MCRP 2-24B

(Formerly MCWP 2-2.3 & MCWP 2-15.1)

Remote Sensor Operations

U.S. Marine Corps

PCN 144 000153 00

MCCDC (C 42)
13 Jul 2004

E R R A T U M

to

MCRP 2-24B

REMOTE SENSOR OPERATIONS

1. Change the publication short title to read "MCRP 2-24B" (vice MCWP 2-15.1) and change PCN to 144 000153 00 (vice 143 000016 00)

PCN 144 000153 80

MCCDC (C 42)
24 JUN 1998

E R R A T U M

to

MCWP 2-15.1

REMOTE SENSOR OPERATIONS

1. For administrative purposes the publication short title has been reidentified. Change "MCWP 2-2.3" to read: "MCWP 2-15.1" of April 1997 wherever it appears in the Manual.

PCN 143 000016 80

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

17 April 1997

FOREWORD

Marine Corps Warfighting Publication (MCWP) 2-2.3, *Remote Sensor Operations*, is the first in a new series of doctrinal publications on intelligence collection operations. MCWP 2-1, *Intelligence Operations* (under development) and FMFM 3-21, *MAGTF Intelligence Operations*, provide doctrine, tactics, techniques, and procedures for intelligence collection operations. MCWP 2-2.3 complements and expands upon this information by detailing doctrine, tactics, techniques, and procedures for the conduct of remote sensor operations in support of the Marine Air-Ground Task Force (MAGTF). The primary target audience of this publication is intelligence personnel responsible for the planning and execution of sensor operations. Personnel who provide support to remote sensor operations or who utilize the reporting from these operations should also read this publication.

MCWP 2-2.3 describes aspects of remote sensor operations including doctrinal fundamentals, equipment, command and control, planning, execution, logistics, and training. MCWP 2-2.3 provides the information needed by Marines to understand, plan, and execute remote sensor operations in support of the MAGTF.

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

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Unless otherwise specified, masculine nouns and pronouns used in this publication refer to both men and women.

Record of Changes

Log completed change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

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Chapter 1

Remote Sensor Operations Fundamentals

Remote sensor operations expand the commander's view of the battlefield. Remote sensors provide a means to economically conduct continuous surveillance of vast areas, contributing key information to the intelligence collection effort. These operations decrease the number of personnel required for reconnaissance and surveillance operations and reduce the risk associated with these operations. A remote sensor system, consisting of individual sensors, communications relays, and monitoring devices, provides the capability to conduct remote sensor operations. Sensors, relays, and monitoring devices are employed in an integrated network, providing general surveillance, early warning, or target acquisition over selected areas of the battlefield. Key considerations in employing remote sensors are the nature of the target, characteristics of the area or operations, time and resources available for emplacing the sensor network, and the location and connectivity of the sensor monitoring sites.

1001. Remote Sensor Systems

A remote sensor system is a continuous, all-weather surveillance system which provides monitoring of activity in elected areas. The system consists of sensors, relays, and monitoring equipment; system components are emplaced at selected points on the battlefield to provide an integrated sensor network. Sensors are placed adjacent to the desired surveillance area, normally a route or point target (objective, helicopter landing zone, or assembly area). Individual sensors are activated by seismic, magnetic, infrared, or optical detections of moving targets.

Detections are transmitted by FM radio link directly or via relays to the monitoring equipment. Operators at the monitoring site interpret the detections to determine location, direction, and speed of movement of the detected targets. They may also be able to provide an estimated number of vehicles or personnel detected and a generalized identification of the type of targets detected (e.g., tracked vehicles, wheeled vehicles, or personnel), depending upon the type of sensors employed and the nature of the target's activity. This information is forwarded to intelligence, operations, and fire support agencies in the form of sensor reports.

1002. Evolution of Remote Sensors

Remote sensors entered the Marine Corps inventory in 1967 during the Vietnam conflict. The development of a sophisticated remote sensor system permitted the continu- us surveillance of vast areas, providing indications and warning of future enemy activities. Remote sensors decreased the number of personnel required to monitor the movements of men and material and reduced the risk associated with surveillance operations by providing the capability to monitor targets without physically locating personnel in the surveillance area. The intelligence developed from information provided by the remote sensor system was used to plan and execute numerous successful operations by Marine forces.

The use of sensors in Vietnam established their value as an intelligence collection asset. The third-generation Tactical Remote Sensor System (TRSS-Phase III or TRSS III) has been a mainstay of Marine Corps intelligence collection capability since 1972. In 1992, a new generation of sensor equipment, TRSS-Phase V (TRSS V), entered the inventory. TRSS V provides a greatly enhanced remote sensor capability through the use of light-weight sensors, new detection technology, and improved information processing capabilities. See figure 1-1 for the TRSS and its components.

1003. Remote Sensor Employment Principles