2.0 PRESENTATION OF THE CASE STUDY

The Électricité du Laos (EDL), Sok Pa Loung compound was selected by ERI/WREA as the site for a human risk assessment of poly-chlorinated biphenyls (PCBs). The site is located centrally in Vientiane, in an important residential, business and political area including residential buildings, foreign diplomatic missions, as well as several academic institutions.

The SPL site has been used by EDL to collect, store and repair used electrical equipment, including capacitors and transformers, since 1982. The site also hosts training facilities for EDL employees and the EDL head administrative offices.

Contamination at the SPL site is caused primarily by the handling and storage of transformers containing PCB-contaminated oil, and spillages associated with it. Contaminants are known to migrate to the soil, sediments, water and biota as a result of the SPL site operations, and to ultimately enter the human population (through dermal contact and consumption of contaminated food). This was confirmed through blood sampling of populations at risk.

The risk assessment conducted as part of the POPs Project identified several categories of receptors (i.e. population potentially exposed to contamination), including approximately 2,800 people. Full-time workers and guards at the warehouse are most at risk of exposure; other workers in the EDL complex may also be potentially exposed, as are regular visitors and shift workers. Members of the local community, students of the nearby school and training centers are susceptible to exposure through migration of the contaminants (dust, water). Approximately 100 families in different villages/suburbs of the city of Vientiane are identified as receptors because they use the recycled, potentially PCB-contaminated oil coming from the site.

A detailed description of the site surroundings and operations, as well as key results of the site risk assessment, is provided in Appendix A1.

As part of the risk assessment conducted for the SPL compound, various measures aimed at efficiently managing and reducing the POPs hazard were identified. These measures were developed with stakeholder inputs gathered at the National Training Workshop in Vientiane in January 2009 (Hatfield 2009b) and have been grouped into 3 scenarios as presented in Appendix A1.

Three risk management objectives have been identified: mitigation of the POPs hazard; containment of the existing contamination; and remediation of the site. It should be noted that improving health and safety measures (Scenario 1) is a short term priority while containment (Scenario 2) or disposal (Scenario 3) are longer term alternatives, both of which include the cost of the short term health and safety measures. Without adequate management of POPs hazard, mitigation and containment measures only have limited efficacy because in the absence of effective management addressing contamination, human exposure risk would increase over time.

An outline of the risk management scenarios has been provided in Appendix A1; detailed feasibility studies are needed to define in detail the nature and extent of the measures to be implemented, especially with regard to the containment and remediation scenarios.