

AMAS 25

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Environmental Management

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Contents

AMENDMENT RECORD	4
MANAGEMENT OF AMAS AMENDMENTS.....	4
25.1 INTRODUCTION	5
25.2 SCOPE	5
25.3 GENERAL CONSTRAINTS FOR WATERCOURSES AND GROUNDWATER.....	5
25.4 VEGETATION CLEARANCE	5
25.5 TEMPORARY SUPPORT FACILITIES	6
25.6 TRANSPORT OF MATERIALS AND SUPPLIES	7
25.7 OPERATION AND SERVICING OF VEHICLES AND EQUIPMENT	7
25.8 EQUIPMENT OPERATION IN ENVIRONMENTALLY SENSITIVE AREAS	8
25.9 TOXIC OR HAZARDOUS MATERIALS	8
25.10 PROTECTION OF LIVESTOCK AND WILDLIFE.....	8
25.11 CULTURAL RESOURCES	8
25.12 ENVIRONMENTAL AWARENESS OF MINE/UXO CLEARANCE PERSONNEL.....	9

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Environmental Management

25.1 Introduction

25.1.1 Several of the components of mine action pose threats to the environment as well as personnel. However, by ensuring that mine action personnel are well prepared, that safe work practices are applied and that due consideration is given to environmental impact, the level of risk to personnel and the environment can be greatly minimised.

25.1.2 The United Nations Mine Action Centre for Afghanistan (MACCA), as the authority for mine action within the country, is charged with the responsibility for developing the requirements for the development and implementation of suitable environment management systems for mine action in Afghanistan and for ensuring that mine action organisations correctly apply them.

25.2 Scope

25.2.1 This chapter outlines the guidelines and the minimum considerations to be observed during mine action operations for safeguarding the environment

25.3 General Constraints for Watercourses and Groundwater

25.3.1 In general, all mine/UXO clearance activities, including the establishment and operation of temporary facilities (field camps) shall be undertaken in a manner that avoids or minimises erosion and the discharge of silt into any watercourse (river, stream, lake, pond etc). No obstruction or debris shall be placed in any watercourse during operations. Should any material be inadvertently placed within the normal high water wetted perimeter of a watercourse, it should be removed immediately.

25.3.2 All activities within the wetted perimeter of any watercourse shall be kept to an absolute minimum. Where such activities are unavoidable, they shall be carried out as quickly as possible and, if known, outside environmentally sensitive periods (fish migration and spawning periods).

25.3.3 All organic matter, refuse, ash, petroleum products and other hazardous materials shall be placed and/or disposed of in a manner not to pollute any watercourse or groundwater. The placement and disposal of all such products and materials shall only be done in an environmentally acceptable manner.

25.3.4 Any organic, inorganic, or waste material that is inadvertently dumped in or adjacent to watercourses or other environmentally sensitive areas shall be removed and disposed of in an environmentally acceptable manner.

25.4 Vegetation Clearance

25.4.1 When areas must be burned to remove vegetation before mine/UXO clearance activities, burn plans shall be discussed with and approved by the land owners/users and local authorities.

25.4.2 The burn area should be surrounded by safe ground (established safe lanes, roads) from which fire monitoring, fire control and, if necessary fire suppression can be safely undertaken. Where the fire perimeter is vegetated, the vegetation should be wetted down before the burn is actually started. Wherever possible, the direction of burn should be towards the most secure and substantial firebreak. Wind and moisture conditions should be taken into account to ensure that no burn is started, which may get out of control. No burn shall be permitted to continue overnight; that is, burns shall be only started and completed within the same day.

25.4.3 Wherever possible all burning may be started by igniting dry vegetation. If necessary, diesel fuel or other fire accelerants may be sprayed or dripped onto vegetation. However, this should only be enough to get the fire ignited.

25.4.4 No burn shall be started unless there is sufficient personnel and equipment on-site to monitor, control, and, if necessary, suppress the burn from all parts of its perimeter. Fire safe areas and escape routes should be established. There shall be sufficient fire control equipment on-site (shovels, pack water pumps, foam fire extinguishers, stand-by water tank(s) and hose(s) to ensure that personnel are able to immediately suppress any unplanned burning.

25.4.5 All personnel involved in the burn shall be thoroughly briefed on the burn plan, including safety procedures and burn monitoring, control, and suppression plans.

25.5 Temporary Support Facilities

25.5.1 **In general**, temporary facilities should be located to ensure the safe: provision of drinking water, disposal of human excreta, wastewater and garbage; control of insects and rodents; conduct of food handling and preparation; and drainage of the site. The facilities should also be located in consultation with local community leaders to ensure that they do not affect local economic activities and social and cultural values.

25.5.2 **The preservation** of trees, shrubs, ground cover, fish, and wildlife shall be considered in site selection and construction of temporary support facilities. Existing access roads and sites previously used for similar purposes will be preferred.

25.5.3 Sites should be stable, well drained and, if necessary, have sufficient soil depth to permit the digging of latrines, wastewater soak-away pits, and garbage pits. All local health and pollution control practices, laws, ordinances and regulations shall be adhered to.

25.5.4 **Water supplies** shall be arranged as to avoid disrupting local supplies to nearby land users/owners and communities.

25.5.5 **Solid waste** containers should be large enough to accommodate all waste generated between collection periods. The containers should be constructed to contain spilled liquids and prevent access by insects and animals, especially rodents. There should be enough containers to permit the separation of combustible and other waste.

25.5.6 Waste should be transported away for recycling or disposal at approved dumping sites on a regular basis. The necessary precautions should be taken to prevent any loss of waste materials during transport on public highways and roads. Any materials or litter deposited along access routes shall be cleaned up.

25.5.7 If waste is to be disposed of on-site, combustible solid wastes should be burned on a regular basis in a container or pit, and then the residue disposed of in a pit. Residual ashes should be covered with soil after each burning/deposition. Burial pits for other solid waste should be located well away from watercourses and the bottom of the pit shall be at least 2 m above the water table.

25.5.8 **Toxic or hazardous wastes** shall not be buried on-site, but collected and removed to an approved disposal area. This is to include any razor wire/ barbed wire removed from clearance sites.

25.5.9 **Human waste** shall not be discharged into watercourses or onto the soil surface.

25.5.10 Where possible, temporary toilets should be used that are equipped with; holding tanks that can be pumped to sewage tanker trucks for disposal at an approved site; or septic tanks and safe drainage.

25.5.11 Where latrines must be used, there shall be at least one for every 20 persons. They shall be located at least 6 m from any accommodation or food preparation area, at least 15 m from watercourses, wells or other drinking-water sources. Shallow trench latrines may also be constructed (30 cm x 75 cm x 1.5 m deep). All latrines should be limed on a regular basis.

25.5.12 **Excess water** from washing, bathing, and kitchen areas shall be drained to soak-away pits. It shall not be permitted to enter watercourses or latrines.

25.5.13 **Upon completion** of mine/UXO clearance activities, all temporary support facilities and camp infrastructure, including buildings, equipment, lumber, refuse, surplus materials, fencing and other such items should be completely removed unless they can be utilised by the local population. Latrines, wastewater soak-away pits, and garbage disposal pits shall be filled and covered with soil, and the surface stabilised to prevent erosion and allow natural re-vegetation. As far, as practicable, all disturbed areas should be restored to their original condition.

25.6 Transport of Materials and Supplies

25.6.1 Suitable equipment and containers should be used to safely transport petroleum products, toxic and hazardous materials both on and off road. The necessary precautions should be taken to prevent the loss of these materials during transport on public highways, roads and access roads.

25.7 Operation and Servicing of Vehicles and Equipment

25.7.1 **Fuel Storage and Handling:** Where temporary fuel storage in the field is unavoidable, the storage facilities should not be located within 30 m of a watercourse, within a watercourse flood plain, or where there is a potential for any spilled fuel to enter a watercourse or groundwater.

25.7.2 All storage tanks containers and related equipment shall be regularly maintained to ensure the safe storage and dispensing of fuel. Defective hoses valves and containment structures should be promptly repaired.

25.7.3 Vehicle and equipment fuelling should be undertaken on a hard surface or over drip pans to ensure that any spilled fuel is contained.

25.7.4 Wherever possible, vehicle and equipment maintenance and repair should be conducted at permanent facilities set up and operated for those purposes, and not at temporary field sites.

25.7.5 The maintenance, repair, and washing of vehicles and equipment within the wetted perimeter of watercourses are prohibited.

25.7.6 If vehicles or equipment must be serviced or repaired in the field, the generated refuse (air and oil filters, hydraulic fluids, petroleum products, used batteries) should be collected and disposed of in an environmentally acceptable location and manner. The dumping of oil or other hazardous materials on the ground or in any watercourse is prohibited. Drained oil or other hazardous materials should be contained using a drip pan or other suitable device, retained and disposed of in an environmentally acceptable manner.

25.8 Equipment Operation in Environmentally Sensitive Areas

25.8.1 Equipment will be operated only within the designated mine/UXO clearance site, access roads, and field camp. Equipment operators should not be allowed to damage or destroy vegetation, stream banks, or vegetation outside of this area.

25.8.2 When equipment or vehicles are working in or near any watercourse, hydraulic, fuel and lubricating systems should be in good repair. Vehicles or equipment with fuel or fluid leaks should not enter the wetted perimeter of any watercourse.

25.9 Toxic or Hazardous Materials

25.9.1 All toxic or hazardous materials, including fuels, shall be transported, stored, and used in accordance with procedures that minimise the likelihood of spills or leaks.

25.9.2 Contingency plans for the clean-up of toxic or hazardous spills, including fuels, should be prepared prior to any commencement of mine/UXO clearance activities, together with a list of required spill clean-up supplies necessary. Any used spills clean up and abatement materials should be promptly replaced to maintain a sufficient inventory throughout the field operations.

25.9.3 Should a spill occur, the necessary steps to contain and clean up the spill should be taken immediately? Any soil or vegetation contaminated by spills should be bagged and removed to an approved waste disposal site, and replaced by comparable substitutes.

25.10 Protection of Livestock and Wildlife

25.10.1 Harassment of livestock or wildlife in and adjacent to mine/UXO clearance sites is prohibited. Local rules, regulations, and practices regarding hunting, fishing, and the discharge of firearms shall be adhered to.

25.11 Cultural Resources

25.11.1 Any item of archaeological, heritage, historical, cultural, or scientific interest located during mine/UXO clearance activities shall remain the property of the Afghanistan government. In the event of such a find, mine/UXO clearance operations shall cease, and the appropriate authorities shall be notified. Operations shall not resume until an appropriate directive has been received from those authorities.

25.12 Environmental Awareness of Mine/UXO Clearance Personnel

25.12.1 All mine/UXO clearance personnel shall be made familiar with the contents of this AMAS.