

CHAPTER 10 TECHNOLOGICAL HAZARDS

10.1 INTRODUCTION

Technological hazards refer to the failure of manmade systems, which occur accidentally or deliberately, that have the potential to cause significant loss of life, cause human suffering, and produce significant damage to structures. There is a wide range of hazards of technological origin. Urban centers and ports are more susceptible to technological hazards because of the concentration of industry, mass transportation of cargo, and buildings.

In the BVI which has not been industrialized, the main technological hazards that have the potential to cause disasters are; oil spills, chemical explosions, aircraft accidents, and ferry accidents. Technological hazards which can result in less damage but which non the less pose significant threats are fires, health related hazards, and traffic accidents.

Since natural hazards pose a far greater threat to the BVI, this chapter only briefly outlines the nature of these technological hazards in the BVI.

10.2 OIL SPILLS

The BVI lies close to major shipping lanes through which petroleum products are transported. Because of this the threat of oil spills exist. The existence of sensitive coral reef and near shore ecosystems makes the islands of the BVI vulnerable to extensive damage should a significant oil spill occur. The dataset which shows the nearshore ecosystems around the islands of the BVI **Map 7.5** gives a clear indication of the biological systems at risk from a potential oil spill.

The Government of the BVI has in place an oil spill contingency plan that provides detailed guidelines and procedures to deal with an oil spill event.

10.3 EXPLOSIONS

The threat of large explosions in Tortola exists at a few locations where significant quantities of fuel is stored. These include the petroleum fuel storage facilities in Fish Bay, the liquid petroleum gas storage facility in Baughers Bay, and to a lesser extent the service station storage tanks throughout the BVI.

The small petroleum tank farm at Fish Bay is located directly on the coastline and consists of standard welded steel tanks. The position of this facility makes it highly susceptible to high energy waves which might be generated by hurricanes. In addition it has been built on reclaimed land which also makes it susceptible to ground shaking produced by earthquakes.

10.4 AIRCRAFT ACCIDENTS

There is one international airport in the BVI on Beef Island, which accommodates mid sized aircraft carrying up to 60 passengers, and two small air strips, in Anegada and Virgin Gorda which handle small aircraft. Only very minor accidents have occurred in the past with no deaths reported. The Beef Island airport consists of one 1600 foot runway with terminal, security and fire protection facilities which all meet international airport standards. The present orientation of the runway together with the easterly prevailing winds determines that the landing approach is usually from the west. It is only during this landing approach that aircraft fly overland for a very short period. This reduces the chances of aircraft crashes on land.

10.5 FERRY ACCIDENTS

The ferries link the major islands of the BVI and the US Virgin Islands. Ferry ports are located at West End and Roadtown in Tortola, and Spanish Town and North Sound in Virgin Gorda and at Great Harbour in Jost Van Dyke. The ferries are relatively small diesel

powered boats with capacities of 40-100 passengers. Most of these boats have safety and emergency equipment on board.

10.6 MINOR HAZARDS

Domestic fires occur frequently in the BVI and results in significant damage to structures. These fires are dealt with by the BVI Fire and Rescue Service. Cruise ship fires are also threats which have not been systematically addressed in the BVI, but with the high volume of cruise ship traffic deserves special attention.

Health related hazards pose a threat especially as they relate to diseases caused by the inappropriate disposal of sewage. In the BVI untreated sewage is dumped directly into the sea. As the population increases this practice will have to be modified to prevent the buildup of disease producing bacteria nearshore and the consequent negative impact on environmental health and tourism and on ecosystems.

There are also hazardous materials which are stored in relatively small quantities such as chlorine for water treatment and pesticides, that have the potential to cause health problems. The BVI Office of Disaster Preparedness is currently finalizing a hazardous materials response plan to deal with the unintentional release of hazardous substances.