control. Each report has its own benefits and drawbacks, and each Supply Center surveyed uses their reports differently. The main point here is to recognize the wide variety of tools that are available to help you manage your work load.

V. Summary, Conclusions and Recommendations

A. General

The focus of this thesis has been the development of a Stock Point Operations course for mid-grade managers which addresses the interrelationships which are present at NSC's and how they can be managed within the various operations occurring at a Stock Point. The sponsor, NAVSUP, requested the development of the course because work-load planning is a complex and often overlooked component in the daily management of Naval Supply Centers. An effort was made during the writing of the course material to understand those interrelationships which are an integral part of effective work-load planning and control at Navy Stock Points. As a consequence of attending the work-load planning segment of the Stock Point Operations course developed in this thesis, it is hoped that officer and mid-level managers transferring to stock points will better manage the resources available to them.

B. Summary

Chapter I motivated a need for a course in work-load planning. The history behind the development of the Stock Point Operations course was reviewed in Chapter II. Chapter III then examined the various management scheduling and methodologies which were considered for incorporation into the course. Chapter IV provided the work-load planning segment of the Stock Point Operations course.

C. Conclusions

During the development of the course it was found that Stock Points work-load plan differently at each Stock Point. Armed with this information the best techniques for scheduling work-load "planning" were found to be Level Loading and OPT. Level Loading, when used in conjunction with the ideas and techniques of OPT for managing the bottlenecks, creates a cohesive balance between a stable work environment and a variable demand for service on that environment. These scheduling techniques, combined with the management techniques of TQM and the Behavioral Science Approach, allowed for the development of an eight-hour segment of the 40-hour course course addressing the complexity of work-load planning within Stock Point Operations. This course will provide the student with the background to ask important management questions and solve operational problems.

The work-load planning segment of the Stock Point Operations course was "field tested" at the Naval Supply Center Norfolk in November 1990. The audience of the field test consisted of senior management personnel from NAVSUP and NSC Norfolk. With minor alterations the course was deemed successful and praised for its approach to work-load planning in a Stock Point environment.

D. Recommendations for further Study

During the writing of this thesis the Navy Supply System underwent numerous major organizational changes due to the mandates of the Defense Management Review (DMR). The first "purple suited" Stock Point was evolved in the San Francisco Bay Area in August of 1990. As DLA and the Navy integrate their

physical distribution assets, an update of the information provided in the work-load planning segment of the Stock Point Operations Course will be required. This revision of the course material presented in this thesis would be an ideal follow-on thesis topic for other graduate students. Other areas which merit further research and possible course development are the integration of DWASP (DLA Warehousing and Shipping Program) and NISTARS, and how the reorganization and consolidation of Stock Points is affecting operational availability.

APPENDIX 1

KEY CONCEPTS FOR THE STOCK POINT OPERATIONS COURSE

MATERIAL POSITIONING

I. Definition

Determines the proper items to stock and the amounts to carry based on customer demands and non-demand based requirements

II. Basic Operations

A. Determines which items to carry in inventory and how much to stock

B. Validates customer demand

C. Sets average inventory levels

D. Replenishes stocked items

E. Excesses items which are no longer needed

III. Interrelationships

A. Erroneous item establishment decisions affect customer support

B. Range decisions affect availability of storage space

C. Inaccurate stock levels cause storage and receiving workload

D. Bad decisions tie up NSF dollars

E. How inventory management buy process can be level loaded so that receiving workload is relatively smooth

IV. Management Tools

A. Not carried items listings with frequencies

B. Customer demand information

C. Reports of Long Supply and Excess

D. Listings of Overage Dues

E. Reports of Net and Point of Entry Effectiveness,

F. Financial reports highlighting the availability of funds

G. Tools for managing non-demand based items (i.e. NSOs, PWRMS....)

TRUCK CONTROL

I. Definition

Truck Control is the continuous visibility and control exercised over a carrier's conveyance.

II. Basic Operations

A. Understanding how to schedule truck deliveries

B. Pre-authorization of delivery (ex. Permit system)

C. Scheduling deliveries

D. Arrival and rapid assignment of freight location/spotting of vehicles

III. Interrelationships

A. Workload planning (Receiving)

B. Receipt-to-stow time indicators

C. First step in providing supply support to fleet customers

IV. Management Tools and Techniques

A. Daily Truck Appointment Schedule

B. Local Control Information form

C. Supervisors' Report

D. Daily Status Report

E. Carrier Control Record

TAILGATING AND INCHECKING MATERIAL

I. Definition

Tailgating is the process by which material/freight is offloaded, accepted, signed for and dated at the NSC/activity. It is also when discrepancies are first identified. Check-in/In-process is where items are identified and checked for quality, quantity, and condition. It is the operation where receipt transactions are first posted to stock point records.

II. Basic Operations

A. Arrival of carrier to be offloaded

B. Check vehicle for safety and seal

C. Check receiving documents for obvious misshipments

D. Sort documents to determine categories of material

E. Preliminary inspection of material

F. Palletizing material

G. Offloading material

H. Check out of vehicle

I. High priority items requiring special treatment

J. Binnable and bulk material for stock

K. Processing Direct Turnover (DTO) and transshipment material

L. Repairable material

M. Material without supply documents

N. Local Material Turned Into Store (MTIS)

O. Processing contract material

P. In-processing multiple dues/receipts Not From Due

Q. Follow on receipts

R. Discrepant receipts

S. Outgoing Report of Discrepancy (ROD) generation

III. Interrelationships

A. Workload planning

B. Receipt-to-stow time indicators

C. Healtn and safety concerns

D. Discrepant receipts

IV. Management Tools and Techniques

A. Transportation documents

B. Forms

C. Packing labels and markings

D. Sorting of material

E. Receipt documents

F. Stock numbers/part numbers

D. Daily status reports

E. Supervisor's reports

RECEIPT PROCESSING

I. Definition

Receipt Processing provides an activity with the ability to process receipts on-line through CRT terminals. Data updates the Master Stock Item Record (MSIR) and is reported to the Inventory Manager (IM) on stow and simultaneously increases the actual on-hand quantity.

II. Basic Operations

A. Understanding Regular Receipt Type

1. Receipts "From Due"
2. Receipts "Not From Due"
3. Partial receipts
4. Discrepant/Frustrated
5. Receiving documents used in processing information for regular receipts
   a. DD1348-1
   b. Issue Release/Receipt Document (IRRD)
   c. Transportation Control Movement Document (TCMD or 1384-2)

B. Understanding Contract Receipt Type

1. Receipts "From Due"
2. Receipts "Not From Due"
3. Partial receipts
4. Discrepant/Frustrated
5. Receiving documents used in processing information for contract receipts
   a. DD Form 250
   b. DD Form 1155
   c. Commercial Packing List/Slip
   d. Government Bill of Lading (GBL or SF 1103)

C. Understanding Material Turned Into Store (MTIS) Receipt Type

1. Receipts "From Due"
2. Receipts "Not From Due"
3. Partial receipts
4. Discrepant/Frustrated
5. Receiving documents used in processing information for MTIS receipts
   a. DD1348-1
   b. Issue Release/Receipt Document (IRRD)

III. Interrelationships

A. Workload planning

B. Physical inventory count accuracy

C. Issue actions

D. Replenishment actions

E. Repairables management

F. Truck Control process

G. Tailgating process

H. UADPS/NISTARS interface

IV. Management Tools and Techniques

A. Material Receipt Processing Time Analysis Report

B. Supply Performance

C. Receipt Due History File (RDHF) Purge List

D. Stock Excess Determination

E. Leadtime Report

F. Delayed Receipt Listing

G. Receipt Processing Reports

H. Process improvement techniques using these reports

I. Contract Administration Management Report (?)

J. Management by "walking around"

K. Understanding the Delayed Receipt Listing
   1. Purpose
   2. How it is used by manager

FRUSTRATED MATERIAL

I. Definition

A. Frustrated material is material that is lacking some or all of the essential information needed to receive the material

B. Standard procedures are used to identify, research and process material which has incomplete or missing information

II. Basic Operations

A. Identifying material as frustrated

B. Determine correct disposition

C. Identify DTO/transshipment

D. Determine disposition of DTO/transshipment

III. Interrelationships

A. Rapid identification of stock prevents overage/outstanding dues

B. Timely response to storing and maintenance file problems are enhanced

C. When stock is not stored in a timely manner, stock fund dollars are not used properly

D. Resources cannot be accurately reflected at the stock point if not recorded as received

IV. Management Tools and Techniques

A. Management List-Navy (ML-N)

B. Management List-Consolidated (ML-C)

C. Master Cross Reference List (MCRL)

D. Transaction Ledger on Disk

E. UIC/Address Listing

F. Due File

OUTGOING REPORTS OF DISCREPANCY (RODs)

I. Definition

A. Outgoing Reports of Discrepancy (RODs) identify and report problems associated with incoming material

B. Outgoing RODs identify a problem with material before it is accepted and stowed by the receiving activity

C. RODs provide a standard format and procedure for these problems

II. Basic Operations

A. Understanding ROD Contents and Use

1. Valid ROD criteria
2. Types of discrepancies that will cause a ROD to be generated
3. RODs for discrepant receipts
4. Other RODs
5. ROD distribution
6. GSA and DLA $ thresholds

B. Understanding Material-in-Transit (MIT) /Stock-in-Transit (SIT) RODs

1. MIT processing overview
2. SIT processing overview
3. Causes of MIT/SIT RODs
4. Impact of MIT/SIT on NSF dollars

C. Understanding RODs in NISTARS

D. Reporting Requirements/Quarterly ROD Summary Report

1. Know types of reports
2. How reports are used
3. Who reports

III. Interrelationships

A. Causes overage/outstanding dues

B. Causes storage and maintenance file problems

C. May tie up stock fund dollars

D. Ties up stock point resources

E. Impact of preparing RODs

IV. Management Tools and Techniques

A. A system to highlight breakdowns in the Physical Distribution Process and to resolve complaints

B. Locally revised programs that provide information as to trends and trouble spots

C. Knowledge of reports submitted for RODs

STOWS

I. Definition

Stows moves material from receiving into permanent storage and provides for its care and maintenance prior to issue or redistribution.

II. Basic Operations

A. Receives different types and conditions of material processed in receiving

B. Places material into a storage location based on type and condition

C. Generates storage location and item labels

D. Applies change notice actions to material

E. Performs condition code transfers

F. Performs rewarehousing actions

G. Manages shelf life programs

H. Inputs warehouse adjustment transactions

III. Interrelationships

A. Material in right location affects the pick material function

B. Poor stow practices result in physical inventory errors

C. Clean stow processing is dependent on accurate receipt processing.

D. Replenishment process can "overload" storage

E. Cycle, Physical Inventory, Location Survey request counts and location searches

F. Using over 3 locations and doing local manual control

IV. Management Tools

A. Delayed receipts and stow exception reports

B. Performance standards and goals for storage processes

C. Inventory accuracy indicators

D. Daily communications with receiving and customer service

E. Quality Control studies and indicators

F. Receipt to Stow Time calculations

G. Material Receipt Processing Time Analysis report

PHYSICAL INVENTORY

I. Definition

Verification of stock record balances by physical count.

II. Basic Operations.

A. Physical Count of material

B. Post Count Validation

C. Preadjustment Research and Reconciliation

D. Causative Research

E. Quality Control Sampling of Physical Inventory functions

III. Interrelationships.

A. Stock Control - erroneous buys because cf erroneous adjustments

B. Receiving - inaccurate stow quantities and counts cause erroneous adjustments.

C. Storage - inaccurate stow quantities and storage locations cause erroneous adjustments.

IV. Management Tools

A. Inventory Control Effectiveness reports

B. Error Classification Code Report

C. Inventory Data File Analysis

D. Key Indicators

E. STATMAN Analysis

F. Sound Organizational Structure

G. Tracking consistently erroneous adjustment decisions or numerous inventory cancellations

H. Gross Monetary Adjustment Rate calculations

I. First Line QC

J. FIR Code analysis from FIR

LOCATION SURVEY

I. Definition

Reconciles location data on accountable records with actual warehouse locations

II. Basic Operations

A. Specific stock point location data is obtained from the database

B. Specific physical item location data is gathered

C. The stock point and physical item location data is compared

D. Mismatching/discrepancy lists are created for correction action

E. The location accuracy statistics are computed and reported

F. The correction actions are performed to complete the process

III. Interrelationships.

A. Creates correction work for Technical, Requirements, Storage and Physical Inventory.

B. Stow, Issue, Rewarehousing and Physical Inventory mistakes create work for Location Survey.

IV. Management Tools

A. Summary Reports highlighting location accuracy in specific warehouse areas

B. Listings of unresolved location errors and actions required

C. Annual Location Survey plans

D. Location Survey Accuracy Rate calculations

CHANGE NOTICE

1. DEFINITION: Change Notice is an action announced by an Inventory Manager advising of revisions to management data related to a specific stocked item.

2. BASIC OPERATIONS:

a. Change notice actions either establish, modify (partially or totally), or delete essential supply management data.

b. Effective control of change notice actions is visibility over the process.

3. INTERRELATIONSHIPS: Timely processing of change notices insures validity of the MSIR and promotes inventory accuracy.

- Not changing unit of issue affect stock levels
- Not changing NSN may cause lost material

- Warehouse Locations and Item ID data
- Integrity and accuracy of the MSIR and other files

4. MANAGEMENT TOOLS:

a. Using available management tools (i.e., reports, computer listings, local programs, etc.) for continuous monitoring is the key to continued process improvement.

b. Having proper, up-to-date documentation (i.e., instructions, SOPs, desk guides, etc.) insures standardization of the location change process.

c. An ongoing training program for employees is required to insure proper change notice actions and improved location accuracy.

d. Change notice statistics by CB codes

e. Exception processing

f. Program processing statistics

LOCATION CHANGE

1. DEFINITION: The material location change process encompasses changing (incidently or planned) the location where a stock item is stored and the corresponding update of the MSIR. The physical movement of material from one location to another may not always be required (i.e., establishing a location for new stock items).

2. BASIC OPERATIONS: Material location changes are necessary to:

a. Provide for alternate, additional or new storage locations.

b. Track internal movement of material.

c. Rewarehouse material for improving/increasing efficiency of warehouse operations.

d. Provide for storage of material requiring special handling.

e. Material movement control is dependent on accurate and timely location change documentation and follow-up procedures.

f. Limiting the amount of unplanned material movement to the lowest possible level results in an efficient operation.

g. Remarking the location.

3. INTERRELATIONSHIPS: Properly controlled material movement promotes inventory and MSIR accuracy. Improper location changes cause lost material, inventory losses and subsequent gains, and material that is not available to customer; it also impacts workload (impact on W/R and location accuracy) and the overall accuracy of the data base.

4. MANAGEMENT TOOLS:

a. Using available management tools (i.e., reports, computer listings, local programs, etc.) for continuous monitoring is the key to continued process improvement.

b. Having proper up-to-date documentation (i.e., instructions, SOPs, desk guides, etc.) insures the standardization of the location change process.

c. An ongoing training program for employees is required to insure proper location change actions and improved location accuracy.

SPECIAL MATERIAL HANDLING

I. Definition

Identifies (from a Management perspective) the major requirements for Special Material Handling within the Care of Material in Storage (COMIS) function as well as any impacts and/or interfaces involving other areas of operation.

II. Basic Operations

A. Recognize Types of Material Requiring Special Handling and Regulations Governing Them

1. Hazardous
2. SERVMART
3. Provisions (perishable vs. nonperishable - 9M Cog)
4. Fuel
5. Oversized
6. Level 1/Subsafe
7. Fleet Ballistic Missile (FBM)
8. V Purpose Code (PAR Program Stocks)
   - Depot Level Stocks
   - NAVSEA New Construction
   - New Production Expendable Ordnance Components for Assembly
9. Nuclear
10. Sonobuoys
11. Controlled (classified/medical/pilferable/refrigerated)
12. Shelf-Life

III. Interrelationships

A. Safety impact/ramifications

B. Security impact/ramifications

C. Special building requirements

IV. Management Tools and Techniques

A. List of Items Requiring Special Handling (LIRSH)

B. Hazardous Materials Information System (HMIS) DOD 6050.5-LR

C. Hazardous Materials Storage and Handling Handbook DLAH 4145.6

D. Storage and Materials Handling DOD 4145.19-R-1

E. Occupational Safety and Health Program for the Naval Supply Systems Command NAVSUPINST 5100.11

F. Defense General Supply Center (DGSC) Quality Status List (QSL)

G. Defense Shelf-Life Item Management Manual DOD 4140.27-M

H. Safeguarding of Sensitive Inventory Items, Controlled Substances, and Pilferable Items of Supply NAVSUPINST 4440.146

I. MILSTRIP/MILSTRAP Operating Procedures Manual NAVSUP P-437

J. EPOS

K. NFF File

L. FLQC Reports

M. UAPS Reports

QUALITY DEFICIENCY REPORTS

I. Definition

A Reporting and Screening procedures to remove Quality Deficient Material from the Supply System quickly and efficiently.

II. Basic Operations

A. Report potentially Defective Material

B. Receive Notifications

C. Screen Material in storage

D. Reply to AIG Screening messages

E. Screen new receipts

F. Respond to Disposition Instructions

G. Remove potentially defective material from stock

H. Alert customers of defective material

III. Interrelationships

A. Increase workload on storage and receiving personnel, and on equipment specialists

B. Defective Material Summaries from FMSO

C. Screening messages from FMSO

D. Disposition instructions from item managers

IV. Management Tools

A. Files of material awaiting disposition instructions from item managers

B. Files of outstanding screening requests, action codes and ages

C. Defective Material Summaries

PLANNED REWAREHOUSING

1. DEFINITION: Planned rewarehousing involves a systematic, scheduled movement of material within a warehouse operations system.

2. BASIC OPERATIONS:

a. Planned rewarehousing is necessary to:

(1) Increase the efficiency of the system

(2) Perform warehouse loadouts due to new technology (i.e., NISTARS)

(3) Provide for storage of material requiring special handling

(4) Transfer of stock custody

(5) Building reconfiguration

b. Material movement control is the result of proper location change documentation and follow-up procedures.

3. INTERRELATIONSHIPS: Properly controlled material movement promotes inventory accuracy and MSIR accuracy.

4. MANAGEMENT TOOLS:

a. Proper planning using management tools (i.e., scanned popularity listings, candidate files, local programs, etc.) insures effective rewarehousing.

b. Having proper, up-to-date documentation (i.e., instructions, SOPs, desk guides, etc.) insures standardization of the process.

c. An ongoing training program for employees is required to insure proper rewarehousing and improved location accuracy.

PICK MATERIAL

I. Definition

The process of locating the material in the warehouse, removing it from the location, and sending it to the proper place for packing/shipping action.

II. Basic Operations (Automated, Non-Automated, Special)

A. Reading Pick Document Screens

B. Locating the Material for Picking

C. Pick Procedures - First-In First-Out (FIFO), Immediate Area Search

D. Document/Screen Annotations

E. Bin Tag Procedures

F. Under-Inventory Actions

G. Pick When Over/Under/Damaged Condition Exists

H. CASREPs, PMCs/Bearer Walk-throughs

I. Warehouse Adjustments

J. Next Day Deliveries

K. DLR Procedures

III. Interrelationships

A. In-Process Receipt Actions

B. Issue Priority Group (IPG) Time Frames

C. Warehouse Refusals

D. Physical Inventory

E. Quality Control

F. Workload Planning

G. Incoming RODs

IV. Management Tools and Techniques

A. NISTARS Pick Reports

B. Transaction Ledger on Disk (TLOD)

C. UADPS-SP inquiries

WAREHOUSE ADJUSTMENTS (Subset of Pick)

I. Definition

Warehouse Adjustments are total or partially unfilled issue requests, resulting from the stock record and physical on hand quantity imbalances.

II. Basic Operations

A. Warehouse searches for material

B. Annotating issue documents with information for data entry

C. Data entry

D. Warehouse Refusals

III. Interrelationships

A. Customer dissatisfaction

B. Decreased point of entry (POE) effectiveness

C. Increased demands for stock replenishment

D. Increased spot inventory workload

E. Increased requests for warehouse location searches for storage

F. Issue on request processing and potential problems

IV. Management Tools

A. Warehouse Refusals avoided logs

B. Data Entry Tallies

C. Issue Request Source Documents

D. Warehouse Refusal Rate calculations

E. Problem storage area reports

CUSTOMER SERVICES

I. Definition

Customer Services is the point of entry to a stock point for all its customers. It provides status on material requests of all kinds, data entry for off-line requests and provides assistance of various kinds to customers.

II. Basic Operations

A. Responds to customer inquiries for requisition status

B. Expedites customer requisitions

C. Monitors customer requests of all kinds and various special projects

D. Enters off-line requisitions

E. Resolves customer complaints

F. Monitors and tracks customer questions

H. Provides assistance to ships

I. Follows-up on open purchase requisitions

J. Maintains the name and address file

K. Tracks food supplies to ships

L. Corrects demand processing exceptions

M. Discuss Special Evolutions (i.e., carrier drops, ship returning from deployment)

III. Interrelationships

A. Pier-side ships

B. On-station customers

C. Shipping

D. Receiving

E. Stock Control

F. Purchasing

G. SERVMART walk-through

H. Processing of bearer and controlled issues (CASREPs, NMCs, PMCs, etc.)

IV. Management Tools

A. Controlled Exception Processing Reports

B. Requisition Status File Reports

C. Name and Address File Reports

D. Daily Message Traffic

E. Requisition Monitoring capabilities (UADPS-SP)

CUSTOMER ORDERS (subset of Customer Services)

Key Concepts

Understand the types of orders received
- A0
- A2
- A4
- A5
- A6
- BC2

Understand the processing of customer orders

Understand issue processing time frames
- NAVADS sites
- DLA, Non-NAVADS sites

Understand effect of priority on issues; reservations

Understand W/R process

Interrelationships

Customer orders affects exception processing

Orders affect work load planning

Management Tools

Issue processing time analysis reports

1144 report

UMMIPS performance report

WORKLOAD PLANNING

1. Terms

- DWASP
- WORK QUEUE (THE BANK)
    - NAVADS ISSUE FILE (NIF)
    - NISTARS OFF-LINE QUE
    - COMIS
- WORK IN PROCESS
    - ISSUES ON THE FLOOR
    - RECEIPTS IN PROCESS
    - RELEASED INVENTORY PACKAGES
    - COMIS
- PERFORMANCE STANDARDS
    - UMIPS
    - NISTARS
    - NAVSUP
    - COMMAND
    - CUSTOMER

- NAVADS
- UADPS
- WORK LOAD PLANNING: balancing of resources to requirements

KEY CONCEPTS

1. Workload planning is the key to effectively meeting customer requirements efficiently.
    - effectiveness is doing the right thing
    - efficiency is doing things right

2. Workload planning applies known information regarding labor, work requirements and priorities to the physical distribution process to optimize use of resources.
    - what are actual (historical) production rates/per work area?
    - what labor assets are available?
    - what types of work requirements exist and where?
        -MTIS receipts in mech vs. steel deliveries in the yard
        -carousel issues vs. bulk
        -disposals
        -FTRs

3. Based on key concept 2, if requirements exceed labor what is the priority of work?
    - Issue Group 1s, regular receipts, inventories, etc.

4. Backlogs are unavoidable--they must be managed through work load planning.

5. Work Backlogs should be held in the queues, not in process or on the floor. Today's work today.

6. Variation exists in every process. Therefore, work load plans should not be cast in stone but serve as daily/weekly roadmaps with adjustments based upon appropriate feedback.
   - -measure what you manage and manage what you measure
   - -appropriate feedback requires knowledge from the information systems (various other departments at the center)
   - -know what customer schedules and priorities exist

7. The best laid plans will not achieve your objectives if you are not out in the spaces ensuring that they do.

8. Get the big picture on how processes work together; the whole is greater than the sum of its parts.
   - -know the trade-offs between the various types of work
   - -know the need to view the process from start to finish
     - -overtime in one area may not help unless adjoining or interrelated areas have overtime too.

PACK

I. Definition

Packing material includes the processing of incoming packing requests, physically preserving the material packed, physically packing the material and sorting the material for shipment.

II. Basic Operations

A. Understanding different types of pack

B. Understanding different levels of pack

C. Understanding scheduling of packing operation

III. Interrelationships

A. Documentation determines packing

B. Improper packaging and preservation will result in incoming RODs

C. Shipment of household goods

D. Interface with Military Traffic Management Command (MTMC)

E. Safety and security associated with packing hazardous material

F. Input to Proof of Shipment (POS)

G. Workload planning/NAVADS

H. Customer Satisfaction

I. Improperly packed material (biggest ATAC problem)

IV. Management Tools and Techniques

A. NAVSUP P-450 Instructor Guide for Packaging and Packing Operations

B. NAVSUP P-504/AFR 71-8 Preparation of Freight for Air Shipment

C. NAVSUP P-505/AFR 71-4 Preparation of Hazardous Material for Military Air Shipment

D. MILSTD-726 Packaging Requirement Codes

E. MILSTD-129 Marking for Shipment and Storage

F. MILSTD-794 Procedures for Packaging and Packing of Parts and Equipment

G. OPNAVINST 5510, Navy Security Manual (classifying, handling, packing, and marking classified material)

H. Local Management Reports/Message Traffic

I. Training Sources

J. Local system for locating and keeping visible "grey plastic special containers" for repairables

SHIP MATERIAL

I. Definition

Ship Material is the notification, selection, prioritizing, classifying, staging, scheduling, delivery and/or movement of material to a predetermined destination.

II. Basic Operations (Air, Land, Water and Local Delivery)

A. Setting up sound principles/practices in the operational flow of documentation

B. Matching resources to shipping workload

C. Gathering/determining required shipment/transportation data

D. Preparation of worksheets and planning/prioritizing shipping requirements

E. Scheduling local deliveries to meet customers requirements

F. Signature Service Material

G. Preparing timely transportation responses

H. Manifesting local deliveries

III. Interrelationships

A. Packing

B. Storage

C. Transhipment

IV. Management Tools

A. Resources to shipment workload plan

B. Worksheets, log books, and production reports

C. Quality control program

D. Shipping and transportation regulations and schedules

E. Effective and economical use of transportation resources

F. Customer feedback

REPAIRABLES MANAGEMENT INTRODUCTION

I. Definition

Introduction to Repairables provides the student with an item of material.

II. Basic Operations

A. Understanding Repairables

1. Dollar value
2. Mandatory Turn-in Repairable (MTR)
3. Material Turned Into Store (MTIS)
4. Depot Level Repairable (DLR)
5. FBM

B. Understanding the Three Levels of Repair

1. Organizational
2. Intermediate
3. Depot (DLR)

C. Understanding the Repair Cycle

1. Receiving
2. Inducting and repair
3. Return repaired item to stock for issue

III. Interrelationships

A. Importance of Repairables to the mission of supply point

B. Dollar value of total inventory

IV. Management Tools and Techniques

(Covered in subsequent sections; this is an introduction segment)

RECEIVE REPAIRABLES

I. Definition

Receive Repairable material provides the student with an understanding of the procedures used to screen, track, and account for material received at the stock point.

II. Basic Operations

A. Understanding Repairable Receiving Procedures

1. HUB or Advanced Traceability and Control (ATAC) material
2. From end-use customers
   - Screening procedures
   - Screening tools used
   - Advanced Shipping

B. Understanding Advanced Shipping

1. Documents/Document Flow
2. Carcass tracking file

C. Understanding Accountability and Signature Controls

1. Kind of accountability
2. Signature Controls (procedures)

III. Interrelationships

A. ICP information requirements and repair directives

B. Turn-in/remain-in-place requirements

C. Workloading and workflow in NADEP for repair actions

D. Critical mission support (NMCS/PMCS)

E. Excess actions/warehouse storage related to repairables

F. MTIS

G. Foreign Military Sales support requirements

IV. Management Tools and Techniques

A. Carcass Tracking File

B. Master Repairable Item List (MRIL)

C. Carcass Tracking Records (CTRs) - including Carcass Tracking File (CTF)

D. Aviation Repairable File (ARF)

E. Management List-Navy (ML-N)

F. Master Cross Reference List (MCRL)

G. Component Induction Listing

H. Transaction Ledger on Disk (TLOD)

I. Advanced Shipping Report

REPAIRABLES INDUCTION

I. Definition

The Induction segment provides the student with an understanding of the documents and procedures used to put a repairable item into the repair cycle.

II. Basic Operations

A. Understanding Planning of Inductions by the Inventory Control Point (ICP), Depot and Stock Point

1. Coordination of efforts
2. Control of priority inductions

B. Understanding the Induction Process

1. Condition Code changes
2. Custody changes and effect on Stock Point records
3. Controlling induction process with ZU series actions
4. Warehouse refusal actions
5. BREES

C. Understanding M Condition Management

1. Explain the repair procedure at Depot
2. Keeping track of various types and respective amounts of repairable material at the Stock Point

D. Understanding G Condition Management (G Stores)

1. Parts ordering
2. Bits and pieces
3. Parts swapping
4. Re-induction
5. G-MAN

E. Understanding M Condition Reconciliation

1. Reconciliation between amount of M condition material at Depot undergoing repair and amount of M condition material shown on the Master Stock Item Record (MSIR)
2. Actual physical inventory of M condition by the Stock Point and/or the Depot
3. Reporting functions necessary

III. Interrelationships

A. ICP information requirements and repair directives

B. Turn-in requirements

C. Workloading and workflow in NADEP for repair actions

D. Procurement of bits and pieces to support repair process

E. Critical mission support (NMCS/PMCS)

F. Excess actions/warehouse storage related to repairables

G. Foreign Military Sales support requirements

IV. Management Tools and Techniques

A. Carcass Tracking File

B. Master Repairable Item List (MRIL)

C. Carcass Tracking Records (CTRs) - including Carcass Tracking File (CTF)

D. Aviation Repairable File (ARF)

E. Management List-Navy (ML-N)

F. Master Cross Reference List (MCRL)

G. Component Induction Listing

H. Transaction Ledger on Disk (TLOD)

I. G-MAN Reports

REPAIRABLE RETURNS

1. DEFINITION: Repairables are items or component parts designated by a cognizant Item Manager as economically repairable because of their:

- High dollar value
- Critical/specialized use
- Long turn around time in repair cycle

2. BASIC OPERATIONS:

a. Repairable returns encompasses receiving material from designated overhaul points (DOPs) in various conditions:

(1) Ready for issue under the same inducted or modified stock number.

(2) Awaiting repair parts and re-induction

(3) Awaiting rescheduling of repairs by the DOP.

(4) Unserviceable. Disposal action required.

b. Repairable returns management control is dependent on timely and accurate processing of material and accompanying documents, movement of material to required staging/storage areas, and the corresponding update of MSIR.

c. ICPs releases/referrals (NF/ND status) during the return cycle.

3. INTERRELATIONSHIPS: Properly controlled repairable returns promotes inventory and MSIR accuracy.

4. MANAGEMENT TOOLS:

a. Proper use of available management tools (external/internal programs, reports, etc.) for monitoring results in continued processing improvement.

b. Having proper, up-to-date documentation (i.e., instructions, SOPs, desk guides, etc.) insures standardization of the process.

c. An ongoing training program for employees is required to insure a quality repairables program.

RESOURCES MANAGEMENT

I. Business Management
II. Labor
III. Capital Equipment

I. Business Management

Strategic Plan
* Why do it
* How it works
* What it addresses (What, Who, Where, How)

Critical Success Factors

Relationships among Strategic Plan/HQ Tactical Plans/Activity Business Plans

HQ Tactical Plans

Activity Business Plans
* Business Plan Cycle
* What Plan includes

Cost Center Management
* Measured
* Non-measured
* Players (Cost Center Manager & Functional Sponsor)
* Cost Center Data Sheets

Performance Goals
* Setting/Monitoring
* Impacts

Cost Accounting
* Tracking

Productive Unit Resourcing
* What is it; how it works

Managing to Payroll
* What is it; how to use its flexibilities

POM Process

Efficiency Reviews/MEO Analysis
* What are they; how to prepare for them
* Why it is important to do a thorough job

Reimbursables

II. Labor

Types of Labor and Uses (Flexibilities, Advantages, etc.)
* Permanent
* Temporary

* Intermittent
* Part-time
* Special Programs (free labor)
    Stay-in-school
    Summer-Aids
    Interns
    Handicap
* Reserves

Personnel Management
* Civilian Personnel Office
    What it does
    Who does what

SF 171: What is it? How is it used?
TQM

III. Capital Equipment

Types of Equipment and use
How to Acquire (fund)
* Productivity-Enhancing Capital (PECI) Program
    Productivity Investment Funds (PIF)
    Productivity Enhancing Investment Funds (PEIF)
* Other Funding Mechanisms
    Smart Work
    Special Projects

New/Modernize Facilities
* MILCON

Activity Requirements plan
* What it is and how you can use it

MANAGEMENT TOOL KIT

I. Definition

Identifies techniques available to Managers to assist them in analyzing and resolving operational problems and making improvements to their overall processes.

II. Basic Operations

Statistical Analysis

A. Collect Data

1. Population
2. Discrete and continuous data
3. Variables
4. Random sampling (simple, stratified, systematic)
   - Proportional (non-discrete lots)
   - MIL-STD-105D (discrete lots)

B. Organize (Display) Data

1. Tabular
   - Historical Table
   - Frequency Table
   - Percentage Table
2. Graphical
   - Bar Charts
   - Line Charts
   - Pictograms
   - Histograms
   - Frequency Polygons
   - P-Charts
   - Pareto Charts
   - Scatter Diagrams
3. PC Tools

C. Analyze Data

1. Mean
2. Median
3. Mode
4. Range
5. Variables
6. Regression and Correlation
7. Normal Distribution
8. Standard Deviation
9. PC Tools

Process Analysis

A. Identify Process

    1. Card-Sort Technique
    2. Work Function Technique

B. Display Process

    1. Process Flowchart Technique
    2. PC Tools

C. Improve/Correct Process

    1. Problem Analysis Technique
    2. Path Analysis Technique
    3. Cause and Effect Technique

Glossary for the Work-load Planning Course

Bounce Back - A referral order returned by a Navy stock point to the Navy or DLA Item Manager advising that the item ordered is either not carried on the stock point's files or that the stock point record reflects a zero balance.

Defense Logistics Agency (DLA) - DLA is directly responsible to the Secretary of Defense for providing supplies and services for certain groups and classes of secondary items used in common by the Military Services. The Military Services determine all of their requirements and establish their own priorities. DLA's supply centers forecast aggregate demand, compute consolidated requirements, procure the supplies from commercial sources and maintain stocks to meet military needs.

DRMO - Defense Re-utilization Management Office. DRMO is the DLA activity which is responsible for material which is returned to the system whether ready for issue or not. This material can then be transferred to other activities or sold at public auction.

IPG 1/2/3 Issue Control Group Processing - IP a method of assigning priority to specific material requirements.

Inventory Control Point (ICP) - An activity within the Navy who is the wholesale manager for certain items of supplies. The Navy activities who are considered ICP's

are Navy Aviation Supply Office (ASO), Navy Ships Parts Control Center (SPCC), and Navy Publication and Forms Center (NPFC).

IRRD - Issue, Release, Receipt Document. Used in the same manner as a 1348-1.

Material Movement Document (MMD) - A computer output receipt document (hard copy) that is identified by its own Receipt Control Number(RCN) and its own document Identifier (DOCID). Samples of MMD DOCID'S are ZRB, ZRC, and ZSK (which are defined in the Location changes portion of this course). Each MMD provides printed information about the material received and the location where the material should be stowed.

MSIR - Master Stock Item Record. The main computer record that controls all actions/updates for an NSN.

MOVEMENT UNIT (FUNDED AND UNFUNDED) - An agreed upon movement of material for which negotiated reimbursement from NAVSUP to the Stock Point is made.

Material Turned Into Stores (MTIS) - Material which is turned into the Stock Point from fleet activities which is presumed to be in Ready for Issue status. This material is returned to stock for re-issue.

NAVADS - NAVADS (Navy Automated Transportation Documentation System) is a Naval Supply Systems Command sponsored system which provides automated management control, shipment consolidation and shipment preparation. The purpose of the management control subsystem is to provide the user with the capability to control work load and to expedite high priority workload by assigning applicable data from one subsystem within the program and using this data to determine how material should be shipped.

NAVADS Issue File (NIF) - Navy Automated Transportation Document System Issue File.

NISTARS - NISTARS (Navy Integrated Storage, Tracking, and Retrieval System)is the automated warehousing system which incorporates information received from UADPS-SP (via NAVADS for issues) and plans programs and initiates the issue, receipt, stow or rewarehousing action via a internal work-load planning function. This system can also be combined with a automated warehouse design with incorporated robotics.

Point of Entry (POE) - The first place that a requisition enters the supply system.

Receipt Control Number (RCN) - The number that is given to an IRRD to track it.

Redistribution - The relocation of ICP controlled assets based upon a Supply Demand Review done routinely by the ICP.

RDD - Required Delivery Date. This is the date which the activity says it needs it by. Although all current computer software is designed to look at the RDD it in fact manages by IP.

Supply Demand Review(SDR) - A UICP program which compares assets with requirements and decides to initiate a purchase, terminate a purchase, expedite a purchase, recall material from disposal, reallocate a system buy prior to delivery or redistribute material from stock on the shelf.

Stock Point - Those Navy shore activities (e.g., Naval Air Stations, Naval Weapons Stations, Naval Supply Depots, Naval Supply Centers,Etc.), procuring and accounting for Navy Stock Fund Material, which are required to conduct and report physical inventories, location surveys, and quality control checks.

TRANSRECON - Transaction Reconstruction tape on which all additions changes and deletions to disk records are recorded. It is used to reconstruct files in the event of disk failure. Certain other records are written for subsequent use in financial applications, printing of the transaction ledger, printing of several other reports, and certain statistical data.

Transaction Item Reporting (TIR) - A daily reporting system which indicates changes in stock position or condition. Receipts, issues, condemnations, inventory adjustments, transfers between sub-accounts and intended use are typical of TIR's.

UMMIPS - Uniform Material Movement and Issue Priority System. The DOD system which provides specific time lines for material movement.

Warehouse Refusal - A condition caused by the inability of a Stock Point to satisfy a demand because the required material available on the stock record, is not physically on-hand or cannot be located.

UIC - Unit Identification Code. A standard five digit alpha numeric code prefixed by the letter "N","V" or "R" which translates to a clear text address of fixed installations, mobile activities, and contractors, and is used to uniformly identify the activity to which material, logistics documentation, and/or material billing is directed.

UADPS-SP - UADPS-SP(Uniform Automated Data Processing System) is a automated system designed to perform functions at a Stock Point. The system consists of Computer equipment, operating systems, application processes and personnel.

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16. Personal Interviews were conducted with the following people:

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