

Emergency Plan

Quick action prevents environmental disaster

By Agnes Miczynska

Tri-Phase Environmental Inc.'s (TPEI) emergency staff was called early one Sunday morning to respond to a polychlorinated biphenyl (PCB) spill in a downtown tower building. One of nine transformers containing PCBs had leaked Pyranol (a high level PCB liquid) onto the roof of the building which subsequently made its way into the rain water leader. Pyranol oil (DNAPL) spill response is a complex, challenging and cross-disciplinary skill, which requires highly specialized and experienced emergency staff. As such, TPEI dispatched an emergency response team that arrived on site within the hour to address the immediate needs of the spill.

The team began by addressing the source of the spill, allowing it to be contained to the immediate environment. At the time of the spill, it had been raining considerably and the site needed to be enclosed to prevent the contamination of the rain water, as well as the further spread of the contaminant to the surrounding environment. While controlling and isolating the source of the spill was quickly achieved, enclosing the site under unfavourable conditions, although successful, proved challenging.

Once the source of the spill had been contained and the potential spread of the contaminant had been prevented, TPEI proceeded to isolate and bypass the contaminated rain water leader to prevent further contamination.

Following primary response, TPEI divided the site into contaminated and clean zones. Work proceeded to remove, package,

transport, and dispose of any contaminated materials including, but not limited to, roofing material, rain water, building structure and equipment. Any building materials that were removed during these efforts were replaced by TPEI as part of the recovery phase of emergency management.

This incident expedited Phase Two of the project, which called for the replacement of all nine transformers with non PCB-containing transformers as per the new PCB Regulations published on Sept. 17, 2008 in Part II of the Canada Gazette.

The typical wait time for a new transformer is nine to 12 months. However, understanding that the typical length of time required for a new transformer to be delivered would be problematic and taking into consideration its client's needs, TPEI was able to arrange for the replacement transformers to be delivered within two months. For the decommissioning of the rooftop transformers, the PCBs were carefully drained and packaged in drums approved by Environment Canada and Transport Canada. A 350-tonne crane was used to lift the PCB waste and transformers from the rooftop, which was then loaded onto a truck below. The waste was then safely transported to a licensed facility for proper disposal.

The largest PCB-containing transformer was located in the sub-basement of the building, which presented a considerable challenge for its removal. Following the recovery of all PCB liquids, the unit was broken down into pieces small enough to be packaged by hand, carried up the stairway

and onto the freight elevator. It was then loaded onto a truck and safely transported to a licensed disposal facility.

The new transformers were hoisted up by crane to the rooftop and installed on the switchgears. In order to minimize disruption during the replacement process, temporary transformers and cables were used to maintain power during the operation and so the successful shut down and isolation of the remaining PCB-containing transformers was achieved.

For the installation of the transformer in the sub-basement, the unit was delivered in small pieces and brought in by hand. Once all components were in the sub-basement, the unit was assembled, retrofilled with oil, electrically tested, connected to the switchgear and successfully powered. All nine transformers replaced, were done successfully and with no interruption to the day-to-day business functions.

There is a need for both discipline and agility when responding to an oil spill, but more importantly, there is a need for strong coordination and management by highly specialized and experienced emergency staff. TPEI's ability to effectively control the spill while working with the client's needs to ensure uninterrupted business continuity, demonstrates the importance of working with the right contractor who will implement well developed response plans. **BS&S**

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