

Bechtel and Disaster Relief, Emergency Response, and Restoration Experience



Bechtel National, Inc.



Bechtel is working for the Federal Emergency Management Agency to provide emergency response in Mississippi in the wake of Hurricane Katrina.

Bechtels has an unsurpassed track record in emergency response and restoration work, including disaster relief. The company is known for successfully handling the toughest, largest, and most complex kinds of jobs – many of them first-of-a-kind, even one-of-a-kind.

Examples include:

- Reconstruction of vital elements of Iraq's infrastructure
- Rescue and recovery at Ground Zero, World Trade Center
- Construction of Camp Hope for Kosovar refugees
- Cleanup of Three Mile Island
- Extinguishing oil fires of Kuwait and restoring the environment
- Dismantling ICBM silos in Ukraine
- Cleanup of the Department of Energy's Hanford Site in Washington State
- Stabilizing the shelter over the damaged reactor at Chernobyl in Ukraine
- Help in the aftermath of major earthquakes in San Francisco, Taiwan, and western Turkey



Bechtel mobilized employees and equipment to search for survivors of the Turkish earthquake and assisted in relief efforts.



We helped build Camp Hope near Fier, Albania, used in the aftermath of the Kosovo crisis in the Balkans.



Oil fires in Kuwait were extinguished in 8 months, without a single fatality in a workforce of 16,000.

Hurricane Katrina

Since just days after Hurricane Katrina, Bechtel has been working with the Federal Emergency Management Agency (FEMA) in Mississippi to site and set up temporary housing for families displaced by the hurricane. Working under FEMA task orders, Bechtel has:

- Hauled and installed travel trailers and manufactured homes that are providing temporary housing
- Established 33 fully equipped and staffed FEMA Disaster Recovery Centers across Mississippi, where more than 200,000 disaster victims have gone to register for FEMA assistance

Between August 29 and September 8, FEMA assigned a series of tasks to Bechtel for urgent humanitarian relief work. Bechtel will contribute profits from that initial work for the benefit of victims of this natural disaster. In addition, Bechtel and its employees have contributed more than \$1.3 million to the American Red Cross.



Bechtel has installed several thousand temporary housing units throughout Mississippi.

World Trade Center

Bechtel provided expertise in such critical areas as hazardous materials, communications, environmental contaminants, agency coordination, and occupational health during the rescue and cleanup efforts at Ground Zero in New York City, where two 110-story towers collapsed and numerous other buildings, tunnels, structures, and telecommunications facilities were damaged. Our work included:

- Developing a comprehensive accident-prevention plan, and a dust protection and suppression plan
- Coordinating environmental, safety & health efforts of many contractors, agencies, and emergency services
- Flying in a unique prototype listening device developed for the Department of Energy, which enabled rescuers to detect victims' heartbeats or breathing through layers of concrete



Bechtel employees prepare worker protection initiatives during initial response activities.

Camp Hope

Bechtel provided support to the U.S. Air Force and NATO in building the first U.S. government-sponsored camp for Kosovo refugees in Albania. We:

- Mobilized 52 Bechtel and over 700 subcontractor personnel within 4 days and began airlifting over 190 pieces of construction equipment from Turkey
- Built a fully functioning tent city for 20,000 refugees within 60 days, including 10 miles of roads, 1,820 tents, 1,006 latrines, 270 water taps, 12 school areas, 44 bath areas, and 176 food preparation sites
- Researched seasonal variations in rainfall and runoff leading to revised earthworks and construction of a protective berm to prevent backflow into the camp during flooding



A local worker helps with the construction of the temporary camp.

Kuwait

Bechtel managed the restoration of Kuwait's oil fields after the Gulf War, recovering 1.5 million barrels of oil from 200 "lakes" in the desert, and stabilizing, capping, or disposing of 3 million pounds of solid waste and 1 million gallons of liquid waste. The company:

- Extinguished fires and capped more than 650 damaged oil wells in 8 months instead of the predicted 2 to 3 years
- Deployed 1,000 engineering and construction professionals and oversaw a workforce of 16,000 from 35 countries
- Brought in 200,000 tons of supplies and 4,000 pieces of equipment – the largest airlift since World War II



Bechtel was central to the full restoration of oil production and refining in Kuwait.

Iraq Infrastructure Reconstruction Program

Bechtel is under contract to the U.S. Agency for International Development (USAID) to repair, rehabilitate, and reconstruct critical elements of Iraq's infrastructure. Among other accomplishments, Bechtel:

- Dredged the Port of Umm Qasr, Iraq's only deepwater port, to enable commercial traffic, and restored the port's grain handling facility
- Completed repairs that enabled resumption of commercial flights at Baghdad and Basrah International Airports
- Renovated more than 1,200 schools and refurbished 10 fire stations and 52 primary health clinics
- Constructed 57 kilometers of new rail lines
- Restored switching stations required to reconnect more than 215,000 Baghdad telephone subscribers, and restored fiber-optic backbone connecting Iraqi cities to the Baghdad area network
- Completed power facilities to provide 700 megawatts of electricity, enough to serve 700,000 residents
- Repaired three bridges critical to traffic flow across Iraq
- Completed seven wastewater treatment projects throughout the country, enabling the treatment of wastewater for more than 7.5 million people
- Rehabilitated 7 water treatment plants, restoring their ability to provide potable water to 8.5 million people



Bechtel refurbished over 1,200 primary and secondary schools in urban centers throughout Iraq.

Hanford Site Cleanup

Bechtel's work at the U.S. government's Hanford Site near Richland, Washington, has included managing the environmental restoration program, where the company was responsible for 700 radioactive and hazardous waste sites and more than 400 inactive buildings and facilities, including nuclear reactors and fuel-storage basins. Bechtel received "outstanding" ratings in every performance period during its 11 years managing this work. Some of the Bechtel team's accomplishments:

- Removed 6 million tons of contaminated soil and debris and disposed of it in a Bechtel designed and built landfill
- Cleaned up more than 300 hazardous waste sites along the Columbia River Corridor
- Decommissioned inactive nuclear facilities, including five former plutonium-producing reactors that were "cocooned" to safely isolate their cores, completing them ahead of schedule and \$14 million under budget
- Innovative Challenge Teams cut the original project baseline by 12 years and \$8 billion



Bechtel led the massive cleanup of contaminated soils and inactive nuclear facilities, near the Columbia River in southeast Washington.

Demilitarization in Ukraine

As part of the Cooperative Threat Reduction Program run by the U.S. Department of Defense, the U.S. Defense Threat Reduction Agency, and the Ukraine Ministry of Defense, Bechtel dismantled SS-19 and SS-24 ICBM missile silos and related infrastructure in Ukraine. Bechtel has:

- Demolished 130 SS-19 and 46 SS-24 silos, 18 launch control centers, 2 training sites, 2 unified fueling facilities, 3 nuclear storage areas, and all associated site infrastructure
- Constructed, repaired, and maintained supporting infrastructure required to perform the work, including 90 miles of road, 14 bridges, 8 railroad crossings, and 95 miles of railroad lines
- Transported the missiles to transfer stations and loaded them onto special railway cars, and provided transport for liquid rocket fuel and oxidizers
- With Ukrainian subcontractors, worked more than 7.6 million hours without an injury



Bechtel served as the integrating contractor for the elimination of SS-19 ICBM silos and related facilities in Ukraine.

Three Mile Island

Although Bechtel hadn't built Three Mile Island, the owner called in Bechtel to clean up the aftermath of the 1979 accident. We:

- Safely removed 150 tons of radioactive debris and radioactive water
- Developed remote-controlled robots that collected information on radiation and safely carried out decontamination work
- Used hydrogen peroxide to destroy bacteria, fungi, yeasts, and algae that began multiplying from heat in reactor vessel, clouding water beyond visibility
- Rendered the site ready for safe long-term shutdown by 1987



Once inside the containment building, engineers and technicians installed television cameras to monitor the cleanup.

Chornobyl Stabilization

Bechtel is helping clean up, decommission, and stabilize the reactor building of Ukraine's Chornobyl nuclear power station that was heavily damaged in the worst nuclear power accident in history. Bechtel is leading an international team that:

- Stabilized the shelter over the damaged reactor to reduce occupational exposure, risk of collapse, and release of contamination to the environment
- Reduced worker exposure to 54% less than projected during the short-term stabilization work
- Designed what will be the largest moveable structure ever built – an 18,000-ton steel shell – to enclose the damaged unit and minimize occupational exposure for at least 100 years
- Completed over 2.2 million jobhours of work at the end of 2004 without a lost time accident, including Bechtel, team partners, and contractors on site



A Bechtel-led team is working on a moveable structure that will enclose the damaged Unit 4 and minimize occupational exposure for at least 100 years.

Earthquake Response

- **Loma Prieta Earthquake, San Francisco Bay Area.** Following October 1989's deadly quake, Bechtel dispatched more than 100 engineers, pro bono, to make structural safety assessments in San Francisco and Oakland and help the City of San Francisco with rescue and recovery efforts.
- **1999 Turkish Earthquake.** Personnel and heavy equipment from Bechtel's joint-venture projects with Turkish construction contractor Enka were immediately dispatched to help search for survivors of the devastating quake. Bechtel-Enka employees and equipment played a role in more than a hundred survivor rescues. In hard-hit Adapazari, Bechtel and Enka funded and built a school for 240 children, many of them orphaned by the quake. The school began operating just 5 weeks after the quake.
- **India Earthquake.** Bechtel's New Delhi office initiated an employee donation program to help victims of the 7.7-magnitude earthquake that struck western India in January 2001. Contributions from employees worldwide totaled more than \$25,000 with an additional \$15,000 grant to disaster relief efforts from Bechtel Foundation.
- **Taiwan Earthquake.** In response to the destruction by an earthquake in Taiwan registering 7.6 on the Richter scale, Bechtel employees and employees of Bechtel's Taiwan-based affiliate, Pacific Engineering & Constructors Ltd., provided engineering support to investigate damage to residential buildings and public works and donated financial aid to the victims.



Bechtel donated services assessing structures after the Loma Prieta Earthquake.