

MCWP 4-11.6
(Formerly MCWP 4-25.5)

Bulk Liquids Operations



U.S. Marine Corps

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ERRATUM

to

MCWP 4-11.6

BULK LIQUIDS OPERATIONS

1. For administrative purposes the publication short title has been reidentified. Change "MCWP 4-25.5" to read: "MCWP 4-11.6" of August 1996 wherever it appears in the Manual.

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DEPARTMENT OF THE NAVY
Headquarters United States Marine Corps
Washington, DC 20380-1775

29 August 1996

FOREWORD

1. PURPOSE

Marine Corps Warfighting Publication (MCWP) 4-25.5, *Bulk Liquids Operations*, provides doctrinal guidance for bulk liquids support of the MAGTF. This publication is aligned doctrinally with FMFM 4, *Combat Service Support* and tactically with FMFM 4-1, *Combat Service Support Operations*. It specifically addresses the techniques and procedures of bulk fuel and water support of the FMF and the MAGTF in a joint/multinational environment. MCWP 4-25.5 is a follow-on publication of FMFM 13, *MAGTF Engineer Operations*.

2. SCOPE

This publication provides information on the bulk liquids mission, organization, and concept as well as guidance for the planning and conduct of bulk fuel and water support operations for commanders, staffs, subordinate commanders, and personnel in bulk liquid units.

3. SUPERSESSION

Not applicable.

4. CHANGES

Recommendations for improving this manual are invited from commands as well as directly from individuals. Forward suggestions using the User Suggestion Form format to—

COMMANDING GENERAL
DOCTRINE DIVISION (C42)
MARINE CORPS COMBAT DEVELOPMENT COMMAND
3300 RUSSELL ROAD SUITE 318A
QUANTICO, VIRGINIA 22134-50215

5. CERTIFICATION

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

PAUL K. VAN RIPER
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Combat Development Command

DISTRIBUTION: 143 000009 00

Record of Changes

Change No.	Date of Change	Date of Entry	Organization	Signature

Overview of Bulk Liquids Operations

Water and fuel make up the greatest quantities of supply required by the Marine air-ground task force (MAGTF) to conduct modern warfare. As petroleum or water requirements rise above individual or small unit needs, it becomes necessary to handle them in “bulk” form. Bulk handling calls for special equipment, product handling safeguards, and standing operating procedures (SOPs). Plant account/permanent facilities are often used at bases, camps, and air stations; however, deploying MAGTFs require special expeditionary systems. See chapter 3 for discussion on tactical fuel systems (TFSs). This publication will address water and fuel as functional operations. For discussion of water and fuel supply classes, see MCWP 4-6.

Mission success depends on planning for the known and expecting the unknown. This is especially true when planning bulk liquids operations. See part I for bulk fuel operations and part II for bulk water operations. Commanders and their staffs at all levels must be concerned about maintaining water and fuel support to allow completion of the unit’s mission. To provide the most effective use of bulk liquids stocks and equipment, bulk liquids planners must be familiar with Marine Corps and Department of Defense (DOD) bulk liquids assets and responsibilities. To ensure adequate support, commanders and their staffs should address planning for these two commodities in all operation plans (OPLANs).

Petroleum and water are supplied as either packaged or bulk products. *Packaged products* differ from bulk products in one respect—the product is received along with the container in a packaged product. Fuel and water are combat-essential bulk commodities that are no longer only supplied by 5-gallon cans or packaged supply methods. Packaged methods require extensive shipping space and provide a reduced throughput capability when compared to “bulk” operations. The current Marine Corps and DOD policy is that packaged or drummed fuel (and water) is not the preferred method of providing bulk liquids. With the many drawbacks to using packaged or drummed products, **the use of packaged or drummed fuel (and water) should be kept to a minimum.**

Bulk liquids are defined as petroleum or water products which are normally transported by pipeline, rail tank car, tank truck barge, or tanker and stored in tanks or containers having a capacity of more than 55 gallons. The exceptions are fuels or water stored in 500-gallon collapsible containers which are considered to be packaged. MAGTF commanders and staff planners need to be aware of and should consider the many options available in bulk liquids operations. Mission success may hinge on proper planning and handling of these complex and dynamic commodities.

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User Suggestion Form

From:

To: Commanding General, Doctrine Division (C42), Marine Corps Combat Development Command,
3300 Russell Road Suite 318A, Quantico, Virginia 22134-5021

Subj: RECOMMENDATIONS CONCERNING MCWP 4-25.5, *BULK LIQUIDS OPERATIONS*

1. In accordance with the Foreword to MCWP 4-25.5, which invites individuals to submit suggestions concerning this MCWP directly to the above addressee, the following unclassified recommendation is forwarded:

<u>Page</u>	<u>Article/Paragraph No.</u>	<u>Line No.</u>	<u>Figure/Table No.</u>
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Nature of Change: Add
 Delete
 Change
 Correct

2. Proposed new verbatim text: (Verbatim, double-spaced; continue on additional pages as necessary.)

3. Justification/source: (Need not be double-spaced.)

NOTE: Only one recommendation per page.

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Part I. Bulk Fuel Operations

Chapter 1

Introduction

Procurement of fuel for the United States Armed Forces can be traced back to the Revolutionary War. Late in November 1775, the Continental Congress resolved that the troops were to be supplied with fuel and bedding. The Quartermaster General was responsible for providing wood, straw, and blankets as well as camp equipage. The requirements for fuel, as we know it today, remained relatively small until World War I. In 1918 after the Armistice, Lord Curzon said, “The World War was won for the allies not only by blood but by oil.” Winston Churchill declared, “The allies had floated on a sea of oil to victory.”

1001. History of Bulk Fuel

a. Metz, 1944—Fuel Shortage. During the engagement of Metz in 1944, the shortage of fuel in the Third Army was a significant factor. Beginning the pursuit on 1 August 1944 with a 1.5 million-gallon reserve, the Third Army depleted its stockpile by 7 August and had to operate on a “hand-to-mouth” basis. While the fast-paced pursuit is often blamed for Third Army’s high fuel use, inaccurate forecasts of consumption were also a significant cause. The 6th Armored Division, for example, used two to three times more fuel than anticipated.

While Patton was racing through France and consuming an average of 350,000 gallons of fuel each day, the famous Red Ball Express was organized to meet his growing demands as well as those of the First Army. The Red Ball Express was a nonstop convoy of trucks that connected supply depots in Normandy with the armies in the field. At its peak the Red Ball Express used 6,000 trucks and burned 350,000 gallons of fuel per day to complete its missions. As Patton advanced deeper, the demands placed upon the Red Ball Express grew faster than it was able to supply. It became obvious to tactical commanders that the Allies were running out of gas. On 28 August, LtGen Patton summed it up this way, “At the present time our chief difficulty is not the Germans, but gasoline. If they would give me enough gas, I’d go all the way to Berlin.”

Patton’s army was forced to ease up when its fuel allocation fell 100,000 gallons short. Even though fuel was in abundance in Normandy, the Red Ball Express could not transport it in sufficient quantities to the Third Army’s forward units. On 31 August after receiving no fuel at all, Patton’s spearheads came to a halt.

b. Korean Conflict—Fuel Packaging and Moving Problems. During World War II, the fuel needs of the Marine Amphibious Forces were barely met with 5-gallon cans and 55-gallon drums. The problem escalated when beach personnel were tasked to move this fuel. The importance of packaging and moving petroleum products continued to increase in the Korean Conflict where a large percentage of all supply tonnage consisted of petroleum products. To meet this growing requirement, the Marine Corps Equipment Board developed a concept in 1952 for fuel delivery in amphibious operations. This concept called for using collapsible tanks, rubber hose, and portable pumps to provide bulk fuel support. The concept proved workable and evolved into the fuel systems that we use today—the amphibious assault fuel system (AAFS), the tactical airfield fuel dispensing system (TAFDS), and the helicopter expedient refueling system (HERS). The basic and most significant feature of the three systems was and still is flexibility.