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Environmental Quality

Environmental Considerations During Complex Contingency or Wartime Operations in the Korean Theater of Operations

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***This is the first edition of Army in Korea Pam 200-2**

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Summary.

a. To provide guidance to Eighth United States Army (Eighth Army) units on managing environmental considerations during designated complex contingency or wartime operations (CONWOPS) in the Korean Theater of Operations (KTO).

b. This pamphlet does not address Nuclear, Biological, and Chemical (NBC) contamination, decontamination, waste management, or munitions.

Summary of Change. Not applicable.

Applicability.

a. This guidance is applicable to all Eighth Army units to include Korea Region Office (KORO) Installation Management Agency (IMA) during designated complex contingency or wartime operations conducted in the KTO.

b. Nothing in this pamphlet shall be construed to create, modify, alter, or amend any existing multilateral international agreements, bilateral agreements with the host nation, or any US Government regulations as they pertain to the US military, or to create any obligation or requirement on the part of the United States Government.

Supplementation. Supplementation of this pamphlet and establishment of command and local forms are prohibited unless prior approval is obtained from the Commander, Eighth Army (EAEN-PPC), Unit #15236, APO AP 96205-5236.

Forms. Army in Korea (AK) forms are available at http://8tharmy.korea.army.mil/.

Records Management. Records created as a result of processes prescribed by this regulation must be identified, maintained, and disposed of according to AR 25-400-2. Record titles and descriptions are available on the Army Records Information System (ARIMS) website at https://www.arims.army.mil.

Suggested Improvements. The proponent of this pamphlet is the Commander, Eighth Army (EAEN-PPC). Users may suggest improvements to this pamphlet by sending a DA Form 2028 (Recommended Changes to Publications and Blank Forms) to the Eighth Army (EAEN-PPC), Unit #15236, APO AP 96205-5236.

Distribution. Electronic Media Only.

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Section I GENERAL

1. Purpose.

a. To provide guidance to Eighth Army units to include KORO on managing environmental considerations during designated complex contingency or wartime operations (CONWOPS) in the Korea Theater of Operations (KTO).

b. This pamphlet does not address Nuclear, Biological, and Chemical (NBC) contamination, decontamination, waste management, or munitions.

2. References. Required and related publications are listed in Appendix A.

3. Abbreviations and Terms. Abbreviations and terms used in this regulation are explained in the glossary located at the end of this pamphlet.

4. Environmental Goals. The environmental goals of the Eighth Army are to:

a. Contribute to mission accomplishment.

b. Preserve the fighting strength of the force.

c. Spend US funds wisely.

d. Protect the United States of America (US) against liability.

e. Strengthen host nation relationships.

f. Demonstrate sound environmental performance.

5. Complex contingency operations. Samples of operations or actions that may, when designated as applicable by the Eighth Army Commander, be considered complex contingency operations include the following:

a. Noncombatant evacuation operations (NEO).

b. Counter-drug (CD), counter-terrorism (CT), and counter-insurgency (CI) Operations.

c. Show of force operations, strikes or attacks, raids, military recovery/search and rescue (SAR) operations, and support to insurgencies.

d. Enforcement of sanctions/maritime intercept operations (MIO)/quarantines, enforcing exclusion zones, operations to ensure freedom of navigation (FON) and over-flight, and protection of shipping operations.

e. Peacekeeping (PK) and peace enforcement (PE) operations to include observer missions, peace accord imposition operations, conflict-deterrence operations, pre- and post-conflict peace building operations, nation-building/assistance operations, arms-control/disarmament/counter-proliferation operations.

f. International humanitarian assistance missions, disaster relief operations, and relocation of refugees/illegal immigrants/illegal emigrants operations.

6. Responsibilities.

a. Eighth Army Commander. Is responsible for overall implementation and compliance with Annex L (environmental considerations) of the governing operations order.

b. Eighth Army Unit Commanders. Are responsible for implementation of Annex L and the guidance in this pamphlet in their respective units. Applicable commanders will appoint individuals to the following positions.

(1) Environmental Point of Contact (EPOC) Eighth Army Major Subordinate Commands (MSC) will appoint an EPOC. EPOC are to act as the conduit for environmental information between the Eighth Army Engineer staff and Environmental Management Officers (EMO) at Battalions and Separate Companies/Detachments.

(2) Environmental Management Officer (EMO) Each Eighth Army Battalion and Separate Company/ Detachment Commander will appoint an EMO. Unit EMO serve as the focal points for environmental consideration planning, training, operations, reporting, and evaluations.

c. Eighth Army Engineer. Is responsible to the Eighth Army Commander for staff oversight of the implementation of the provisions of the Annex L (environmental considerations) of governing operations order, and directs the actions of the Eighth Army Environmental Engineer.

d. Eighth Army Command Surgeon. Is the competent medical authority, advises the Eighth Army Commander on all environmental health related issues, and directs the actions of the Eighth Army Force Health Protection staff.

e. Eighth Army Safety Officer. Is responsible to the Eighth Army Commander for staff oversight of safety issued in the Eighth Army area of responsibility (AOR).

f. Eighth Army Environmental Professional. Serves as the Eighth Army Engineer and is the primary point of contact for all environmental actions within the Eighth Army AOR.

g. Eighth Army Force Health Protection (FHP) Staff. Serves as the Eighth Army Commander Surgeon lead on all environmental health actions within the Eighth Army AOR.

h. Eighth Army Staff Judge Advocate (SJA). The primary point of contact for all legal and claims actions within the Eighth Army AOR.

i. Eighth Army G-3 Training – Coordinates EPOC and EMO training.

j. Installation Management Agency – KORO is responsible for the management of enduring bases during Armistice and CONWOPS.

k. Defense Logistics Agency (DLA). Supports the mission of the Eighth Army in the area of hazardous waste and recyclable materials management.

SECTION II LEGAL/REGULATORY COMPLIANCE

From an environmental compliance standpoint, overseas military operations can be divided into two operational categories.

7. Garrison and Training Operations Conducted Outside the United States. Environmental considerations during these operations are compliance (policy and international agreement) driven.

a. Most US laws, regulations, and implementing instructions governing environmental considerations are not directly applicable to US military installation management or training and exercises conducted outside the United States. In their place the Department of Defense (DOD) has implemented policy to govern non-contingency management of environmental issues outside the United States. The guidance documents include:

(1) DoDD 4715.1e "Environmental Safety and Occupational Health (ESOH)" 19 March 05

(2) DoDD 4715.12 "Environmental and Explosives Safety Management on Operational Ranges Outside the United States" 12 July 2004

(3) DoDD 6050.7 "Environmental Effects Abroad of Major DoD Actions" 3 March 79

(4) DoDI 4715.5 "Management of Environmental Compliance at Overseas Installations" 22 April 96

(5) DoDI 4715.8 "Environmental Remediation for DoD Installations Overseas", 18 October 95

b. From an environmental "compliance" perspective, the major performance drivers in Korea is USFK Pamphlet 200-1 (Environmental Governing Standards [EGS]) that have been developed pursuant to DoDI 4715.5, and the US - Korea Status of Forces Agreement (SOFA), The provisions of these documents must be complied with by the Eighth US Army whenever operating on or transiting between USFK bases. Additional, there are international conventions and treaties (e.g., Basel Convention) that directly or indirectly impact upon the conduct of operations on USFK installations.

c. Commanders are responsible for programming the resources necessary to comply with these regulatory/statutory demands. During garrison and training operations external advisement and oversight is normally available to assist Commanders and verify compliance.

8. Complex Contingency or Wartime Operations (CONWOPS). Though the environmental goals of the Eighth Army do not change during CONWOPS, the operational realities of CONWOPS are accounted for in changes to compliance requirements. Specifically:

a. Designated CONWOPS are exempted from compliance with the provisions of DoDI 4715.5 and DoDI 4715.8, and USFK Pamphlet 200-1. The Eighth US Army may strive to conduct operations consistent with goals that may be derived from these documents, but the standards in these documents are not applicable during CONWOPS. Accordingly, commanders are not to utilize or quote the standards in those documents when evaluating the conduct of CONWOPS.

b. Though designated complex contingency and wartime operations are exempted from the compliance documents noted above, there are international agreements that are applicable during CONWOPS and the Eighth US Army will comply with the applicable requirements of those agreements. Eighth Army Commanders shall ensure planned operations do not result in widespread, long-lasting, or severe impacts upon natural resources, and will institute and follow practices designed to protect the human health and the environment from negative environmental impacts.

c. Instructions on environmental compliance for CONWOPS is provided in Annex L (environmental considerations) of the governing operations orders with supplemental operational guidance provided by this document.

SECTION III ENVIRONMENTAL MANAGEMENT TRAINING

9. Health/Safety Concerns and Environmental Management Training. Eighth Army commanders will ensure proper safety planning and assessment of anticipated activities is conducted, that all personnel are knowledgeable of the hazards they may encounter, and that all personnel are properly trained.

10. Planning. Planning consists of the development and implementation of risk based decisions and a risk communication plan to address environmental and environmental health issues periodically throughout the operation.

a. Risk Management. When planning contingency operations, as part of the assessment process, Eighth Army units shall utilize the risk management process in FM 100-14 to assess and marginalize environmental risks.

b. Risk Communication Plans. Every Eighth Army unit will have a written hazard communication program. The program can be a stand-alone standing operating procedure (SOP), or can be incorporated into the units' environmental or safety SOP. Programs will outline how personnel will be trained to identify and protect themselves from hazards.

c. Operational Safety. Eighth Army Commanders are to review all work and ensure it is conducted in accordance with the provisions of Engineer Manual 385-1-1, "Safety Manual" and applicable Eighth Army Safety Office guidance.

11. Training. All personnel will be provided with the training and information they

require to protect themselves and the force, and to perform their assigned duties as they pertain to environmental management. Training will be coordinated through G-3 Training.

a. Unit Commander Training. Battalion and Separate Company/ Detachment Commanders will be provided a briefing on environmental considerations during contingency operations in the KTO during their pre-command course. The briefing needs to cover the following topics:

(1) Eighth Army mission and environmental goals
(2) Environmental duties, tasks, and responsibilities
(3) Regulations, policies, and guidance governing environmental considerations during contingency operations

b. Major Subordinate Command (MSC) Environmental Point of Contact (EPOC) Training. To prepare MSC EPOC to perform their duties, all EPOC will receive formal classroom training on environmental considerations during contingency operations. The initial block of instruction will cover the same material provided to unit commanders, to include the duties of the EPOC, and an overview of EMO duties.

c. Unit-level Environmental Management Officer (EMO) Training. All unit-level EMO will receive formal classroom training on environmental considerations prior to and during contingency operations. The training will consist of an initial block of instruction covered in the EPOC course and the following topics

(1) Health and safety considerations

(2) Environmental assessments and reporting

(3) Site assessments

(4) Environmental support infrastructure management

(5) Environmental incident reporting and responses

(6) Natural resource protection and management

(7) Historical/cultural resource protection and management

(8) Environmental Closure Reports for Site closures

SECTION IV ENVIRONMENTAL ASSESSMENTS AND REPORTING

12. Environmental Assessments. Assessments are tools used to systematically collect, evaluate, and document site conditions, in order to determine mission readiness, safe-guard personnel, prevent/mitigate environmental damage, avoid unwarranted claims against the US Army, and if necessary to determine corrective actions. Though the purpose of assessments may change through the occupancy lifecycle of a site, the types of data collected and analyzed remain relatively the same for all assessment types.

(1) Assessments are required for all Complex Contingency Operations (CCO).

(2) Assessments are not required for wartime operations (or combat-related activities in a combat or hostile fire zone), but whenever mission constraints permit they are to be conducted.

(3) If assessment data indicate the potential anticipated mission requirements can not be accomplished or there are health risks to US personnel, the Eighth Army Engineer, Safety, and Force Health Protection staffs will be contacted for technical advice.

a. Health and Safety Considerations. All work is conducted in accordance with the provisions of Engineer Manual 385-1-1, "Safety Manual". Additional caution shall be observed when conducting field work at sites where health risks are not fully defined. Risk communication training shall be conducted for all personnel involved with the conduct of field work, and risk management procedures will be employed during the planning to minimize the hazards associated with conducting the field work.

b. Level of Effort. Assessments shall be sufficient to adequately identify and document all existing environmental conditions on and in the vicinity of proposed sites. Parcels of land include but are not limited to Tactical Assembly Areas (TAA), Logistics Bases, Camps, Forward Operating Bases (FOB), Main/Alternate Supply Routes (MSR/ ASR), Air and Sea Ports of Debarkation (APOD/SPOD), Wartime Host Nation Support (WHNS) sites, and bulk POL storage and transport facilities. The level of effort invested in the conduct of an assessment is dependent upon factors such as:

(1) Mission constraints (force protection concerns, access limitations, operational security [OPSEC] requirements, etc.).

(2) Type, size, and duration of planned operations at the site.

(3) Availability and reliability of existing site data.

(4) Size and complexity of the site.

(5) Availability of resources and time.

(6) Known or anticipated risks associated with the site.

c. Assessment types. Assessments on sites are to be performed through the life-cycle of a contingency. Though the purpose evolves during the lifecycle of site occupation, the data being obtained and analyzed does not vary greatly. Assessments are categorized based upon when they occur during the lifecycle of site occupation – Preliminary surveys (pre-occupation), Baseline surveys (initial occupation), Status surveys (conducted periodically during occupation), and Closure surveys.

d. Survey Personnel. A trained EMO should conduct assessments whenever possible. On a limited basis Eighth Army Engineer staff can provide assistance to support assessments.

e. Data. A checklist on what data needs to be collected is provided in Appendix B. The checklist is a guide and is not all inclusive. Photographs are of significant data value. Any additional data that provides a clearer understanding of the conditions at a site is of value.

f. Reports. Report formats for preliminary/baseline surveys are found in Appendix C, weekly environmental status reports in Appendix D, monthly environmental evaluation reports in Appendix E, environmental incident reports in Appendix F, environmental incident response reports in Appendix G, and environmental closure reports in Appendix H.

g. Data Management & Archiving. Proper documentation and archiving of data collected during assessments is essential to improve future operations, record potential or actual exposures to hazardous conditions or substances, account for resources expended, and to protect the US Government against unwarranted claims.

13. Preliminary Site Survey. This is a data collection effort conducted prior to site occupation. Appendix B provides information on what data should be collected during preliminary surveys. Prior coordination for access to WHNS sites will be conducted through C/J4 WHNS Branch. Assessors will focus data collection efforts on both the site and the surrounding area. Data collection efforts will include historical document reviews, imagery analysis, on-site observations and measurements, interviews with knowledgeable personnel, and if applicable the collection of environmental samples. If sampling is to be conducted a sampling plan will be prepared and coordinated with the supporting laboratory prior to the start of field work.

a. Survey Site – Assessors are to verify and/or collect information on the location, size, general description, past and current usage, anticipated usage, and infrastructure supporting the site to include:

(1) Drinking Water Systems

(2) Wastewater Management Systems

(3) Solid Waste Management Systems

(4) Hazardous Materials Management Systems

(5) Hazardous and Infectious Waste Management Systems

b. Surrounding Area – Assessors are to collect data on the local topography, hydrology, climate, rural and urban population centers, regional development (agrarian enterprises, industrialization, educational resources) and infrastructure networks (transportation, communication, medical, legal and law enforcement, humanitarian/ refugee services, and utilities), and sites of environmental concern in the vicinity of the survey site.

c. Preliminary Site Survey Data Reporting - Data shall be documented in a report utilizing the format for environmental baseline surveys (see Appendix C). Preliminary

site data packages are to be revalidated annually.

(1) Reports for assessments conducted during Armistice will be submitted to the Eighth Army Engineer staff within sixty (60) calendar days of completion of field & laboratory work.

(2) Reports on assessments conducted during transition periods or hostilities will be submitted to the Eighth Army Engineer staff within fifteen (15) calendar days of completion of field work.

(3) Reports will be maintained in accordance with section X of this pamphlet.

14. Environmental Baseline Survey (EBS). These are time-sensitive efforts that are intended to document existing site conditions at the time of initial occupation. These efforts are critical to precluding potential US liability on pre-existing conditions. If an EBS is not conducted at the time of initial occupation, than an environmental status report will be prepared as soon as possible to document conditions at that point in time.

a. Data Collection. Data to be collected during an EBS is the same as the data collected during preliminary site surveys. Accordingly, whenever possible pre-existing data from preliminary survey reports is available it is to be used.

b. Reporting. Data collected during EBS will be documented in a report utilizing the format provided in Appendix C.

(1) If no analytical laboratory work was done to support an EBS, draft reports are to be submitted with fifteen (15) calendar days of site occupation. Final reports are due within five (5) calendar days of receipt of comments from the Eighth Army Engineer staff. If no comments are provided from the Eighth Army Engineer staff, final reports will be submitted within thirty (30) calendar days of site occupation.

(2) If there was analytical laboratory work associated with an EBS, the draft EBS report are to be submitted with five (5) calendar days of receipt of the last analytical result from the laboratory. Final reports are due within five (5) calendar days of receipt of comments from the Eighth Army Engineer staff. If no comments are provided from the Eighth Army Engineer staff, final reports will be submitted within ten (10) calendar days of receipt of the last analytical result.

(3) Reports will be maintained in accordance with section 11 of this pamphlet.

15. Environmental Status Surveys. Assessments shall be conducted throughout the period of time sites are occupied. The objectives of these assessments are to revalidate mission readiness and the status of required actions to correct mission readiness deficiencies, and to document improvements and/or adverse impacts to sites. There are four types of surveys that are to be conducted.

a. Weekly Status Assessments

b. Environmental Evaluations

c. Environmental Incident Assessments & Response Actions

d. Special Environmental Assessments

(1) Weekly Status Assessments. To provide visibility on mission readiness, Eighth Army commanders shall assess and report on the environmental status of the sites under their control on a weekly basis. Weekly reports will include site data, data on the mission readiness of the support infrastructure systems supporting facilities, the status of environmental incidents at sites, and anticipated challenges. The weekly status report format is provided in Appendix D to this report. Weekly reports will be submitted to the Eighth Army Engineer staff.

(2) Monthly Environmental Evaluations. To provide Commanders with a tool to raise visibility on mission readiness deficiencies, environmental evaluations are to be conducted for each site on a monthly basis.

(a) Environmental management officers (EMO) will evaluate site conditions and prepare a report.

(b) A copy of the last evaluation and a record of all uncorrected deficiencies shall be maintained by the EMO.

(c) Copies of the report shall be submitted to the applicable MSC EPOC and to the Eighth Army Engineer staff within three days of each evaluation. The format for reporting evaluation results is provided in Appendix E to this report.

(3) Environmental Incident Assessments & Response Actions. Whenever a reportable environmental incident occurs, the responsible commander is to assess the incident and determine the appropriate response, and based upon that determination take action.

(a) Reportable Environmental Incidents - An uncontained release of, (1) POL products greater than 400 liter (110 gallons), (2) liquid or semi-solid hazardous substances in excess of the quantities in USFK Pam 200-1 Table B-4, (3) solid hazardous substances in excess of 225 kilograms (500 pounds), or (4) if a commander makes the determination a risk to mission accomplishment or human health exists.

(b) Assessments and Responses - Guidance on assessing and responding to environmental incidents is provided in section VI.

(c) Incident Reporting (initial) – All reportable environmental incidents will be reported to the responsible EPOC and the Eight Army Engineer staff. Mission constraints permitting, the goal is for initial reports to be transmitted upward within four (4) hours of occurrence/observation. The incident report format is provided in Appendix F to this report. On the report, the entries for findings conclusions and recommendations will be pending unless the commander has completed a response action assessment. The Eighth Army Engineer staff will

forward reports to the Force Health Protection staff and to the Environmental Executive Agent (EEA).

(d) Incident Reporting (assessment) – Commanders will assess the impact of an incident, and prepare a follow-up incident report detailing the findings, conclusions, and recommendations from that assessment. The follow-up report (same format at the initial report) on the assessment will be sent to the responsible EPOC and the Eighth Army Engineer staff as soon as mission constraints permit, but no later than thirty-six (36) hours after submittal of the initial report. The Eighth Army Engineer staff will forward reports to the Eighth Army Force Health Protection staff and to the Environmental Executive Agent (EEA).

(4) Special Environmental Assessments. Special assessments of environmental activities or concerns shall be prepared as directed by Eighth Army commander. The format and submittal times of those reports shall be defined at the time the reported is requested.

16. Environmental Closure Assessment. Commanders shall have a closure assessment conducted on all sites occupied by the Eighth Army at the time they are vacated and returned to their original owners. The purpose of a closure assessment is to identify, quantify, and document impacts resulting from US operations at a site and if applicable the areas immediately surrounding the site.

a. Assessment Preparation – The initial step in the assessment process is the assembly and review of the EBS, any ESR, and any health risk documentation prepared for the site. Utilizing the data in those documents, an assessment plan shall be prepared. If sampling is to be conducted a sampling plan will be prepared and coordinated with the supporting laboratory.

b. Field Data Collection - This phase of the effort is to be accomplished immediately prior to their return to either the Host Nation Government or to private owners. It consists of a visual examination of the site to validate documentation generated during occupation.

c. Reporting – All environmental closure reports (ECR) shall be submitted to the Eighth Army Engineer staff within five (5) calendar days of site closure. The report is to follow the format provided in Appendix H to this pamphlet.

17. Sampling and Analysis. The purpose of environmental sampling and chemical/ physical analysis is to supplement and validate, quantify, or refute historical and visual site data collected during an assessment. Sampling and analysis is not a stand-alone magical “silver bullet”. To ensure the analytical results are a true representation of site condition, personnel responsible for conducting assessment must ensure that they have a comprehensive understanding of those conditions, and they comply with sample collection and transportation protocols. The guidance provided here is for conducting planned and coordinated sampling and analysis events (as analytical results from unplanned and/or uncoordinated sampling has a low probability of being scientifically valid). Commanders should contact the Eighth Army Engineer and/or Force Health Protection staffs for guidance and support if the unit intends to conduct sampling.

a. Sampling Plan. Mission constraints permitting, if environmental samples are to be collected during a site survey, a field sampling plan shall be written and approved by Eighth Army Engineer and/or Force Health Protection staffs. If a laboratory is to be used to analyze the samples, the plan shall be coordinated and concurred with by with the laboratory conducting the analysis and shall include the following information:

(1) Types of environmental media to be collected (water, soil, sludge, sediment, ambient or indoor air, toxic materials [lead based paint, asbestos, PCB], radiological, and biota [fauna/flora])

(2) Approximate number of samples to be collected (by media type)

(3) Health and safety considerations

(4) Sampling protocols and materials

(5) Shipping protocols and materials

(6) Holding times

(7) Chain of Custody protocols

(8) Laboratory certifications and analytical methods

(9) Data quality objectives and method detection limits

(10) Acceptable turn-around times for analytical results

(11) Reporting requirements on analytical results

b. Field Sampling Equipment and Supplies. If a survey team does not possess the required field sampling equipment and supplies, a request will be forwarded to the Eighth Army Engineer and/or Force Health Protection staffs. Training on the operation of the equipment will be provided by the organization owning the equipment. Prior to departure personnel responsible for conducting the analyses are to ensure the equipment is properly calibrated and in good working order. Survey personnel will also ensure the shelf-life of all analytical supplies are not expired and will not expire during the course of the data collection effort.

c. Sampling Technician Training. Failure to follow approved sampling protocols or comply with shipping requirements will decrease or destroy the reliability of the analytical data generated. Unless mission constraints dictate otherwise, only personnel trained in the proper sampling protocols and transportation procedures conduct or supervise the conduct of sampling during assessments.

SECTION V SUPPORT INFRASTRUCTURE

18. General. Infrastructure consists of the all the resources (personnel, real estate, facilities, equipment, vehicles, and materials) necessary to acquire, construct, maintain,

and operate required infrastructure systems as they related to environmental considerations. The infrastructure supports operations at both enduring installations and at wartime host nation support. Infrastructure systems include:

a. Hazardous Material Management Systems

b. Hazardous Waste Management Systems

c. Regulated Medical Waste Management Systems

d. Pesticide/Herbicide Management Systems

e. Wastewater Management Systems

f. Vehicle Washing and Wash Rack Operations

g. Solid Waste Management Systems

h. Drinking Water/Potable Water Systems

19. Standards. The standards discussed in this section of the pamphlet are intended to guide the design, procurement, construction, and operation of US managed infrastructure systems. All equipment, systems, and facilities designed, procured, constructed, and/or operated by the Eighth US Army will not hamper mission accomplishment, will be protective of human health, and will not result in widespread, long-lasting, or severe impacts upon natural resources. Systems provided by the host nation under the wartime host nation support (WHNS) program and operated by the host nation need not meet the design, procurement, and construction standards in this pamphlet.

a. Design Standards. Design standards are divided into long-term and short-term.

(1) Long Term – Equipment, systems, and facilities with an anticipated useful life of greater than twenty-four (24) months. Long term infrastructure will be designed to meet the substantial requirements of USFK Pam 200-1. The design specifications for long-term equipment, systems, and facilities will meet applicable military standards (MILSTD), unified facility criteria (UFC), and unified facilities guide specifications (UFGS)), and Preventive Medicine Technical Guides and Technical Bulletins (TG/ TB MED).

(2) Short Term - Equipment, systems, and facilities with an anticipated useful life of less than twenty-four (24) months. Short term infrastructure will be designed to minimize potential negative health or environmental impacts, but need not meet USFK 200-1 specifications. The design specifications for short-term equipment, systems, and facilities should strive to meet applicable military standards (MILSTD), unified facility criteria (UFC), unified facilities guide specifications (UFGS), Engineering instruction and Technical Instructions (EI/TI), and Medical Technical Guides and Technical Bulletins (TG/ TB MED). Designs not in compliance with these guidance documents will note what items are not in compliance on the designs, and those items will be approved by the Eighth US Army Engineer staff.

b. Procurement Requirements. All equipment and materials to be used in the construction of support infrastructure shall meet the above design standards.

c. Construction Standards.

(1) Short-term (field expedient) infrastructure will be constructed as closely as possible to design. Variations to specific design features may be authorized by the responsible commander so long as potential negative health or environmental impacts are minimized.

(2) Equipment for long term infrastructure shall be installed in accordance with design specifications, and construction shall be accomplished in accordance with design specifications.

(3) If mission requirements dictate the installation or construction of short or long-term infrastructure in a manner that deviates from design standards, the Eighth Army Engineer staff shall be informed in writing of the rationale for the deviation, the variances between design requirements and actual construction, and the potential impacts upon the environment.

d. Operational Standards.

(1) Operational standards for infrastructure under the control of Eighth Army are to be developed to ensure design standards are maintained. Commanders are reminded that though Eighth US Army may design equipment, systems and facilities to USFK 200-1 standards, and strive to maintain operations in a manner consistent with USFK Pam 200-1, compliance with the provisions of USFK 200-1 is not mandatory during designated CONWOPS.

(2) The host nation shall decide the performance standards for infrastructure operated by the host nation under the WHNS program.

(3)Operations and maintenance procedures for Eighth Army controlled support infrastructure will be specified in unit standing operating procedures (SOP), and will be followed.

(4) Temporary (e.g., one to three [1 to 3] days) or minor deviations from for Eighth Army unit SOP resulting in non-achievement of operational standards will be reported in applicable routine environmental status reports (ESR).

(5) Non-temporary or significant deviations from for Eighth Army unit SOP, or mission constraints that result in non-achievement of performance standards shall be reported in a special environmental status report (see section 5.2.d.).

20. Infrastructure at Enduring US Bases. During Armistice, infrastructure supporting enduring base operations are under the management and control of KORO.

a. Wartime Planning. Planning for the war fighting effort is a cooperative effort between KORO and Eighth Army Engineer staff.

(1) The EUSA Engineer staff quantifies anticipated wartime infrastructure requirements for enduring US bases, and provide a statement of those requirements to KORO.

(2) KORO reviews wartime requirements, identifies/quantifies environmental resources anticipated to be available to support the wartime mission, and provides an analysis of wartime capabilities to the Eighth Army Engineer staff.

(3) If wartime infrastructure requirements exceed anticipated resources, KORO will prepare a plan to obtain supplemental infrastructure.

b. Wartime Operations. During wartime, KORO managed resources are under the operational control of the Theater Support Command (TSC). TSC, through the Area Support Groups (ASG), assumes responsibility for infrastructure at enduring installations.

21. Infrastructure at Deployment Sites. Under the wartime host nation support (WHNS) program, the Korean Government will provide some of the real estate, facilities, personnel, equipment, and materials necessary to support US wartime operations in Korea. The WHNS program is a request driven system, and WHNS sites are allocated based upon mission support requests submitted by Eighth Army units. WHNS sites may include tactical assemble areas (TAA), logistics bases, (APOD), sea ports of debarkation (SPOD), equipment staging and cantonment sites, maintenance facilities, medical facilities, main and alternate supply routes (MSR/ASR).

a. Wartime Planning.

(1) The US has no control or authority over WHNS sites during Armistice. Management and readiness of infrastructure at those sites during Armistice is the responsibility of the Korean Government or private firms.

(2) During Armistice preliminary site surveys are to be conducted of all WHNS sites by the Eighth Army units for whom the sites were allocated. Eighth Army units will follow the procedures provided in this pamphlet when conducting preliminary site surveys. Preliminary site survey reports shall be forwarded to the Eighth Army Engineer and Force Health Protection staffs, and to C/J-4 WHNS branch. Preliminary site survey data reports shall be re-validated every three years.

(3) Inadequate infrastructure supporting WHNS sites shall be highlighted in the preliminary site survey data report.

(4) Infrastructure shortfalls will be analyzed by the staffs of the Eighth Army Engineer and Force Health Protection staffs, and recommendations provided to the Korean Government on how to address those shortfalls. Progress will be reviewed with the Korean Government on an annual basis until the shortfall is eliminated.

(5) If necessary, the construction of supplemental infrastructure will be

incorporated into the contingency construction list (CCL).

b. Wartime Operations. During wartime, responsibility and operation of infrastructure at WHNS sites will be determined on a site by site arrangement. Commanders are responsible for the operation and maintenance of US controlled/operated support infrastructure at their assigned deployment sites.

(1) During the conduct of the environmental baseline survey, the status of infrastructure will be determined. Variances from infrastructure resources noted in the most recent preliminary site survey are to be noted in the EBS report.

(2) Infrastructure shortfalls impacting negatively upon mission accomplishment will be reported immediately to the MSC EPOC, and Eighth Army Engineer and Force Health Protection staffs. The Eighth Army Engineer staff will normally coordinate with C/J-4 WHNS Branch or the Theater Support Command to obtain required support.

(3) The Eighth Army Engineer and Force Health Protection staffs, and/or the 19th TSC will provide technical support assistance.

22. Hazardous Material Management. Mission accomplishment is dependent upon the proper storage, transportation, use, and, disposition of hazardous materials. Units are to develop and use standing operating procedures (SOP) tailored to the specific requirements of their units.

a. Storage of Hazardous Materials. Unless mission constraints specifically dictate to the contrary, the following guidance on the storage of hazardous materials will be observed:

(1) All storage facilities shall have appropriate communication, safety/emergency response, material safety data sheets, and personnel protective equipment available for immediately usage.

(2) Spill prevention, containment, and countermeasure (SPCC) plans will be developed for each site, and emergency exercise drills will be conducted periodically (see section VI for more information on incident response).

(3) Stocks of hazardous materials will be used on a first to reach expiration date basis. Materials in dented or damaged containers will be used before materials in undamaged containers.

(4) All hazardous materials will be stored in approved containers. All containers will remain closed except when materials are being dispensed from them.

(5) The numbers of locations where hazardous materials are stored on a site are to be kept to a minimum. Units may create temporary satellite storage locations for small quantities (bench-stocks) of hazardous materials in maintenance areas. Satellite storage locations are to have all appropriate engineering and safety features.

(6) If mission requirements dictate the use of sub-standard storage facilities, risk management procedures will be utilized to minimize or mitigate risks.

(7) All storage sites shall be noted on site master plans.

(8) Hazardous material inventories shall be maintained by responsible units and provided to base commanders and incident response officer in charge (OIC).

(9) Units will maximize efforts in pollution prevention through product substitution (non-hazardous materials for hazardous materials), and through aggressive stockage management (avoidance of excess quantities of hazardous materials stored by units).

(10) Underground storage tanks (UST) or confined spaces at deployment sites will not be utilized for the storage of hazardous materials.

(11) Hazardous materials are not to be stored with hazardous wastes.

(12) Inspections of storage facilities will be conducted weekly.

b. Engineering features of storage facilities - facilities will comply with the requirements of section 19 and shall:

(1) Have emergency response and personnel protective equipment and supplies are to be stored where they can be reached without having to transit through the storage facility.

(2) Be situated at least fifty (50) meters from living area, food storage / preparation and dining facilities, medical facilities, water supplies, ammunition storage areas, and MWR facilities.

(3) Have barriers to deny access to unauthorized personnel and adequate warning signage in appropriate languages.

(4) Be constructed of fire-resistant materials.

(5) Be well ventilated.

(6) Have adequate secondary containment for liquid materials - containment area will be able to hold the volume of the largest container or the percent (10%) of the total volume, whichever is greater.

(7) Have overhead cover.

(8) Have separate storage areas for incompatible materials.

(9) In addition to the above, if vehicles or trailers are used to store hazardous materials, containers shall be properly secured to prevent accident rupturing of the containers.

c. Shipment of Hazardous Materials. Moving hazardous materials increases the risk of an incident occurring, and those risks increase significantly when materials are transported over the road between bases. Though risks can not be eliminated, the same precautions and procedures used during non-contingency operations should be followed during contingency operations to minimize risks.

(1) General.

(a) Personnel protective equipment (PPE) and emergency response equipment. Whenever moving hazardous materials adequate quantities of PPE and spill response equipment/materials shall be readily available.

(b) Containers. All hazardous materials shall be in approved shipping containers. Those containers shall be properly labeled and all containers shall be properly secured on vehicles.

(c) Vehicles. Vehicles transporting hazardous materials will be placarded and labeled per applicable criteria, subject to security and operational considerations. Vehicles with dead lining deficiencies shall not be used for the transport of hazardous materials unless written authorization to use the vehicle is provided by the responsible O-5 commander.

(d) Vehicle Operators - Operators shall be properly trained and knowledgeable of the health risks and physical hazards of the material, including the potential for fire, explosion, and reactivity, they are transporting. Operators shall be knowledgeable and capable of conducting emergency response actions.

(e) Incompatible Materials. Shipment of incompatible hazardous materials or ammunition on a vehicle transporting hazardous materials will be avoided whenever possible.

(f) Manifests. Manifests on the materials to be shipped will be prepared. Manifest documents will clearly describe the quantity and identity of the material being shipped, and shall include Material Safety Data Sheets (MSDS). A copy of the manifest will accompany the shipment.

(2) Shipment Planning – Units are to develop procedures to inspect off-site shipments of bulk quantities of hazardous materials. Shipments of small quantities of hazardous materials and fuel to operate vehicles are exempt from this requirement. Planning procedures will at a minimum include the following actions:

(a) Analysis of the proposed route and identification of locations of increased environmental concerns along the route.

(b) Inspection of manifest, containers, vehicles, and safety/emergency response equipment.

(c) Validation of driver training and readiness.

(d) Preparation of a written record of the planning effort.

(e) Transmittal of shipment information and coordination with appropriate command and control elements.

d. Incidents. If a release of hazardous materials occurs, the procedures in section VI will be followed.

23. Hazardous Waste Management.

a. General. During contingency operations hazardous waste management will be conducted in accordance with the provisions of Annex L of the governing Operations Order and the guidance provided in this pamphlet. The intent is to meet the substantive requirements of USFK Pam 200-1 (when attainment is reasonably achievable).

b. Hazardous Material - Waste Determination.

(1) Containerized spilled material. These materials are to be considered hazardous waste, and this determination can be made by the EMO.

(2) Opened containers. Hazardous materials in opened containers that may be contaminated, and can therefore not be used as intended, are to be considered hazardous waste. This determination may be made by the unit-level EMO.

(3) Uncontaminated waste fuels. Under supervision of the EMO, waste fuels that have not been mixed with other hazardous wastes may be used as accelerants for the incineration of solid wastes.

(4) Unopened containers. Determining unopened containers with expired shelf lives are hazardous waste shall only be made by a technically competent individual, normally a representative of the Defense Logistics Agency (DLA). Units will not make this determination unless the hazardous material represents an imminent health or safety hazard. These containers are to be returned to the supply system.

c. Hazardous Waste Storage. General guidelines for the storage of hazardous wastes at enduring bases are the same as for the storage of hazardous materials.

(1) Design, procurements, construction and operational standards for infrastructure supporting hazardous waste storage facilities will conform to the guidance provided in section 19 this pamphlet.

(2) The number of satellite storage facilities (storage sites with less than fifty [50] gallons of liquid waste) and hazardous waste accumulation points on deployment sites is to be kept to the minimum necessary to ensure mission accomplishment, and all storage locations are to be identified on master plans for sites.

(3) Inventories of hazardous wastes will be maintained at each storage site. For each turn-in of hazardous waste, the inventory will record the following

information:

(a) Identity of the unit generating the waste
(b) Type of waste being turned-in
(c) Quantity of waste being turned-in
(d) Date the waste was turned-in

d. Temporary Abandonment of US Generated Hazardous Waste. This action is only to be utilized in cases wherein severe tactical demands do not afford units the opportunity to properly retrograde US generated hazardous wastes.

(1) Tactical situation permitting, hazardous wastes to be temporarily abandoned are to be properly containerized and stored, and information on the type, quantity, and location of the stored waste transmitted to the Eighth Army Engineer staff and Defense Reutilization and Marketing Office (DRMO) prior to the departure of the unit from the site. Storage locations should meet the design and location criteria specified for a hazardous waste accumulation point.

(2) It is advisable unit commanders inform local authorities of the presence of the stored wastes, indicate the site should not be entered or disturbed, and provide information on appropriate precautions to be observed.

(3) As soon as the tactical situation permits, Eighth Army will reoccupy the site, recover the wastes, and coordinate for turn-in to DRMO. Upon site re-occupation an environmental status report will be generated detailing the condition of the storage site, and any damage that may have occurred to the site or the stored wastes during the period of time the site was not under US control. If contamination has occurred an assessment of the risk will be conducted, and if appropriate, an immediate response action undertaken.

e. Non-US generated Hazardous Waste. Units shall not assume physical custody or responsibility for non-US generated hazardous wastes. Wastes generated during site mitigations and other non-US generated hazardous wastes shall not be stored on US-controlled bases, unless mission constraints provide no viable alternative. Refer to section 7 for more specifics on the mitigation of non-US source wastes.

f. Disposition of Hazardous Wastes.

(1) General. Hazardous wastes are not to be disposed of by units. The only activity authorized to dispose of hazardous wastes is the Defense Reutilization and Marketing Service – International (DRMS-I) and the local Defense Reutilization and Marketing Office (DRMO). This restriction is not intended to preclude the appropriate use of waste (not contaminated) fuel by units.

(2) Disposition. Units will comply with DRMS-I/DRMO policies and procedures when transferring custody of hazardous wastes to those organizations.

(a) EMO will maintain an open channel of communication with DRMS-I/DRMO. Guidance from DRMS-I/DRMO will be provided to personnel responsible for hazardous waste management.

(b) All wastes will be placed in containers meeting the specifications provided by DRMS-I/DRMO.

(c) Inventories and transfer documents will be prepared per DRMS-I/DRMO guidance.

(d) The preferred method of operations will be to have DRMS-I/DRMO take physical custody of hazardous wastes at storage locations on sites. If necessary, units must be ready to transport hazardous wastes to locations specified by DRMS-I/DRMO for transfer.

(e) DRMS-I/DRMO will assume accountability and physical custody of the hazardous wastes, and will provide appropriate documentation. The documentation will be maintained by the generating unit or base/deployment site.

24. Pesticide/Herbicides. Policies and procedures for the storage, movement, and disposal of pesticides and herbicides are the same as for other hazardous materials/ wastes. Policies and procedures for the procurement, application, and reporting of these compounds will be established by the Force Health Protection staff.

a. Pesticide Operations. These compounds will be utilized as necessary by units to control disease vectors. To ensure control objectives are achieved and to preclude adverse impacts to human health, operations will be conducted in accordance with Force Health Protection staff guidance.

(1) Application of pesticides must be performed by a certified pesticide applicator, excluding arthropod skin and clothing repellents, and be recorded using DD Form 1532-1, “Pest Management Maintenance Report,” or a computer-generated equivalent.

(2) Records will be forwarded monthly to the pest management consultant on the Force Health Protection staff. If records cannot be forwarded monthly, then records need to be forwarded upon completion of the operation.

b. Herbicides. These compounds may be utilized by units in the area immediately around the defensive perimeters of sites occupied by units as necessary to minimize flora which may negatively impact upon security.

(1) Units considering the use of herbicides shall contact the Force Health Protection staff for assistance and guidance prior to procurement.

(2) To ensure adverse impacts to human health are precluded, units shall follow Force Health Protection staff guidance when developing control objectives for the use of herbicides.

(3) Units shall follow Force Health staff guidance when procuring, applying, and reporting herbicide usage.

(4) Application of herbicides must be performed by an individual properly trained to perform that task (consistent with the training requirements necessary to obtain certification to apply pesticides).

(5) Reporting of herbicides will be the same as that for pesticides.

c. Use of Pesticides/Herbicides by Contractors. If pesticides or herbicides are utilized by a US contractor, a Pest Management Quality Assurance Evaluator (a US government employee) will be employed to ensure application is consistent with approved policies and procedures, and to protect the interests of the US government.

d. Disposition. Disposition of excess or waste pesticides/herbicides will be he same as for other hazardous wastes.

25. Regulated Medical Waste Management. Instructions on the management of these wastes are provided in the medical annex of the governing operations order. The Eighth Army Force Health Protection staff will provide the guidance necessary for implementation. As required the Eighth Army Engineer staff will assist with the planning, construction, and management of supporting infrastructure (e.g., incinerators).

26. Wastewater Management.

a. General. Water is a vital resource for Eighth Army operations and for host nation personnel. To preventing the degradation of water sources, Eighth Army units will endeavor to not discharge untreated wastewaters into natural bodies of water.

(1) The quality of water in the environment can range from potable (suitable for consumption) to toxic. Contaminates in raw water may be from natural sources or may be the result of man-made pollution. Sources of man-made pollution may be sanitary sewage, agricultural run-off, or industrial discharges. Wastes may or may not have been treated prior to discharge.

(2) Eighth Army operations will generate wastewater. Wastewater generated by Eighth Army operations can be classified as black water (e.g., sanitary [human excrement] wastes), gray water (i.e., effluent from food preparation, personnel hygiene [e.g., shower], laundry, and vehicle washing operations), or toxic (formaldehyde-based blue water).

b. Operations. All wastewater management during contingency operations will be conducted in accordance with the provisions of Annex L of the applicable operations order and the guidance provided in this Pamphlet. Though the provisions of USFK Pam 200-1 are not applicable to CONWOPS, the intent is when practical based upon mission constraints for wastewater management at enduring sites during contingency operations to strive to meet the intent of USFK Pam 200-1.

(1) Design, procurement, construction and performance standards for waste-water treatment systems shall conform to guidance provided in this pamphlet.

(2) The following alternatives for treatment of wastewaters are presented in general order of preference:

(a) Use of existing collection/treatment systems on enduring US bases which meet substantive EGS requirements.

(b) Use of fixed Host Nation operated municipal or commercial collection/ treatment systems provided under WHNS.

(c) Use of pre-packaged treatment facilities to be installed at sites.

(d) Field expedient systems (i.e., portable latrines [port-a-pots], burn-out latrines, and temporary surface impoundments, burial).

(3) It is recognized that treatment of wastewaters may not meet USFK Pam 200-1 standards. At a minimum the following treatment will be performed:

(a) Gray wastewater and vehicle washing effluent will be subjected to primary treatment (e.g., oil/water separation, settling/removal of solids) prior to discharge into natural bodies of water.

(b) ROWPU filter membrane back-flush will be mixed with gray wastewater prior to primary treatment, and discharged with those wastewaters.

(c) Black water and non-formaldehyde blue water will be subjected to primary treatment (e.g., settling/ removal of solids from sewage), and treated with a disinfectant prior to discharge into natural bodies of water.

(d) Formaldehyde-based Blue water (port-a-pot liquid) will be containerized and managed as a hazardous waste.

(4) If mission demands require the release of wastewaters into natural bodies of water without treatment, the responsible Commander will inform the local authorities prior to the release, and report the situation to the MSC EPOC and Eighth Army Engineer/Force Health Protection staffs immediately. Information provided shall include the following

(1) Type of wastewater

(2) Discharge point and receiving body of water

(3) Estimated volumes of waste

(4) Dates and times of release

27. Solid Waste Management. Solid waste is discarded or unwanted trash and debris that is not contaminated with hazardous substances. There are significant health, land-use, cost, and perception issues surrounding the management of solid wastes during contingency operations, and therefore the proper management of solid waste is essential. During contingency operations excessive quantities of construction and demolition debris may need to be managed during the initial occupation of sites, especially sites that were subjected to artillery or air attack. During site occupation it is

anticipated the volume of solid waste generated at semi-permanent contingency sites will be significant; estimated at twenty (20) cubic yards [2 ½ tons] per individual annually.

a. General. Solid waste will be managed in a responsible manner, in accordance with the provisions of Annex L and this pamphlet.

(1) Whenever mission constraints permit the intent is for solid waste management during CONWOPS to meet the substantive requirements of USFK Pam 200-1.

(2) Design, procurement, construction and operational standards for solid waste infrastructure will conform to the guidance provided in this pamphlet.

b. Waste Reduction Options. Solid waste consumes significant real estate, manpower, equipment, and funding resources. Reducing the amount of waste generated will reduce the level of resources required to accomplish this function. Options to reduce waste volumes include:

(1) Source Reduction - Source reduction entails substituting reusable items for single use items, or revising operating practices that will result in lower solid waste volumes. Examples of source reduction include:

(a) Minimize the consumption of single-use disposable bottled water or soda containers, and disposal flatware, plates, and cups.

(b) Ensure multiple use items are no longer functional before discarding them.

(c) Minimize the volume of paper waste. Accept “pen and ink” changes rather than require perfect documents. Use both sides of a sheet of paper. Don’t print out documents that are available electronically.

(d) Select re-sealable containers when possible, open them correctly, and close them when not pouring out their contents.

(e) If appropriate select storage containers made out of paper or collapsible plastic rather than glass, rigid plastic, or metal – they weigh less and occupy less volume when they do become waste.

(f) Where practical select larger size containers, use the material in an open container before opening up another container, and store open containers correctly.

(2) Aggressive Material Management – Avoid excess. Do not maintain excess materials. Keep quantities of materials with established shelf-lives at reasonable levels. Employ an aggressive “first to expire – first to be used” policy. Before discarding expired materials, check with logistics to find out if the shelf-live can be extended.

(3) Recycling – A significant percentage of solid waste (greater than eighty percent [> 80%]) is recyclable metal, plastic, or paper/wood. This trash should be sorted at the point of generation or at accumulation points. DRMO can sell or donate this material.

(4) Composting, land farming, and mulching. Organic materials such as food wastes, cut vegetation, and paper/wood products can be composted or chipped into mulch which can be utilized on site. Once operations have stabilized, the option of land farming organic wastes with the solid component of sanitary wastes or POL contaminated soil can be started.

c. Storage of Solid Wastes. Unless mission constraints dictate to the contrary, the following guidance on the storage of solid waste shall be observed:

(1) Solid Waste Containers. These shall be constructed of durable, leak-resistant, fire-resistant materials, and shall have a close fitting lid. Small trash bins in office areas need not meet this requirement.

(2) Point of Generation Storage. Small quantities of solid wastes may be stored at the point of generation for periods of time, unless it is food wastes. Food wastes are to be deposited in accumulation points every day.

(3) Waste Accumulation Points. The numbers of accumulated points on a site are to be kept to a minimum and are to be noted on master plans.

(a) Accumulation points will be adequately marked and the ground surface should not easily become sodden and muddy. There should be sufficient room to permit the access of utility vehicles. Underground storage tanks (UST) or confined spaces are not be utilized for the accumulation of solid waste.

(b) Points will be located a minimum of twenty (20) meters away from living support areas, food storage/preparation sites, dining facilities, and medical support areas. When possible the accumulation points will be located downwind of those locations.

(c) All trash is to be containerized, and points will have separate containers for organic materials, metals, plastics, paper/wood, and mixed waste. Covers on containers at accumulation points will remain closed except then materials are being deposited in them or they are being emptied. All containers are to be in good repair and shall be cleaned as necessary.

(d) Food waste will be removed from accumulation points and transported to the treatment/disposal site at least once every three days, or more frequently when deemed necessary based upon health and/or quality of life concerns.

(e) Periodic inspections of accumulation points will be conducted by EMO, with corrective actions taken as necessary.

d. Treatment and Disposal. Unless improperly managed, the environmental impact of treating and disposing of solid wastes during CONWOPS should not be significantly different from garrison and training operations. The preferred option is to treat and dispose of solid wastes that can not be recycled or composted at existing municipal solid waste disposal systems (e.g., landfills, incinerators). If existing infrastructure is not available field expedient infrastructure will be procured (e.g., incinerators) or constructed (e.g., burn pits, garbage pits).

(1) Existing facilities supporting enduring US bases should, within the limits of mission constraints, strive to conduct operations consistent with the intent of USFK 200-1. Facilities provided under WHNS should be capable of operating within applicable Korea standards.

(2) Field expedient facilities, especially landfills, are of special concern since it is unlikely that once created they would be removed at the end of the contingency operation. Accordingly the facility would have long-term environmental impacts. It is therefore important that prior to the construction of a field expedient landfill that both short and long-term impacts are evaluated.

(3) Preliminary Site Survey for Field Expedient Facilities. If mission requirements cannot be met by existing infrastructure, EMO are to take the following steps:

(a) Inform the MSC EPOC of the requirement to conduct a preliminary site survey.

(b) Define waste generators and types of wastes generated that are to be supported by the facility.

(c) Determine the estimated required capacity. Calculate the anticipated volume of waste to be generated on an average day, and the anticipated total volume of waste to be disposed of at the facility.

(d) Conduct a map reconnaissance to identify possible locations (see location selection criteria).

(e) Identify potentially impacted populations and resources that may be impacted if a facility was to be established at the possible locations.

(f) Identify possible types of facilities/technology that can meet mission requirements.

(g) Prepare an environmental status report detailing requirements and planning results, provide to the MSC EPOC and requesting support/ guidance from the Eighth Army Engineer and Force Health Protection staffs.

(4) Location Criteria. Mission constraints permitting, solid waste treatment/ disposal facilities:

(a) Will not be located in wetlands, within one hundred (100) year floodplains, areas of unstable subsurface geology, areas with porous soils, critical habitats of endangered species, recharge zones of sole source aquifers, areas subject to flash flooding or within five hundred meters (500 m) of a natural body of water.

(b) Will not be located in areas of significant historic or cultural value.

(c) Will be located a minimum of five hundred meters (500 m) away from living support areas, food storage/preparation sites, dining facilities, and medical support areas. When possible the facilities will be located downwind of those locations.

(d) Will be located a minimum of three thousand four hundred meters (3,400

m) from operational aircraft run-ways used by jets, and seventeen hundred meters (1,700 m) from runways or helipads used by rotary wing aircraft and helicopters.

(e) Will be located a minimum of two hundred meters (200 m) away from hazardous waste accumulation points and ammunition storage facilities.

(f) Should be located a minimum of five hundred meters (500 m) away from areas legally inhabited by host nation personnel.

(5) Landfill Design. After identifying an acceptable site, a development plan is to be prepared by the engineer element responsible for the site master plan. Refer to Chapter 3, Unified Facilities Criteria (UFC) 3-240-10A, "Design: Sanitary Landfill" for plan requirements for plan requirements.

(a) The location criteria in this pamphlet are to be followed when developing the design. If mission constraints do not permit adherence to the criteria, the plan is to provide supporting rationale for deviation.

(b) Designs are to be concurred with by the Eighth Army Engineer and Force Health Protection staffs prior to the start of construction.

(6) Facility Operations. Improperly managed facilities can quickly degenerate into serious environmental problems, requiring significant deviations of resources to correct and possibly remediate damage. It is therefore critical that operation of facility be conducted in a professional and efficient manner.

(a) Standard Operating Procedures (SOP). There shall be an SOP, signed and approved by the responsible commander, which provides guidance on the conduct of operations at the facility.

(b) Health and Safety. No deviations from approved health and safety procedures are permitted. All appropriate and necessary personnel protective equipment and emergency response equipment and materials are to on site and available for immediate use.

(c) Facility Operators. An adequate number of operators will be assigned to the treatment disposal facility. Operators may be active duty military, DOD civilians, or contractor personnel. Operators are to be trained to perform their duties, and to be able to respond to emergency situations.

(d) Equipment/Vehicles. The facility should have an adequate number of vehicles and support equipment to conduct operations in a manner consistent with design and operating standards. The vehicles/equipment shall be in good working order.

(e) Hours of Operation. Will be established upon mission requirements, but whenever the facility is open there are to be operators at the site.

(f) Access control - Facilities shall be adequately marked and barriers shall

be emplaced to preclude inadvertent access to the site by unauthorized personnel. Host nation personnel should not be permitted within the facility at any time unless they are working at the facility for a contractor.

(g) Inspections of Wastes. Incoming wastes will be inspected by facility operators to verify wastes have been sorted.

(h) Hazardous Substances, No hazardous materials or wastes are being treated or disposed of at the facility. Weapons and ammunition for force protection, and fuel/POL to operate vehicles/equipment are exempt from this restriction.

(i) Incidents and Unauthorized Fires. Will be immediately responded to, in order to contain damage. An investigation into the cause is to be conducted, and corrective actions identified and implemented.

(j) Records. Documentation on the facility operators, type, quantity, and date of treatment/disposal shall be maintained by the responsible EMO, and included in weekly status assessment reports.

(k) Facility Closure or Turn-over. All documentation on treatment/disposal sites shall be included in applicable closure reports. Prior to return, disposal sites will be properly capped and marked.

28. Drinking Water/Potable Water. The identification and protection of usable raw sources, availability and reliability of fixed or mobile water treatment plants/units, and the timely distribution of adequate quantities of potable and palatable water to Eighth Army units are critical concerns during the planning and conduct of contingency operations.

a. General. Three Eighth Army staff sections have major roles in providing potable water to Eighth Army units. The Eighth Army Engineer staff has the mission of over-seeing the identification of raw water sources, and oversees the design and construction of fixed water treatment plants. The Force Health Protection staff has the mission of determining the quality of water and through the Command Surgeon making recom-mendations to the Eighth Army Commander on the potability of the water. The G-4 has oversight of units responsible for the production, storage, and distribution of potable water.

b. Preliminary Planning.

(1) Raw Water Sources. Surface water and groundwater sources and water protection areas are to be identified for contingency sites as early in the planning process as possible. The production capacities, quality, dependability, and seasonal variations of these sources are to be assessed. Potential sources of contamination (e.g., industrial facilities, hazardous material/waste sites, waste-water and septic systems, solid waste disposal sites) are to be identified and risks evaluated. As necessary the installation of groundwater wells and assessment of hydrogeology will be conducted.

(2) Treatment Facilities. Assessments of existing host nation water treatment

systems (for both bulk and bottled water) that will be supporting contingency operations need to be done when conducting preliminary site surveys. Assessments are to determine the production/storage capacities and facility dependability (age, condition, treatment processes, staffing, and quality control practices, etc.).

(3) Distribution Networks. Piping systems and trucking resources are to be identified and assessed concurrent with the assessment of water sources and treatment facilities.

(4) Quality. After identifying water sources, treatment facilities, and distribution networks, a plan should be developed to obtain samples of the water at various points in the cycle to include anticipated points of consumption. Analytical results are to provide data necessary to assess treatment requirements and potability/ palatability.

(5) Alternatives. As required, the staffs of the Eighth Army Engineer, Force Health Protection, and G-4 will identify alternatives necessary to address actual or anticipated capability, reliability, or risk issues associated with water systems. Actions may include the protection of water sources, upgrading of host nation water collection, treatment, and distribution systems, or the design and construction/installation of system components.

c. Operations.

(1) Bulk Water. Eighth Army Quartermaster Units will operate fixed water treatment facilities and/or mobile water treatment units and associated storage/ distribution networks. Quality assurance sampling and analysis of treated water will be periodically performed by the Force Health Protection staff per the Medical Annex and established SOP. As required Eighth Army Engineer staff will provide engineer support to water production operations.

(2) Bottled Water. The Force Health Protection staff will assess and make recommendations to the Eighth Army Commander on the quality of bottled water sources. The G-4 will have oversight on bottled drinking distribution until bulk potable water production becomes the primary water source. When practical, consideration is to be given to source reduction related to solid waste generation when selecting water containers.

SECTION VI ENVIRONMENTAL INCIDENTS AND RESPONSES

29. Environmental Incidents and Responses. Environmental incidents involve the unplanned and/or unauthorized release of hazardous, toxic, radiological materials and/or wastes to the environmental in sufficient quantities to represent a hazard to human health or the environment. Incidents will occur during contingency operations, and may be the result of accidents or combat. Responses to incidents can be divided into four phases, (1) identification, (2) immediate response, (3) risk/impact determination, (4) follow up actions if applicable.

30. Identification. Upon becoming aware of an incident, commanders will immediately

take all such immediate response actions as may be necessary to ensure mission accomplishment and preserve the health of the force. Mission constraints permitting, commanders will ensure personnel are not put at risk, and may take such immediate response actions as deemed prudent to preclude the spread of contamination. Commanders will immediately collect facts surrounding the incident, and make a determination as to what risks the incident poses and what response is appropriate.

31. Immediate Response Actions (IRA). Procedures for conducting an IRA are to be incorporated into unit spill prevention, control, and countermeasure (SPCC) plans. They are stand-alone events with the purpose of containing the spread of contamination and minimizing the potential for human injury. IRA are not remediation actions. Conducting an IRA does not commit the US Eighth Army to any further action.

a. IRAs may include activities such as:

(1) Notify potentially impacted populations

(2) Remove personnel from the contaminated area

(3) Conduct personnel hygiene and/or medical care to contaminated or injured personnel

(4) Marking contaminated areas, emplacing barriers and warning signs

(5) Denying access to the contaminated area

(6) Containerization of gross contamination

(7) Data collection and risk determination

(8) Upward reporting of reportable environmental incidents (see section 5.3.c.)

b. In accordance with their unit spill prevention control and countermeasures (SPCC) plan, units are to deploy with sufficient materials to respond to incidents. Requests for response materials will be submitted through standard supply channels. Requests should be identified as either routine or emergency replacement. Types of supplies/ materials include spill response materials (over-pack containers, pads, absorbent materials, shovels, metal and plastic drums, bung wrenches, associated placards, etc.), personal protective and safety equipment (replacement protective mask filters, gloves, protective clothing, safety glasses, fire extinguishers, first aid supplies, etc.) materials to construct field expedient Unless improperly managed, the environmental impact of treating and disposing of wastes at facilities during contingency operations should not be significantly different from normal infrastructure (secondary containment liners, sand-bags, and roofing materials) and containers.

32. Risk/Impact Determination Process.

a. Commanders are, at a minimum, to attempt to collect whatever information as may be available to answer the following questions:

(1) Where and when did the incident occur?

(2) What hazardous substances were released and how much?

(3) What type of risks do the substances represent – inhalation, ingestion, dermal, or multiple pathways?

(4) What is the potential released hazardous substances to migrate to waterways?

(5) What human populations are or may be impacted by the incident?

(6) What/who caused the incident?

(7) Who owned the material released?

b. After gathering the information above, commanders are to answer the following questions when making a risk determination:

(1) Does the incident represent a risk to mission accomplishment?

(2) Does the incident represent a risk to the health of the force?

c. If the responsible commander determines the answers to one or both of the questions are or have a high probability of being "YES", immediate response actions utilizing internal unit resources will be continued until the risk to mission accomplishment or the health of the force are mitigated.

d. If the responsible commander determines the answers to the questions are "NO", immediate response actions may be terminated by the unit as soon as practical after the contamination is contained.

e. Reports on applicable incidents (see section 15.d.(3).(a)) will be prepared and transmitted IAW the procedures found in section 15.d.(3)(d) of this pamphlet. If necessary, requests for external resources (US or host nation) may be made in the report.

33. Follow-up Actions. Decisions to conduct IRA follow-up actions are based upon actual or anticipated negative impacts to mission accomplishment. The conduct of follow-up actions are not mandated during CONWOPS, but are an option if approved by the Eighth Army commander.

a. Follow-up actions are divided into two groups, US source incidents and non-US source incidents.

(1) US Source. These are clean-up efforts associated with incidents resulting from the release of US owned hazardous substances that are the result of US actions. To distinguish them from non-US source incidents, these response actions are identified as remedial actions (RA).

(2) Non-US Source. Non-US source incidents are the release of US or non-US hazardous substances due to natural causes, enemy actions, or host nation actions. These response actions are to be identified as site mitigation (SM) efforts.

b. During CONWOPS follow-up actions will be confined to mitigating or minimizing risks through the elimination of exposure pathways. Whatever follow-up actions are taken, the actions are considered complete when the incident no longer impacts mission accomplishment or the health of the force.

d. Waste Disposal.

(1) Remedial action (RA) wastes - are the responsibility of the US, and will be managed in a similar manner to other hazardous wastes generated by Eighth Army units.

(2) Site mitigation (SM) wastes - are not considered to have been the result of US actions and therefore are not considered US source wastes. Management of these wastes is the responsibility of the host nation. No action beyond containerization and staging is authorized.

e. Reporting. At the conclusion of follow-up actions, a report shall be submitted to the MSC EPOC, and the Eighth Army Engineer and Force Health Protection staffs.

SECTION VII DEPOYMENT SITE OPERATIONS

34. Deployment Site Operations. The following guidance shall be followed during the conduct of operations at deployment sites.

35. Base/Camp Environmental Management Officer. An EMO shall be identified for each deployment site (normally this is the unit-level EMO for the unit responsible for the site). The appointment needs to be made in writing, and signed by the Commander.

36. Standing Operating Procedures (SOP): Each site shall have a written SOP. The Base/Camp SOP shall be signed by the responsible commander. The SOP need to be written at the users' level, distributed to the users, and at a minimum needs to discuss the following topics:

a. Applicability of the SOP/Commander's signature.

b. Duties and Responsibilities.

c. Health and Safety Considerations.

d. Assessments and Reporting.

e. Management/storage/usage procedures and facilities for Hazardous substances (hazardous materials, herbicides, and pesticides).

f. Management/accumulation/disposition procedures and facilities for Hazardous wastes.

g. Management/accumulation/disposition procedures and facilities for Infectious wastes.

h. Management/accumulation/disposal procedures and facilities for solid wastes.

i. Management/accumulation/discharge procedures and facilities for sanitary wastewater.

j. Management/accumulation/discharge procedures and facilities for gray-water wastes.

k. Potable water.

l. Training procedures.

m. Vehicle washing and wash rack operations.

n. Emergency response procedures.

o. Site closure procedures.

p. Documentation procedures.

37. Base/Camp Continuity Books. Once a deployment site is occupied, the responsible Commander will ensure a continuity book is maintained for the site through the occupation of the site, and once the site is evacuated the book is forwarded to the Eighth Army Engineer staff for archiving. The book serves two primary purposes. The book will contain all the documents related to environmental considerations at a site, and it serves as the repository of historical information of US activities at a site. The following documents shall be maintained in the book.

a. EMO Appointment Orders. A copy of the current EMO appointment order, and a listing of all previous site EMO (with applicable personal identification information)

b. Map. A map of the site with all locations of environmental concern (hazardous substance storage sites, water and wastewater treatment plants, solid waste accumulation/disposal site, etc.) and incidents.

c. Unit Standing Operating Procedures (SOP)

d. Unit Evaluation Results

e. Environmental Incident Response Plan

f. Emergency Response Drill Results: Last drill results and a summary log of all drills conducted

g. Work Order Requests

h. Training Records

i. Incident and Response Action Records

j. Inventory of Hazardous Materials

38. Training. All individuals at each deployment site shall be trained IAW the guidance provided in of this Pamphlet. Supplemental training may be appropriate based upon actual or anticipated risks at specific sites. Training records shall be maintained at each site, and need to detail what instruction was provided, who it was provided to, and when it was provided.

39. Inventory of Hazardous Materials. A current and accurate inventory of the hazardous substances (materials and wastes) on sites needs to be maintained. The inventory needs to be provided to Incident Response Teams (IRT). Copies of all Materials Safety Data Sheets (MSDS) shall be maintained by the EMO, and at each location where the substances are located on the site.

40. Environmental Incident Response Activities. Response actions shall conform to the guidance provided in section VI and in the following sub-sections.

a. Response Plan. The response plan (a.k.a., Spill Prevention, Control, and Counter-measures Plan) will be prepared for each site. use of "boilerplate SPCC plans is counter-productive; SPCC plans must be tailored to anticipated operational requirements of the unit/base and site specific considerations. The plan shall identify potential sources of incidents (e.g., fuel, hazardous materials/ wastes), measures to prevent the occurrence of an incident, and response actions. The plan will have the following items:

(1) Signature of Commander

(2) Concept of Operations

(3) Incident Response Team Composition (manpower [staffing and required skills], equipment, vehicles, supplies, and materials resources)

(4) IRT training plans/records

(5) Incident surveillance procedures

(6) Response/mobilization procedures

(7) Reporting procedures/notification list (include description of the communications system)

(8) Sources/contact information on additional response resources

b. Incident Response Teams and Drills. Each site will have an Incident Response Team (IRT).

(1) The size and composition of the IRT will vary from site to site based upon site-specific requirements. The IRT will have ready access to all necessary and appropriate personal protection equipment (PPE) and response equipment and material to safely and adequately respond to anticipated incidents.

(2) Once adequately trained and experienced in the performance of their assigned duties, IRT will conduct response drills at least once monthly. A written record of drills will be maintained. Drill results need to specify when and where the drill took place, what activities were conducted during the drill, and if applicable any deficiencies noted, and corrective actions to eliminate those deficiencies. Old emergency response drill results need not be maintained unless the drill identified a deficiency which has not been corrected. Documentation on IRT activities will be maintained at each site.

41. Environmental Incident Records. Environmental incident/response reports will be forwarded in accordance with section 15.d.(3), and maintained at each site. In addition a log of all incidents/ responses will be maintained at the site. Incidents recorded on the log need to be cross-indexed to the site map.

42. Work Order Requests. Deficiencies in facilities noted need to be documented and corrective action taken. If the action requires external support or the expenditure of funds a work request (or other appropriate request documents) will be prepared in accordance with established support procedures and submitted to the applicable Eighth Army staff section (or Directorate of Public Works [DPW]).

SECTION VIII REDEPLOYMENT

43. Redeployment. Unit commanders responsible for sites occupied by their units and will ensure the closure or transfer of those sites is done in an environmental sound manner. Appropriate medical and preventive medicine personnel, other technical activities, and contracted support will be assigned to assist unit commanders in the preparation of the environmental closure report (ECR). Unit commanders will ensure:

a. Proper accountability of all hazardous materials and/or wastes at the site, and the implementation of procedures to ensure the removal of those materials and/or wastes from the site, or accountability is properly transferred prior to closing or transferring control of the site.

b. Environmental support infrastructure (i.e., hazardous material and hazardous waste storage facilities, hazardous and solid waste disposal facilities, incinerators, burn/disposal pits, landfills, lagoons and surface impoundments, POL storage and distribution facilities, wastewater treatment facilities, oil/water separators) are in as good operating condition as practical prior to closing or transferring control of the site.

c. All disposal sites associated with the site are clearly marked as such to minimize the potential for accidental exposure prior to closing or transferring control of the site.

d. Immediate response actions, site mitigations, and authorized remedial actions are completed prior to closing or transferring control of the site. Cost-effective, yet environmentally sound, options will be considered to ensure that required cleanup efforts are

completed or contamination is documented prior to redeployment.

e. An environmental closure report (ECR) is prepared, and the ECR and all other environmental assessments, studies, and other historical information on the site are provided to the Eighth Army Engineer and to the applicable Real Estate Office. The ECR shall describe and compare the conditions of water sources, soil, natural resources (including endangered and threatened species, if possible), cultural and historic properties, air quality, and other environmental conditions with that found during the initial assessment. The ECR on the final environmental condition of the site will serve as documentation in the event of claims or other legal challenges.

SECTION IX HISTORICAL, CULTURAL AND NATURAL RESOURCE PROTECTION.

44. Historical, Cultural and Natural Resource Protection. The Eighth Army Engineer and the Environmental Executive Agent will review available documentation to identify historic and cultural areas containing significant archaeological or ethnological material, or environmentally sensitive areas. Consistent with operational demands, commanders will minimize negative impacts of operations on the historic, cultural, or natural heritage of the Korean Peninsula.

a. Eighth Army commanders will develop appropriate guidance and practices to preclude unnecessary damage or disturbance to sensitive areas. For planned operations, unit commanders will notify the Eighth Army commander at when operations are to be conducted near sensitive areas.

b. Unit commanders will review planned operations and within the confines of mission demands take steps to minimize the potential for damage to historical/cultural resources, to prevent soil and shore/beach erosion and deforestation. Actions will be taken to minimize the potential for negative impacts to the water quality in natural bodies of surface water (rivers, streams, lakes) watersheds, and aquifers.

c. Measures will be taken to ensure the preservation of natural habitat of native fauna and flora, with special attention to protection of endangered/threatened species and endangered habitats.

d. If damage does occur to identified resources, an environmental status report (ESR) will be submitted to the Eighth Army Engineer staff.

SECTION X ADMINISTRATION AND LOGISTICS.

45. Incident Reporting Requirements. Any significant environmental incident or accident shall be reported IAW specific incident reporting instructions provided in this pamphlet.

46. Environmental Reports. Copies of environmental assessments (EBS, ESR, and ECR), continuity books, and records or documents deemed important for later use in resolving potential environmental claims against the U.S. government shall be provided through engineer channels to the Eighth Army Engineer, to the applicable Real Estate Office, Claims Office, Command Surgeon, and the Environmental Executive Agent (EEA).

47. Records Retention. Copies of environmental documents generated during operations will be maintained by the Eighth Army Engineer during the course of the operation.

a. Copies of all documents will be transmitted to the Deployment Environmental Surveillance Program (DESP) Office of the US Army Center for Health Promotion and Preventive Medicine (USACHPPM), where the documents will be archived.

b. Copies of all environmental documents will be forwarded to the EEA who will kept those documents for a period of not less than 3 years, or as determined by the applicable Claims office, and as soon as practical after completion of the operation (not to exceed 60 days) the EEA will forward archived records and documents to the appropriate U.S. Real Estate and Claims Offices.

Appendix A

References

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Appendix B

Data Checklist for Environmental Assessments

1. General Guidance.

- The data items provided in this Appendix are intended to serve as start point for development of a plan to collect field data
- The listing is not all-inclusive and users are not to feel restricted to the items provided in this Appendix when developing their plans for conducting assessments
- When collecting data, survey teams should strive to obtain as much data as possible, given time, resource, and mission constraints
- If some of the support infrastructure supporting the survey site is located a distance from the site, ensure to provide details on the area surrounding the infrastructure.
    - If there is no difference between the area surrounding the isolated infrastructure, and the area surrounding the main survey site, then state so in the report.
    - If there are differences, delineate those differences in the report. Do not bulk up the report by repeating site data numerous times.

2. Surrounding Area.

a. General description of the surrounding area

- General description of the type/level/density of development in the vicinity of the site (e.g., urban, suburban, farming-rural, industrial, undisturbed nature, combination of one or more).
- Description of topography in the vicinity of the site (e.g., river floodplain, wetland, irrigated area, arid environment, mountainous, flat area).
- Description of the natural bodies of water, and if present man-made structure and bodies of water in the vicinity of the site (dams and/or canals).
- Description of Inhabited Areas in the vicinity of the Survey Site
- Distances of inhabited areas to survey site
- Estimated populations of the areas
- Description of housing in the areas (Individual dwellings, Low rise apartments, High rise apartments, Mixed housing [w/ % of types])
- Descriptions of support facilities supporting areas (number, size, type, location, and distance from Survey Site)
    - Schools and Universities
    - Fire and Emergency Services
    - Hospitals/medical facilities
    - Police/Jail facilities
    - Military facilities
- Descriptions of transportation networks supporting areas (number, size, type, location, and distance from Survey Site)
    - Roads/ highways
    - Rail lines
    - Aircraft facilities

    - Port facilities
    - Inland waterways (canals, rivers, lakes)
- Descriptions of utilities networks supporting areas (note presence of systems, but do not describe in this section those systems supporting the survey site)
    - Drinking water
    - Non-potable water (e.g., firefighting)
    - Sewer (sanitary/gray water)
    - Solid and/or hazardous waste
    - Electrical facilities and grids
    - Natural gas networks
- Descriptions of industries in areas
    - Locations of industrial facilities
    - Size of facilities (small, medium, large)
    - Type (Agricultural, Light manufacturing [textile, food processing, etc], Heavy manufacturing [petrochemical, mining, vehicle assembly, electronic, metalworking])
    - Names and quantities of hazardous materials/wastes at facilities

b. Sites of Environmental Concern.

- Provide descriptions of locations on or in the vicinity of the survey site with known or suspected environmental concerns (air, soil, or water contamination).
- For each site, provide the location (grid coordinate and location in relation to the survey site), size and/or aerial extent of site, and reason why the site is of concern (e.g., contaminant(s) of concern, historical/ cultural/natural significance).
- Include sites on or in the vicinity of the survey sites with know or suspected to have the presence of:
    - Hazardous materials or wastes
    - Toxic materials or wastes (polychlorinated biphenyl [PCB], asbestos containing materials [ACM], lead-based paint)
    - Radiological materials or wastes
    - Infectious materials or wastes
    - Bulk storage/dispensing facilities for Petroleum, oil, and Lubricants (POL)
    - Industrial activities
    - Oblivious signs of contamination (e.g., stressed vegetation, dead animals, oil sheens on water, discolored soil, odors)
    - Significant historical/cultural/natural resource sites
- Refer to the discussion on the environmental sites of concern provided in this section later in the EBS – do not repeat information.
- Disease Occurrences. Descriptions of know or suspected outbreaks of disease in the vicinity of the survey site.
- Provide descriptions of locations on or in the vicinity of the survey site with known or suspected disease outbreaks.
- For each outbreak, identify the disease, number of affected individuals, when the outbreak occurred, if this was an isolated outbreak, or had there been a pattern of occurrences, and the location (grid coordinate and location in relation to the survey site).

3. Survey Site.

- Location of the Survey Site. Provide location of site [include map grid reference] and brief description of area. [Refer to, but do not repeat information about the surrounding area, if previous provided in document]
- Size and general description of the Survey Site. Ensure to provide sufficient information to provide situational awareness when discussing the environmental infrastructure and site of increased environmental concern later in the text of the document. Strongly recommended incorporation of site maps/diagrams and site layout photographs. Type of information that should be included;
  - Size (e.g., # acres) and general dimensions/shape of the site
  - General layout and description of development at the site
  - Topography and hydrology of the site
  - Description of fauna/flora on site (to include endangered species & habitats)
- Past and Current use of the Survey Site. Provide site specific information of past and current usage of the site. If not discussed previous in document, provide a brief description of past and current usage of the area immediately surrounding the site.
- Anticipated use of the Survey Site by US Force. Do not discuss this if information on future use is sensitive and inclusion of information will result in document being classified.)

4. Infrastructure Systems. The support systems upon which a deployment site will rely upon need to be assessed to determine if they are capable of meeting mission requirements, the reliability of the systems to remain mission capable. If those systems are not mission capable, then actions required to meet mission requirements need to be identified, planned, and as required acted upon.

Drinking Water Systems

- Water Sources
- Water Treatment Plants
- Treated Water Storage Facilities
- Treated Water Distribution Networks

Wastewater Systems

- Collection Networks
- Treatment Facilities
- Discharge Point(s)

Solid Waste Management Systems

- Collection Network
- Treatment Facilities
- Disposal Sites

Hazardous Material Management Systems

- Storage Sites
- Treatment Facilities
- Disposal Facilities

Collect the following data for each infrastructure system facility supporting the deployment site.

- Location of the facility:
  - Gird references.
  - Distances to anticipated deployment sites.
- Provide information on past activities on or near the facility.
- Describe any significant historical/cultural sites or significant natural resources on or in the vicinity of the facility.
- Any know or suspected disease outbreaks in the area of the facility.
- How large an area/number of people does the facility support.
- Industrial or urban users.
- Safety and health procedures and equipment.
- General description of the facility
  - When the sites were established and sizes of facility
  - Owner/operator of facilities
  - Staff:
    - Number of employees
    - Education, technical knowledge
    - Work experience
    - Tenure working on the facility
    - Attitude and physical condition of the staff
  - Water sources:
    - Surface water sources - what is the extent of the drainage basin/ watershed area associated with that body of water.
    - Ground water wells – aquifer information, construction data on well, depth to groundwater, production rates & seasonal variations.
  - Potential contamination sources.
  - Resources required operate/maintain the facility (fuel, materials, etc.)
  - Ages, number, layout and descriptions/usage of structures (e.g., buildings, storage vessels, roads, parking lots, storage yards) on facility.
  - The engineering features which make the facilities appropriate for the intended use, or analogous deficiencies. (e. g., for hazardous materials & wastes - secondary containment, overhead cover, access ramps, separate areas for incompatible materials, distance from billets/dining facilities, etc.) .
  - Ages, descriptions, and capabilities of primary equipment (e.g., pumps, piping) at the facility.
  - Ages, descriptions, and capabilities of ancillary equipment (e.g., vehicles, hoists, emergency generators, forklifts, repair parts, etc.) supporting the facility.
  - Inventory of repairs parts and supplies for the operation of the sites
  - General level of maintenance at facility.

- Security measures (e.g., fences, locks, guards) at the sites and any indications of effectiveness of the measures (any sign of unauthorized access/trespass or of the facility being vandalized or looted).
- What is the production capability and current/historical usage levels of the facility (daily, weekly, monthly) and any significant seasonal variations.
- An estimate of the production volume currently used, and estimated capacity available for usage by US Forces.
- Vermin and weed control procedures.
- How and here are document managed and archive.

Appendix C

Environmental Preliminary/Baseline Survey Report Format

a. Executive Summary

b. Collected Data

1. General Information
   - Base/Site Name
   - Dates of Site visit(s)
   - Date/time report being submitted
   - Eighth Army unit submitting report
   - Responsible environmental management officer (EMO)

2. Record of Survey Activities
   - Chronological record of survey activities
   - Daily log/journal of survey activities
   - Listing of personnel on survey team, their functions, and dates they were at site
   - Listing of documents obtained (maps, photographs, electronic files, reports, correspondence) during the survey effort (documents are to be attached as an enclosure to report)
   - Listing of photographs and film taken or obtained during the survey effort (all photographs are to either be used in the body of the report to amplify text or to be attached as an enclosure to the report)
   - Listing of names and titles of individuals contacted/interviewed during the survey effort (copies of interview transcripts/records are to be attached as enclosures to the report)

3. General Description of Surround Area
   - Type/level density of development in area
   - Topography of the area
   - Natural & man-made bodies of water
   - Inhabited areas
     - Housing
     - Support Facilities
     - Transportation Networks
     - Utility & Support Infrastructure Networks
     - Industrial Areas
   - Sites of Environmental Concern
     - Description of site
     - Location and size of site
     - Contaminants of concern
     - Distance from Survey Site

- Perceived impact upon health and/or environment
- Disease Outbreaks in Area
  - Type of outbreak
  - Source of outbreak (known or believed)
  - Dates of outbreak
  - Number of individuals affected (and results)

4. Description of Survey Site
   - Location of site
   - Size and general description (layout) of site
     - Housing
     - Support Facilities
     - Transportation Networks
     - Utility Networks (non-support infrastructure systems)
     - Industrial Areas
   - Past and current usage of the site
   - Anticipated Eighth Army use of the site
   - Infrastructure Systems Supporting Site
     - Drinking Water
     - Sanitary Wastewater
     - Gray Wastewater
     - Solid Waste
     - Hazardous Materials
     - Hazardous Waste
     - Infectious Waste
   - Sites of Environmental Concern
     - Location and size of site
     - Contaminants of concern
     - Perceived impact upon health and/or environment
   - Disease Outbreaks on site
     - Type of outbreak
     - Source of outbreak (known or believed)
     - Dates of outbreak
     - Number of individuals affected (and results)

5. Sampling and Analysis (attachment and reference to the approved sampling plan should be done where possible)
   - Planning
     - Methodology to determine type and number of samples
     - Qualifications of sampling technicians
   - Sample Collection
     - Sampling Protocols (techniques and equipment)
     - Quality Control Procedures
     - Locations/Number/Media of samples collected
   - Sample Shipment
     - Chain of Custody Protocols
     - Shipment data (method of shipment, shipper, dates)

- Field Analysis
  - Analytical Equipment (include calibration data)
  - Analytical Protocols
  - Qualifications of field analysis technicians
  - Locations/number of samples collected/analyzed
- Laboratory Analysis
  - Analytical Equipment
  - Analytical Protocols
  - Quality Control/Quality Assurance Protocols
  - Laboratory Certifications and Qualifications of laboratory technicians
- Analytical Results
  - Type of analysis
  - Standard(s) used to evaluate results
  - Analytical results

c. Findings

d. Conclusions

e. Recommendations

f. Signatures of report author and technical reviewer

Appendix D

Weekly Environmental Status Report Format

1. General Information

- Base/Site Name
- Base/Site Location
- Date/time report being submitted
- Eighth US Army unit submitting report
- Responsible environmental management officer (EMO)

2. Support Infrastructure Systems Readiness

- Drinking Water
- Wastewater
- Solid Waste
- Hazardous Materials
- Hazardous Waste
- Infectious Waste

Note: The readiness of infrastructure systems shall be reported as,

- Green – Fully capable of meeting or exceeding all mission requirements,
- Amber – Capable of meeting mission requirements with some limitations,
- Red – Operational but not capable of meeting mission requirements,
- Black –System not operational.

For all systems not reported in a green status, a short description on why a system which is in a green status and what actions have been taken to correct the situation shall be provided).

3. Environmental Incidents

3.1. A listing of all environmental incidents that have occurred at the base/site and that status of actions associated with those incidents. The listing shall include the following data:

- Incident Identification Number
- Response status
  - IR - Incident Reported – no further action taken
  - IRA - Immediate Response Action (in progress, completed)
  - SM - Site Mitigation (not applicable, none, in progress, completed)
  - RA - Remedial Action (not applicable, none, in progress, completed)

3.2. If the incident occurred since the last weekly report was submitted, a short synopsis of the incident, and what actions have been taken, shall be provided in the weekly report. The synopsis shall include the following data;

- Incident Identification Number

- Type of incident (spill, discovery, etc.)
- Contaminant(s) of Concern
- Quantity of material involved in incident
- Data/time of incident occurred (actual or estimated)
- Did incident result in injury (yes/no)
- Did incident result in death (yes/no)
- Date/time incident reported
- Cause of the incident (enemy action, US accident, HN accident, other)
- Response action taken

3.3. When response actions for an incident have been completed since the last daily report, the following data will be submitted in the next weekly report:

- Incident Identification Number
- Type of response action completed (IR, IRA, SM, RA)
- Volume of waste generated

4. Anticipated Challenges. Commanders will report on environmental challenges that are anticipated to occur in the foreseeable future. Short descriptions on challenges, causative factors, and possible impacts, and potential solutions will be provided.

5. Signatures of report author and technical reviewer

Appendix E

Monthly Environmental Evaluation Report Format

1. General Information

- Base/Site Name
- Base/Site Location
- Date/time report being submitted
- Eighth US Army unit submitting report
- Responsible environmental management officer (EMO)

2. Support Infrastructure Systems Readiness

The readiness of support infrastructure systems shall be reported as:

- Green – Fully capable of meeting or exceeding all mission requirements,
- Amber – Capable of meeting mission requirements with some limitations,
- Red – Operational but not capable of meeting mission requirements,
- Black –System not operational.

For all systems not reported in a green status, a short description on why a system which is in a green status and what actions have been taken to correct the situation shall be provided.

A short synopsis of why a system is not in a green status (insufficient capacity, mechanical failure), how long it has not be in green status, and actions taken to correct shortcomings shall be provided.

- Drinking Water

  - Readiness status (Green/Amber/Red/Black)
  - Total production capacity (gallons/hour)
  - Total storage capacity (gallons)
  - Total volume (gallons) used on-site in last 30 days
  - Total volume (gallons) transported off-site in last 30 days
  - Production capacity available (gallons/day)

- Wastewater

  - Readiness status (Green/Amber/Red/Black)
  - Total treatment capacity (gallons/hour)
  - Total raw sewage storage capacity (gallons)
  - Total volume (gallons) treated on-site in last 30 days
  - Total volume (gallons) transported for off-site treatment in last 30 days
  - Treatment capacity available (gallons/day)

- Solid Waste

    - Readiness status (Green/Amber/Red/Black)
    - Total treatment/disposal capacity (cubic yards and/or tons)
    - Total raw sewage storage capacity (cubic yards and/or tons)
    - Total volume (cubic yards and/or tons) treated/disposed of on-site in last 30 days
    - Total volume (cubic yards and/or tons) transported for off-site treatment/ disposal in last 30 days
    - Treatment/disposal capacity available (cubic yards and/or tons /day)

- Hazardous Materials (including pesticide/herbicides)

    - Readiness status (Green/Amber/Red/Black)
    - Total storage capacity (e.g., yd^2, gallons) by hazard class (flammable, corrosive, reactive, toxic) Total storage capacity being used (square yards/gallons)
    - Percent of capacity currently being used by hazard class.

- Hazardous Waste

    - Readiness status (Green/Amber/Red/Black)
    - Total storage capacity (e.g., yd^2, gallons) by hazard class (flammable, corrosive, reactive, toxic) Total storage capacity being used (square yards/gallons)
    - Percent of capacity currently being used by hazard class.
    - Total quantity treated/disposed on-site this reporting period by hazard class.
    - Total quantity transported off-site for treatment/disposal this reporting period by hazard class.

- Infectious Waste

    - Readiness status (Green/Amber/Red/Black)
    - Total storage capacity (e.g., yd^2, gallons) by hazard class (flammable, corrosive, reactive, toxic) Total storage capacity being used (square yards/gallons)
    - Percent of capacity currently being used.
    - Total quantity treated/disposed on-site this reporting period.
    - Total quantity transported off-site for treatment/disposal this reporting period.

3. Environmental Incidents

3.1. A listing of all environmental incidents that have occurred at the base/site in the past 30 days and that status of actions associated with those incidents. For each incident provide following data:

- Incident Identification Number

- Response status
  - IR - Incident Reported – no further action taken
  - IRA - Immediate Response Action (in progress, completed)
  - SM - Site Mitigation (not applicable, none, in progress, completed)
  - RA - Remedial Action (not applicable, none, in progress, completed)

4. Anticipated Challenges. Commanders will report on environmental challenges that are anticipated to occur in the foreseeable future. Short descriptions on challenges, causative factors, and possible impacts, and potential solutions will be provided.

5. Signatures of report author and technical reviewer

Appendix F

Environmental Incident Report Format

1. Background Data

    - Base/Site Name
    - Base/Site Location
    - Date/time report being submitted
    - Eighth US Army unit submitting report
    - Incident Identification Number (each incident shall have a distinct ID#)

2. Type (spill, explosion, discovery, etc.) and description of incident

3. Location of incident

4. Contaminant(s) of Concern

5. Quantity of material involved in incident

6. Data/time of incident occurred (actual or estimated)

7. Date/time incident reported

8. Cause of the incident (enemy action, US accident, HN accident, other)

9. Potential impact of incident (Did incident result in injury (yes/no) or deaths (yes/ no), and number of individuals effected? Extend of area contaminated (area)? Were any environmental sensitive areas or surface waters impacted and if so what were they?)

10. Findings

11. Conclusions

12. Recommendation

13. Signatures of report author and technical reviewer
Signatures

Appendix G

Environmental Incident Response Report Format

1. General Information
    - Base/Site Name
    - Dates of Site visit(s)
    - Date/time report being submitted
    - Eighth Army unit submitting report
    - Responsible environmental management officer (EMO)
    - Summary of incident
    - Authorization to conduct action

2. Record of Remedial Activities
    - Chronological record of activities
    - Daily log/journal of activities
    - Listing of personnel on field team, their functions, and dates they were at site
    - Listing of documents obtained (maps, photographs, electronic files, reports, correspondence) during the effort (documents are to be attached as an enclosure to report)
    - Listing of photographs and film taken or obtained during the effort (all photographs are to either be used in the body of the report to amplify text or to be attached as an enclosure to the report)
    - Listing of names and titles of individuals contacted/interviewed during the effort (copies of interview transcripts/records are to be attached as enclosures to the report)

3. General Description of Surround Area (if this information has already been documented adequately, referencing and enclosure of the applicable documents is adequate)
    - Type/level density of development in area
    - Topography of the area
    - Natural & man-made bodies of water
    - Inhabited areas
        - Housing
        - Support Facilities
        - Transportation Networks
        - Utility & support infrastructure Networks
        - Industrial Areas
    - Sites of Environmental Concern
        - Description of site
        - Location and size of site
        - Contaminants of concern
        - Distance from Survey Site
        - Perceived impact upon health and/or environment
    - Disease Outbreaks in Area
        - Type of outbreak
        - Source of outbreak (known or believed)

- Dates of outbreak
- Number of individuals affected (and results)

4. Description of Contaminated Site (if this information has already been documented adequately, referencing and enclosure of the applicable documents is adequate)
    - Location of site
    - Size and general description (layout) of site
        - Housing
        - Support Facilities
        - Transportation Networks
        - Utility Networks (non-support infrastructure systems)
        - Industrial Areas
    - Past and current usage of the site
    - Anticipated Eighth US Army use of the site
    - Infrastructure Systems Supporting Site
        - Drinking Water
        - Sanitary Wastewater
        - Gray Wastewater
        - Solid Waste
        - Hazardous Materials
        - Hazardous Waste
        - Infectious Waste
    - Sites of Environmental Concern
        - Location and size of site
        - Contaminants of concern
        - Perceived impact upon health and/or environment
    - Disease Outbreaks on site
        - Type of outbreak
        - Source of outbreak (known or believed)
        - Dates of outbreak
        - Number of individuals affected (and results)

5. Sampling and Analysis (attachment and reference to the approved sampling plan should be done where possible)
    - Planning
        - Methodology to determine type and number of samples
        - Qualifications of sampling technicians
    - Sample Collection
        - Sampling Protocols (techniques and equipment)
        - Quality Control Procedures
        - Locations/Number/Media of samples collected
    - Sample Shipment
        - Chain of Custody Protocols
        - Shipment data (method of shipment, shipper, dates)
    - Field Analysis
        - Analytical Equipment (include calibration data)

        - Analytical Protocols
        - Qualifications of field analysis technicians
        - Locations/number of samples collected/analyzed
    - Laboratory Analysis
        - Analytical Equipment
        - Analytical Protocols
        - Quality Control/Quality Assurance Protocols
        - Laboratory Certifications and Qualifications of laboratory technicians
    - Analytical Results
        - Type of analysis
        - Standard(s) used to evaluate results
        - Analytical results

6. Waste Disposal
    - Total volume of waste containerized by waste type
    - Disposition of waste

7. Findings

8. Conclusions

9. Recommendations

10. Signatures of report author and technical reviewer

Appendix H

Environmental Closure Report Format

1. General Information
    - Base/Site Name and Location
    - US Units stationed at the site and dates of occupation
    - Date of Site visits
    - Date/time report being submitted
    - Eighth Army unit submitting report
    - Responsible environmental management officer (EMO)

2. Status of Support Infrastructure Systems
    - Drinking Water
    - Wastewater
    - Solid Waste
    - Hazardous Materials
    - Hazardous Waste
    - Infectious Waste

3. Summary of Environmental Incidents

4. Summary of Environmental Response Actions

5. Record of Survey Activities
    - Chronological record of closure report activities
    - Daily log/journal of closure report activities
    - Listing of personnel on team, their functions, and dates they were at site
    - Listing of environmental documents (environmental baseline report and environmental status reports) prepared for operations at the site (documents are to be attached as an enclosure to report)
    - Listing of additional documents obtained (maps, photographs, electronic files, reports, correspondence) during the effort (documents are to be attached as an enclosure to report)
    - Listing of photographs and film taken or obtained during the effort (all photographs are to either be used in the body of the report to amplify text or to be attached as an enclosure to the report)
    - Listing of names and titles of individuals contacted/interviewed during the effort (copies of interview transcripts/records are to be attached as enclosures to the report)

6. Findings

7. Conclusions

8. Recommendations

9. Signatures of report author and technical reviewer

GLOSSARY

Section I
Abbreviations

AOR	Area of Responsibility
APOD	Air Point of Debarkation
ASR	Alternate Supply Route
CCL	Contingency Construction List
CCO	Complex Contingency Operations
CD	Counter-drug
CFC	Combined Forces Command
CI	Counter-insurgency
CONWOPS	Complex Contingency and Wartime Operations
CT	Counter-terrorism
DESP	Deployment Environmental Surveillance Program
DLA	Defense Logistics Agency
DRMO	Defense Reutilization and Marketing Office
DRMS-I	Defense Reutilization and Marketing Service International
DOD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DPW	Directorate of Public Works
EBS	Environmental Baseline Survey
ECR	Environmental Closure Report
EEA	Environmental Executive Agent
EGS	Environmental Governing Standards
ESR	Environmental Status Report
EPOC	Environmental Point of Contact
EMO	Environmental Management Officer
ESOH	Environmental Safety and Occupational Health
FON	Ensure freedom of navigation
IAW	In Accordance With
IRA	Immediate Response Action
IRT	Incident Response Team
FED	Far East District USACE
FHP	Force Health Protection
FOB	Forward Operating Base
KISE	Known Imminent and Substantial Endangerment
KORO	Korea Region Office Installation Management Agency
KTO	Korea Theater of Operations
MIO	Maritime intercept operations
MOSH	Maintenance of Operations, Safety, and Health
MSC	Major Subordinate Command
MSDS	Materials Safety Data Sheet
MSR	Main Supply Route
NBC	Nuclear Biological and Chemical
NEO	Noncombatant evacuation operations
OEBGD	Overseas Environmental Baseline Guidance Document

OIC	Officer in Charge
OOTW	Operations Other than War
OPSEC	Operational Security
PCB	Polychlorinated Biphenyl
PE	Peace enforcement
PK	Peacekeeping
POL	Petroleum Oil and Lubricants
PPE	Personnel Protective Equipment
RA	Remedial Action
ROWPU	Reverse Osmosis Water Purification Unit
SAR	Search and rescue
SASO	Stability and Support Operations
SJA	Staff Judge Advocate
SM	Site Mitigation
SOFA	Status of Forces Agreement
SOP	Standing Operating Procedure
SPCC	Spill Prevention Containment and Countermeasures
SPOD	Sea Point of Debarkation
TAA	Tactical Assembly Area
TSC	Theater Support Command
UFC	Unified Facilities Criteria
UNC	United Nations Command
US	United States of America
USACE	US Army Corps of Engineers
USACHPPM	US Army Center for Health Promotion and Preventive Medicine
USFK	US Forces Korea
UST	Underground Storage Tank
WHNS	Wartime Host Nation Support