The Voice of the Networks

environment briefing05

contaminated land

Introduction

All industrialised nations, including the UK, have a legacy of contaminated, i.e. land which has been polluted by past human activities. Many areas are contaminated to varying degrees with naturally occurring material, such as tin, arsenic, cadmium etc Major industries which have been in existence for a number of decades, including the electricity industry, may own or occupy contaminated sites.

This may be of concern if it poses a direct threat to human health, fauna and flora on the site itself or elsewhere due to migration of pollutants, for example through water sources.

This briefing outlines the issues and describes how the UK electricity transmission and distribution industry is dealing with its own legacy of potentially contaminated land.

Legislation

Environmental legislation varies between different parts of the UK. For further information on the Contaminated Land Regulations contact your Local Authority (or District Council in Northern Ireland).

These Regulations and other environmental legislation can be accessed via the Environment Agency's NetRegs website at www.netregs.gov.uk

Further information can be found in DETR Circular 02/2000 ***Environmental Protection Act 1990 Part 11A, Contaminated Land*** (ISBN 0-11-753544-3).

Determination of Contaminated Land

The Environment Act 1995 defines contaminated land as in Box 1. This definition focuses on the likelihood of any contamination causing harm, rather than contamination *per se*, but leaves scope for interpretation, which ultimately is decided by the courts.

Box 1 – Definition of Contaminated Land

Contaminated land is defined in the 1995 Act as 'any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- **significant harm is being caused or there is a significant possibility of such harm being caused; or**
- **pollution of controlled waters is being, or is likely to be, caused.'**

The Guidance to enforcing authorities indicates that, to be classed as 'significant', harm must fall within specific categories in relation to one of four types of receptor, as in Box 2.

Box 2 – Categories of Significant Harm

- **to human beings: death, disease, serious injury, genetic mutation, birth defects or impairment of reproductive functions;**
- **to living organisms or ecological systems in any habitat notified under specific legislation (e.g. SSSIs): harm which results in an irreversible or other substantial adverse change;**
- **to crops; to livestock or other owned animals: death, disease or damage resulting in loss of value;**
- **to buildings: structural failure, substantial.**

In order to determine whether land is contaminated, the Guidance recommends that the local authority should carry out a risk assessment, to establish:

- whether a contaminant which has the potential to cause harm or pollution of controlled waters is in, on or under the land; and, if so,
- whether there is a receptor and a route through which the contaminant could reach the receptor.

In cases where these conditions are established, a 'pollutant linkage' is deemed to exist. A local authority can require remediation for those substances where a pollutant linkage has been established, regardless of what other substances are in or on the land. Details of land identified as contaminated will be entered on a local contaminated land register.

Special Sites

- A sub-category of contaminated sites, to be designated by the Secretary of State as 'special sites', has the Environment Agencies as the enforcing authorities. In designating such sites the Secretary of State must have regard to the severity of the harm or pollution of controlled waters that might be caused by contamination.

Remediation

Having established the 'appropriate persons' (as defined in the Act) for remediating a contaminated site, the enforcing authority must serve notice of these facts to the owner or occupier of the land and any other appropriate person(s). The enforcing authority cannot then take any further action for three months, unless there is imminent danger of harm or pollution being caused. During this period the appropriate person may seek to convince the authority that he will undertake the work voluntarily; or he may seek to demonstrate that it would not be reasonable to serve a remediation notice, given the costs and potential harm involved. Failing such actions by the end of the period, the enforcing authority will then serve a remediation notice, specifying the work required, and the date by which it should be completed.

Failure to comply with such a notice is a criminal offence, punishable by daily fines as long as the work remains outstanding. Alternatively, the enforcing authority can undertake the work itself and reclaim the costs from the person on whom the notice was served.

Contaminated Land and the Electricity Transmission and Distribution Industry

Commercial supply of electricity began at the end of the 19th century, since then the electricity industry (EI) has changed substantially, both structurally and technologically. Structurally, it has evolved from a fragmented, local and municipally owned system, through a nationalised structure, into a substantially privately owned industry with competition in electricity generation and supply. In distribution, the use of oil as an electrical and thermal insulator in certain equipment has given technical advantages but needs to be accompanied by appropriate containment and handling procedures. The industry is progressively introducing equipment based upon insulating mediums other than oil, reducing the problem at source.

In developing transmission and distribution networks we sometimes have to route through and above contaminated land with cables and overhead lines causing installation and operational difficulties. The additional risk controls necessary spanning health, safety and environmental protection increases costs and project delivery timescales.

Such developments have occurred against a background of changing environmental legislation, which has altered the way in which potential contaminants are handled, both during and after their useful life. The nature and extent of any contamination associated with the industry's sites depends upon prior use by others, when sites were operational, which technologies were used, and legislation in force at the time. In view of this long evolutionary history and the consequential uncertainties, electricity transmission and distribution companies manage potential environmental impacts through a process of risk assessment and management, which comprises:

- investigating the history and operation of their sites to establish whether contamination is likely to exist and, if so, whether it might be a problem;
- performing audits and routine inspections of sites and equipment which are suspected of containing or have the potential for releasing contaminants;
- taking appropriate remedial action, based on the 'suitable for use' approach, where site contamination might become a hazard to human health or the environment; and
- developing highly developed emergency response systems should any releases occur to mitigate any adverse environmental effects.