

EBRD COVID-19 Resilience Framework - Environmental and Social Assessment Training Programme

Module 12 – Typical environmental and social risks for the healthcare and pharmaceutical sector

Introduction

The purpose of Module 12 is to provide a summary of typical environmental and social risks that may need to be assessed for a Project within the healthcare and pharmaceutical sector. It should be noted that these are just examples of potential risks and the consultants will need to use their professional judgement and knowledge of the sector to identify specific risks on each given Project.

Healthcare sector

- The generation of air emissions to the atmosphere during the incineration of hazardous healthcare waste, leading to a deterioration in local and regional air quality, as well as contributing towards global climate change.
- Poor hygiene levels leading to the risk of spreading of infectious diseases.
- The generation of hazardous healthcare waste including:
 - infectious waste (pathogens such as bacteria or viruses, human tissue, blood, clothes and dressings, and other items that may have come into contact with infectious materials);
 - sharps (needles, scalpels, blades, etc.);
 - pharmaceutical waste (expired medicines, drug bottles, vials, etc.);
 - genotoxic and cytotoxic waste (generated from patients receiving cytostatic drugs and from treatment with chemicals and radioactive materials);
 - radioactive waste (material contaminated with radionuclides which can originate from cancer treatments or organ imaging);
 - materials containing high quantities of heavy metals (batteries, broken thermometers, blood pressure gauges);
 - pressurised containers (cartridges and cylinders for nitrous oxide, and other gasses); and
 - general healthcare waste (food, paper, plastics and cardboard).
- The generation of wastewater from medical wards, operating theatres, laboratory waste, pharmaceutical and chemical stores, cleaning activities, and x-ray development facilities, disinfection activities, and other sources. Wastewater may contain a large variety of compounds including a high biochemical oxygen demand and chemical oxygen demand, total suspended solids, ammonia, heavy metals, toxic compounds and a high/low pH. The inappropriate disposal of wastewater could lead to surface or groundwater contamination.
- The potential for workers to be exposed to infections and diseases, hazardous materials and waste, radiation and other sources, during their routine work with patients, handling medicines and substances used for treatments.
- Lack of emergency power supply equipment impacting patients under treatment.
- Inadequate evacuation facilities following a fire or other type of major incident.

Pharmaceutical sector

- The generation of air emissions to the atmosphere during the manufacturing of pharmaceutical products, including volatile organic compounds, acid gasses and particulates, leading to a deterioration in local and regional air quality, as well as contributing towards global climate change.
- The generation of odours to the atmosphere (typically associated with fermentation activities), leading to a deterioration in local air quality, as well as generating a nuisance to nearby communities.
- The generation of industrial process wastewater containing a high biochemical oxygen demand and chemical oxygen demand, in addition to concentrations of total suspended solids, ammonia, toxic compounds and a high/low pH. Other chemical compounds may be present including solvents, organic acids, organic halides, inorganic acids, ammonia, cyanide, toluene, and active pharmaceutical ingredients. The inappropriate disposal of wastewater could lead to surface or groundwater contamination.
- The generation of hazardous waste generated from pharmaceutical processes leading to soil and groundwater contamination. Wastes could be generated from fermentation processes, the extraction of raw materials from natural products, air filters, expired products, laboratory wastes, sludge from wastewater treatment systems, and collected particulate from air pollution control systems.
- The potential for workers to be exposed to hazardous substances, including potentially pathogenic waste from biotechnology manufacturing, or from radiological hazards.
- The potential for workers to be exposed to heat and chemical hazards, due to the need to use pressurised steam and hot water to wash equipment, or from the handling of chemicals.
- The degradation of habitats through the process of collecting genetic and other types of natural resources used for the manufacturing or research of pharmaceutical or biotechnology Projects.
- The inappropriate storage of liquid and gaseous hazardous substances, leading to worker exposure, or soil and groundwater contamination.
- Lack of or inefficient product recall procedures that are in accordance with EU guidelines.

NOTE: for additional guidance on product recall procedures refer to the following:

European Commission, Product Safety in Europe: A Guide to corrective action including recalls:

https://ec.europa.eu/consumers/archive/cons_safe/action_guide_en.pdf