



UNITED STATES MARINE CORPS
MARINE CORPS ENGINEER SCHOOL
PSC BOX 20069
CAMP LEJEUNE, NORTH CAROLINA 28542-0069

IN REPLY REFER TO:

3000

UIC

9 Jun 04

From: CWO5 R.S. Mizner 510640778/1120
To: Commanding Officer, Marine Corps Engineer Center of Excellence

Via: (1) Commanding Officer, Utilities Instruction Company
(2) MAGTF Integration Cell
(3) Director of Instruction

Subj: **TRIP REPORT**

Ref: (a) ScolO P5000.2

Encl: (1) Trip topics

1. IAW the reference, the enclosure provides details of the TAD trip to the Joint Water Resource Management Action Group (JWRMAG) #25 held 8-10 June 2004.

2. POC for further information is CWO5 Mizner, ext. 450-7286 or MgySgt Calkins, ext. 450-7238.

R. S. MIZNER

Overview of JWRMAG

DOD Directive 4705.1, Management of Land-Based Water Resources in Support of Joint Contingency Operations, 9 July 1992, designated the U.S. Army as the DOD Executive Agent for land-based water resources. In compliance with this directive, the Army established a water office in the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) to carry out the following duties:

1. In coordination with the other military Department Secretaries, develop and implement policy concerning joint plans, procedures, and requirements for water resources in support of land-based forces.

2. Establish procedures for coordination of all DOD Component regulatory documents and plans affecting water resource planning for joint employment and support, R&D, equipment acquisition within the scope of this Directive.

3. Ensure that coordinated plans for technology, R&D, and equipment acquisition meet overall DOD goals and that duplicate efforts are resolved.

4. Develop, in coordination with appropriate DOD components, joint doctrine for the employment of water resources.

5. Develop an improved, and automated water resources database for the rapid retrieval of information on an area or point basis to assist commanders in making water support logistics decisions.

1. Purpose, date, and location of trip.

a. Joint Water Resource Management Action Group (JWRMAG) #25, 8-10 June 2004, Lumberton NC.

2. Participants.

- a. MCCOE
CWO5 Mizner
MGySgt Calkins
- b. MarForPac
MSgt Mullen
- c. I MEF
MGySgt Best
SSgt Murrill
- d. II MEF
CWO2 Morris
SSgt Bowie
- e. Engineer Advocacy Center
MGySgt Washington
- f. MarCorSysCom
MSgt Vega

3. Agenda Topics.

- a. Joint Water Operation in OEF and OIF
- b. Air Force Report on Nanomesh Water Purification Device
- c. Navy and Marine Corps Report on Hydration Devices
- d. TARDEC Report on Water from Exhaust
- e. PM, PAWS New Equipment Update
- f. JWRMAG #24 Tasker Reports
- g. Water Issues in the Korean Peninsula

4. Synopsis of Agenda Topics.

a. **Joint Water Operation in OEF and OIF.** (Speaker: LtCol Rechner, USAF, DOD J-4.)

1. Overall, units producing water in these operations met their goals and objectives. Some supported units who participated in these operations reported critical shortages of drinking water. However, upon further investigation it was discovered that they had an abundance of potable water purified by a ROWPU and their supply of bottled water was low. This again highlighted the problem of getting troops to consume ROWPU water. During the course of past training and real world operations, ROWPU water has somehow received a bad reputation. There is no better process for purifying water than reverse osmosis. It is my belief that the problem is actually the temperature of the water couple with high Free Available Chlorine and being stored in a rubber/fabric tank that causes the water to be unpleasant to the palate. Bottled water is a tool for the commander to use until the ROWPU is in place and operational and we should not rely on it as our only potable water source.

2. The distribution of water still remains the biggest water problem to be solved. Army and Marine Corps units tasked with purifying water have adequate equipment but neither has the assets to distribute it to the consumer. The PM PAWS brief covered new water distribution equipment.

b. **Air Force Report on Nanomesh Water Purification Device.**
(Speaker: Lt Edmondson, USAF)

1. Until recent real world operations, the Air Force had not done too much with water purification. They have now identified a need for their Special Forces to have an individual water purification device to meet sustainment/survival potable water needs. Nanomesh filtration technology is what the Air Force is experimenting with and they have had positive results thus far. This technology can remove enough arsenic content to make water safe to drink. The devices tested were able to produce 1 liter of water in 8 minutes.

c. **Navy and Marine Corps Report on Hydration Devices.**

(Speaker: Mr. Oddette)

1. The Marine Corps continues to experiment with individual purification devices in order to ensure that small units can purify water for drinking. The Navy Preventive Medicine branch works with the Marine Corps to ensure that devices being tested can produce safe drinking water.

d. **TARDEC Report on Water Initiatives.** (Speaker: Mr. Shalewitz)

1. Water from Exhaust. TARDEC and ONR are still experimenting with a device that will condense water from engine exhaust. The technology exists for this and the challenge facing the military is being able to make a small working model that will produce enough water for a squad-sized unit.

2. Expeditionary Unit Water Purifier (EUWP). Village Marine Corporation is working on two prototype units, one that can produce 100,000 gallons per day and one that can produce 300,000 gallons per day from any water source. Each of these units would fit into one 20-foot long ISO container. Prototype models will be demonstrated at Port Hueneme and Mr. Shalewitz will notify the MCECOE of the date and time of this event.

e. **PM, PAWS New Equipment Update.** (Speaker: LtCol Espallat, USA)

1. Rapid Installed Fluid Transfer System (RIFTS). This is a hose reel system that can lay down 20-30 miles of hose (fuel or water) in one day. One system can pump 800,000 to 1 million gallons per day. This system solves the labor problem associated with installing and recovering the Tactical Water Distribution System (TWDS) but it still doesn't solve the problem of safeguarding the pipeline after installation.

f. **JWRMAG #24 Tasker Reports.** (Speaker: Mr. Long, USA FORSCOM).

1. OIF Water Topics. The Army complained about their ROWPU mechanics (MOS 63J) not being properly trained to maintain and repair the equipment. Soldiers attending the JWRMAG expressed that they like the Marine Corps system of one MOS (1171) operating and maintaining the equipment (the Army MOS for ROWPU operator is 92W).

2. 3-Person ROWPU Operator Teams are Inadequate. The sustained operations in Iraq have taken its toll on ROWPU operators. The Army ran water points with 3-Person teams as they

have in training exercises and has now found that this doesn't work when you operate "24/7" for long periods of time.

3. Pre-war Maintenance Readiness. Army units who reported high readiness on water equipment found that the equipment did not operate when they needed it. The readiness had not been intentionally falsified; units just had not put the resources towards equipment maintenance to ensure that the equipment was operationally ready.

4. Interactive Electronic Technical Manuals (IETM). Due to various computer problems, IETM's did not work well. Units who did not take a paper copy with them were unable to perform certain tasks until they obtained a paper copy. IETM's work well in a clean, dust-free shop where a soldier or Marine has access to a computer.

g. Water Issues in the Korean Peninsula. (Speaker: Capt. Hiraldo, USA)

1. Army units in Korea have only recently begun to study the water needs of units defending the ROK. Units who would provide purified water to combat units do not have enough equipment to provide adequate supplies. The Army Corps of Engineers Topographical Engineer Center (TEC) is working on collecting water source data for the Korean peninsula.

5. Conclusions and recommendations. This was a worthwhile event to attend. Issues discussed can be used to enhance the training at MCECOE. Recommend that MCECOE send 2-3 representatives to the next JWRMAG.

6. MCECOE Commitments. None.

7. Administrative issues. None.