



MEMORANDUM

July 3, 2012

To: The Honorable Bob Filner
Attention: Todd Ethington

From: Michael F. Martin, Specialist in Asian Affairs, 7-2199, mfmartin@crs.loc.gov

Subject: Update on Agent Orange/Dioxin Project in Da Nang, Vietnam

This memorandum is in response to your request for an update on the U.S. agent orange/dioxin remediation and related health services project in Da Nang, Vietnam.¹ Included in this memorandum is a summary of the appropriations to date, the obligations that have been made out of the appropriated funds, and a description of the activities to which funds have been obligated. In addition, the memorandum provides a brief description of the thermal desorption method to be used to decontaminate the affected soil at Da Nang airport. A separate section discusses additional funding in pending legislation for agent orange/dioxin-related activities in Vietnam. Please note that portions of this memorandum may be used in other CRS materials. If you have questions regarding the content of the memorandum, or the subject in general, please contact the author by phone or email.

Appropriations

To date, Congress has directly or indirectly appropriated \$76.9 million for Agent Orange/dioxin remediation and related health care activities in Vietnam. Most of the funds were directly appropriated for these specific purposes in various appropriation bills. However, \$3.9 million was allocated by the State Department out of funds appropriated for more general purposes, such as the Economic Support Fund (ESF).

According to the Department of State, funding for Agent Orange related projects prior to 2007 amounted to \$2 million.² Although the State Department did not provide an itemization of the use of the \$2 million, apparently most of the funds were used for technical and scientific activities.³

In May 2007, the 110th Congress passed the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28) that appropriated \$3 million for assistance to

¹ The city is written as both "Da Nang" and "Danang" by the Vietnamese government. This memorandum will use "Da Nang."

² Statement of Assistant Secretary for East Asian and Pacific Affairs Christopher R. Hill, Senate Committee on Foreign Relations, Subcommittee on East Asian and Pacific Affairs, March 12, 2008.

³ Personal communications with representative of State Department, April 25, 2008.

Vietnam for environmental remediation of dioxin-contaminated storage sites and to support health programs in communities near those sites.⁴

Subsequently, the 111th Congress appropriated a total of \$18 million for dioxin clean up in Vietnam and related health services. In addition, the State Department and USAID allocated \$1.9 million in Development Assistance funds for fiscal year 2010 for environmental remediation at Da Nang airport.⁵ In March 2009, the 111th Congress appropriated \$3 million for Agent Orange/dioxin remediation and health care assistance in the vicinity of the Da Nang “hot spot” in the Omnibus Appropriations Act, 2009 (P.L. 111-8). In December 2009, Congress passed the Consolidated Appropriations Act, 2010 (P.L. 111-117), which included \$3 million for dioxin clean up and related health services in Vietnam. In July 2010, Congress included \$12 million in the Supplemental Appropriations Act, 2010 (P.L. 111-212).

On April 15, 2011, the 112th Congress appropriated in the Department of Defense and Full-Year Continuing Appropriations Act 2011 (P.L. 112-10) \$15.5 million for remediation activities at dioxin contaminated sites in Vietnam and \$3 million for related health activities. Conference Report 112-331 that accompanied the Consolidated Appropriations Act, 2012 (P.L. 112-74) appropriated \$15 million “for environmental remediation of dioxin contamination at the Da Nang and Bien Hoa airports and other severely contaminated sites” and \$5 million “for health/disability activities in areas in Vietnam that were targeted with Agent Orange or remain contaminated with dioxin.”

Obligations

According to information provided by USAID, \$16.5 million of the available funds had been obligated by June 25, 2012 (see **Table 1**). Of the \$16.5 million, \$11.9 million went to environmental remediation, \$3.1 million was allocated to related health services, and \$1.5 million was used for administrative expenses. For the remaining unobligated funds, USAID intends to allocate \$33.4 million for thermal remediation at Da Nang airport, \$8.0 million for related health services, \$2.3 million for an environmental assessment at Bien Hoa, and \$1.4 million for administrative expenses.

Table 1. USAID Obligations of Agent Orange/Dioxin Appropriations Since 2007
As of June 25, 2012

Recipient		Purpose	Amount
<i>Environmental Programs</i>			\$11,878,762
CDM Smith International	Assessment and design services		\$4,542,276
CDM Smith International	Construction management and oversight		\$6,000,000
TerraTherm International	Design services for in-pile thermal desorption systems		\$1,336,486
<i>Health-related programs</i>			\$3,091,388
East Meets West	Services for disabled in rural areas		\$500,000
Save the Children	Vocational training		\$1,199,980

⁴ For details, see CRS Report RL33900, *FY2007 Supplemental Appropriations for Defense, Foreign Affairs, and Other Purposes*, coordinated by Stephen Daggett.

⁵ U.S. Congress, House Committee on Foreign Affairs, Subcommittee on Asia, the Pacific, and the Global Environment, *Testimony of Acting Deputy Assistant Secretary Matthew Palmer, Agent Orange in Vietnam: Recent Developments in Remediation*, 111th Cong., 2nd sess., July 15, 2010.

Recipient	Purpose	Amount
Vietnam Assistance for the Handicapped	Medical and rehabilitation services	\$1,288,408
USAID - Global Health Technical Assistance	Health and disability assessment	\$103,000
USAID – Administrative Expenses		\$1,537,449
TOTAL		\$16,507,559

Source: USAID

Funded Activities

A portion of the obligated funds has been used by USAID to hire and support a full-time environmental health and remediation advisor to be posted at the U.S. Embassy in Hanoi, as well as finance the administrative expenses associated with the project. Most of the funds have been awarded as grants to non-government organizations to provide services related the project.

CDM Smith International, Inc. has been the main contractor used by USAID to assess the extent and severity of dioxin contamination at Da Nang Airport. It was awarded a \$1.69 million contract in 2009 to conduct an environmental assessment of the site to determine practical options for the decontamination of the affected areas around the airport.⁶ The assessment was concluded in June 2010, and determined that thermal treatment was the most cost-effective method for removing the residual dioxin from the contaminated soil.⁷ The total cost of thermal treatment was estimated at \$34 million. On December 30, 2010, the U.S. and Vietnamese governments signed a memorandum of intent (MOI) for the environmental remediation of dioxin contamination at the Da Nang airport.⁸ CDM Smith specializes in providing consulting, construction and operation services for energy, environmental, transportation, and water facilities.

TerraTherm International was awarded a USAID contract in March 2012 to design the thermal remediation cleanup project for the dioxin contaminated soil at Da Nang airport. TerraTherm specializes in the development and implementation of in situ thermal remediation of organic contaminants in soil and other subsurface materials.

The East Meets West Foundation was awarded a \$500,000 grant to improve the quality of life for persons living with disabilities in Da Nang Province, particularly children with disabilities. Funds were utilized for medical and social screening for people with disabilities, corrective surgery, physical therapy and rehabilitation services, scholarships for children with disabilities, and community-based rehabilitation. Information provided by USAID describes the program as follows:

Supports improvement of the well being of people with disabilities (PWDs) and children with disabilities (CWDs) in Danang. Specifically, activities provide: 1) medical and social scanning for PWDs and CWDs; 2) corrective surgery; 3) physical therapy and rehabilitation services for non-

⁶ Embassy of the United States, Hanoi, "United States Government Provides \$1.69 Million to Prepare for Agent Orange/Dioxin Removal in Danang," press release, October 1, 2009, <http://vietnam.usembassy.gov/pr100109i.html>.

⁷ Thermal treatment will utilize in-situ/in-pile thermal desorption destruction. The contaminated soil will be relocated to contained landfills to undergo treatment.

⁸ U.S. Embassy in Hanoi, Vietnam, "Remarks by U.S. Ambassador Michael W. Michalak," press release, December 30, 2010.

surgery cases; 4) scholarships to CWDs; 5) the establishment of community-based rehabilitation units, and 6) training to improve skills of medical personnel treating PWDs.⁹

The East Meets West Foundation specializes in providing education and health services to disadvantaged people in Asia.

Save the Children was provided a grant in 2009 to expand employment and income-generating activities for people with disabilities and their families living in Da Nang. Information provided by USAID describes the program as follows:

Program provides technical assistance to empower people with disabilities (PWDs) with skills and training to engage successfully in Vietnam's economic transformation and to lead productive and self-sufficient lives. PWDs learn how to access services and resources, obtain reliable and gainful employment, start a business, increase their awareness of the demand-supply dynamics of the market and the availability of entrepreneurial services. Activities also aim to increase the support and engagement of local government, private sector, and communities to create livelihood opportunities and a disability friendly business environment.¹⁰

Save the Children specializes in providing assistance to children in need around the world.

The Vietnam Assistance for the Handicapped was provided a grant in 2009 to help people with disabilities and their families improve their social and economic status and integration, and help local authorities, health service providers, disabled organizations and others develop and enforce programs that increase resources for disability. Information provided by USAID describes the program as follows:

USAID assistance for people with disabilities (PWDs) in Danang aims to improve their well being and livelihoods by increasing their integration into society through comprehensive rehabilitation services and socio-economic support. The program also strengthens the ability of local service providers and organizations to serve the disabled population. Key activities include: 1) establishing a model for rehabilitation services and a community-based support system to increase access to quality services for PWDs; and 2) improving capacity of self-help groups to access to health and social services, and economic support.¹¹

The Vietnam Assistance for the Handicapped specializes in providing assistance to the disabled in Vietnam.

Thermal Desorption Technology

USAID and Vietnam's Ministry of National Defence have agreed to use in-pile thermal desorption (IPTD) technology to remove the dioxin in the contaminated soil at Da Nang airport, after comparing several options, including bioremediation. TerraTherm intends to use a combination of conductive thermal heating elements and negative pressure (partial vacuum) to circulate heat throughout the contaminated soil to breakdown the dioxin into non-toxic compounds. TerraTherm reportedly will excavate and treat 72,900 cubic meters of soil in an above-ground, covered pile located at the airport.¹² According to

⁹ Text from information provided to CRS by USAID.

¹⁰ Ibid.

¹¹ Ibid.

¹² "US Agency to Conduct High-tech Dioxin Cleanup at Da Nang Airport," *Thanh Nien News*, May 9, 2012.

USAID, the proposed cleanup will treat all the known contaminated soil at the airport.¹³ The thermal desorption project at Da Nang airport will supposedly be completed by August 2012.

Pending Legislation

At least two bills have been introduced in the 112th Congress that would directly or indirectly result in the appropriation of additional funds to finance the clean-up of Agent Orange/dioxin in Vietnam and/or provide assistance to Vietnamese victims of Agent Orange/dioxin. The Victims of Agent Orange Relief Act of 2011 (H.R. 2634) would require the Secretary of State develop a plan to address the health care needs of Vietnamese nationals exposed to Agent Orange during the designated exposure period, or their progeny.

In Committee Report 112-172 associated with the Department of State, Foreign Operations, and Related Programs Appropriations Act, 2013 (S. 3241), the Senate Committee on Appropriations recommended the appropriation of:

... not less than \$20,000,000 for site analysis and environmental remediation of dioxin contamination at the Bien Hoa and Phu Cat hot spots, and not less than \$5,000,000 under the GHP heading for disability surveys, monitoring, and related health activities in areas that were heavily sprayed with Agent Orange or are otherwise contaminated with dioxin ...

¹³ Based on meeting the Vietnamese government's standard of less than 150 parts per trillion (ppt).
