

# ENVIRONMENTAL REMEDIATION OF DIOXIN CONTAMINATION AT DANANG AIRPORT PROJECT FREQUENTLY ASKED QUESTIONS

Language: English | [Vietnamese](#)

## **Q. What is happening at the Danang Airport and why?**

Areas at Danang International Airport have been referred to as a dioxin "hotspot" due to the high dioxin concentrations in soil and sediment remaining decades after Agent Orange and other herbicides were handled at the airport during the U.S.-Vietnam War. USAID and MND are jointly implementing the Danang Airport Remediation Project, which aims to clean up the dioxin contamination and consequently eliminate the risk of exposure to dioxin and to develop Vietnamese capacity for implementing similar remediation activities at other sites in Vietnam. The contaminated soil and sediment will be treated so that the dioxin concentrations fall below the agreed upon level of 150 ppt.

## **Q. How is the contamination going to be treated?**

The contaminated soil and sediment will be excavated and placed in an enclosed containment structure built on the grounds of the Danang Airport. Once there, it will be treated using thermal desorption technology, which involves heating the soil and sediment to a high temperature to destroy the dioxin. Following treatment, soil and sediment will be tested to ensure it is no longer contaminated. The treated soil and sediment will then be removed from the containment structure and used as fill material on site at the Danang Airport.

## **Q. Who is responsible for implementing the cleanup project?**

The Vietnamese Ministry of National Defense (MND) and the United States Agency for International Development (USAID) are the implementing partners for the project. The Air Force Air Defense Command within MND is the project owner and is responsible for ensuring that the project meets all applicable Vietnamese environmental protection laws and regulations. USAID is the implementing agency and is responsible for procuring contractors to perform the work.

## **Q. Will the movement and treatment of contaminated soils and sediments be harmful to the surrounding community?**

Ensuring the health and safety of the workers carrying out the project, as well as airport workers and local residents, is the most important consideration of the project. Please read about all the Health and Safety considerations undertaken in this project.

## **Q. When will the cleanup be complete?**

The final and Phase 2 treatment is expected to be completed in 2017 while the site restoration and demobilization are expected in 2018.

[Read more information about the project schedule.](#)

## **Q. What was assessed prior to the cleanup?**

The following environmental issues were addressed in the design of the cleanup program:

- Levels of dioxins and other contaminants of potential concern in soil, sediment, fish, surface water, and groundwater;
- Human health risks associated with cleanup of unexploded ordnance (UXO) and munitions;
- Surface water hydrology;
- Surface water quality;

- Groundwater;
- Air quality and indirect effects on human health;
- Greenhouse gases;
- Terrestrial ecosystems and biodiversity;
- Wetlands, aquatic ecosystems, and aquatic biodiversity;
- Noise; and
- Natural or depletable resources.

#### **Q. What remediation technologies were considered?**

A number of different technologies were considered when determining how to remediate the contaminated soil and sediment at the Danang Airport. The remediation technologies considered are listed below:

- Base-Catalyzed Decomposition
- Ball Milling with Active Landfill
- Geo-Melt™ Process
- Passive Landfill
- Active Landfill
- Incineration
- In-Situ/In-Pile Thermal Desorption (ISTD/IPTD)

Find out more about the [In-Situ/In-Pile Thermal Desorption Destruction \(ISTD/IPTD\) process](#) chosen to remediate dioxin contamination at the Danang Airport.

#### **Q. What will happen to the contaminated soil and sediment after treatment?**

After the contaminated soil and sediment is treated using thermal desorption technology, the productive use of the clean soil and sediment will be discussed with Danang authorities and MND. One option that has been discussed is to use the clean soil and sediment for the Danang Airport expansion, or as backfill to the excavated areas.

#### **Q. How will emissions from the thermal treatment be handled?**

Emissions from the thermal desorption treatment system will be treated using proven technologies prior to discharge into the environment. The treatment system will account for the anticipated rate of material extraction, the temperature and water content of the extracted vapors, and all regulatory requirements.

Preference will be given to vapor and liquid treatment using relatively simple systems, such as granular activated carbon (GAC). Accumulated liquid condensate will be treated in a liquid treatment system, most likely consisting of liquid-phase GAC.

Leachate from the base of the treatment structure will be collected in one or more sumps and conveyed to the liquid treatment system.

#### **See also:**

- [Progress Reports for the Environmental Remediation Project at Danang Airport](#)
- [Project Timeline](#)
- [Remediation Areas](#)

- **[A Description of the Remediation Process](#)**
- **[How Health and Safety Concerns Have Been Addressed](#)**
- **[Key Facts about the Environmental Remediation Project in Danang](#)**

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