September 2006

HURRICANE KATRINA

Strategic Planning Needed to Guide Future Enhancements Beyond Interim Levee Repairs

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Highlights

Highlights of GAO-06-934, a report to congressional committees

Why GAO Did This Study

Hurricane Katrina's storm surge and floodwaters breached levees and floodwalls causing billions of dollars of property damage, and more than 1,300 deaths. Under the Comptroller General's authority to conduct reviews on his own initiative, GAO reviewed the Army Corps of Engineers (Corps) (1) progress in repairing damage to hurricane protection projects by June 1, 2006; (2) plans and estimated costs to make other repairs and complete five existing hurricane protection projects; and (3) plans and estimated costs to add enhancements and strengthen hurricane protection for the region. GAO reviewed related laws and regulations, Corps planning documents and repair tracking reports, observed ongoing repair work, and met with key agency officials and other stakeholders.

What GAO Recommends

GAO recommends that the Corps develop a comprehensive strategy and implementation plan that incorporates all elements for rebuilding and strengthening the system to ensure that specified levels of protection are constructed in a cost-effective manner, within reasonable time frames. GAO also recommends that the Corps establish an independent task force to help support and guide its ongoing and future repair efforts.

In its response for the Corps, the Department of Defense generally concurred with GAO's recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-06-934.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Anu Mittal, (202) 512-3841, mittala@gao.gov.

What GAO Found

Following Hurricane Katrina, the Corps worked quickly to repair and restore almost 169 miles of damaged levees, floodwalls, and other flood control structures to prehurricane levels of protection. Although the Corps stated that it had restored prehurricane levels of protection to the area by June 1, 2006, it used temporary solutions and developed emergency procedures to protect against flooding, in the event of a hurricane, for sections where permanent repairs could not be completed in time. For example, the Corps constructed interim gates on three canals to prevent storm surges from flooding New Orleans. When construction of one canal gate fell behind schedule and could not be completed by June 1, 2006, the Corps devised an emergency plan to drive sheet piling into the canal and close it off if a hurricane threatened before the gate was completed. More importantly, because these initial repairs were performed only on levees and floodwalls with obvious visual damage, the reliability of those adjacent to them is still unknown. The Corps originally allocated $801 million for initial repairs, but the current allocation has increased to over $1 billion.

After completing the initial repairs, the Corps plans to conduct additional repairs and construction on the existing hurricane protection system. These plans include (1) repairing all damaged pumps, motors, and pumping stations by about March 2007; (2) restoring sections of existing hurricane protection projects that have settled over time to their original design elevations; and (3) completing construction of incomplete portions of five previously authorized hurricane and flood control projects by September 2007. An additional $941 million had been allocated for this additional work, but the Corps expects actual costs will be greater because of subsequent decisions to change the design of these projects, cover the local sponsor's share, and because of rapidly escalating construction costs.

In addition, the Corps plans to undertake further work to enhance and strengthen the hurricane protection for southeastern Louisiana. These projects are estimated to take years and require billions of dollars to complete. Since September 2005, the Congress has appropriated more than $7 billion for some aspects of this work and additional appropriations are expected. According to an external review organization established by the Corps, hurricane protection systems should be deliberately designed and built as integrated systems to enhance reliability and provide consistent levels of protection. However, the Corps does not have a comprehensive strategy and implementation plan to integrate the repairs already authorized and planned and that would ensure the efficient use of federal funds. Instead, the Corps appears to be following a piecemeal approach, similar to its past practice of building projects without giving sufficient attention to the interrelationships between various elements of those projects or fully considering whether the projects will provide an integrated level of hurricane protection for the area.