Comments on Louisiana Coastal Protection and Restoration

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Background

Personal

- Civil Engineer – Geotechnical Engineer – Member NAE
- Worked on Oosterschelde closure project
- Mother born and brought up in New Orleans

Relevant NAE/NRC Committees

- Review of the Louisiana Coastal Protection and Restoration (LACPR) Program
- New Orleans Regional Hurricane Protection Projects (IPET Review)
- Improving Principles and Guidelines for Federal Water Resources Planning (P & G)
Katrina and the Corps of Engineers

Even though we are here to talk about the future, Hurricane Katrina inevitably enters the discussion.

This brings up the U. S. Army Corps of Engineers’ performance.

So I want to say a few things – both good and not-so-good – on those topics.
Some good and not-so-good things

Some good things

• Taskforce Guardian – getting ready for the 2006 season, starting in the fall of 2005.
• There is a general consensus that the hydraulics and hydrology are done well.
• The risk and reliability methodology developed under IPET is a real step forward.

Some things that are not the Corps’ fault

• Rejection of the Corps’ proposals for storm barriers.
• Fragmented management of levee and barrier systems – “a system in name only.”
• Political frivolousness.
Some not-so-good things

• The levees did fail.
Three Aspects of Levee Performance

What happened in 2005?
- What were the actual strengths and mechanisms?
- Was the investigation thorough, objective, perceptive?

How was that system designed and built?
- What were the design procedures?
- Were they conservative? Did they cover all potential modes of failure?
- What strengths and mechanisms were considered?

How is the replacement system being designed and built?
- How is it being designed?
- How are the strengths and mechanisms selected?
- How have the lessons of Katrina been incorporated?

All reviewers of the Katrina events agreed that independent peer review was essential; how is this lesson being incorporated?
Some not-so-good things

• The levees did fail.
• There are serious questions about the geotechnical procedures adopted by New Orleans District and its contractors.
• Independent peer review has become a bureaucratic obstacle course instead of a way of obtaining useful advice and second opinions.
Institutional issues

- Study limited in scope – essentially south of I10.
- Very hard to get information and answers to questions.
- Unfortunate congressional mandate for protection against “Category V.”

Content issues

- MCDA methodology – see Boland’s presentation
- Problem with the silt budget.
Why the silt budget is important

Southern Louisiana is sinking in relation to sea level. Why?

a) Bedrock settling
b) Sediments compressing
c) Sea level rising

Silt must be replenished to keep up with it. Without adequate silt, it is hard to see how reconstruction of islands and marshes can succeed.
Questions raised by John Kelly

Have the specific process failures which resulted in the Katrina flooding . . . been . . . corrected?
   Not all of them. Things are still fragmented.

Has the general laxity in the process . . . been . . . resolved?
   It has been reduced, but not entirely.

What do you predict for the future . . . ?
   NOLA will muddle through, but an opportunity was missed.

What reforms [are] . . . necessary for the . . technical . . . [and] review process?
   (a) Serious use of independent peer review.
   (b) Taking advantage of national expertise and avoiding parochialism.
Comparative risk for the Netherlands and NOLA, against ANCOLD criteria for existing dams, and including conceptual ALARP zone for voluntary risks.
The Future

Hurricanes and river floods will occur.
We need to be serious about preparing for them – including using best talent and not doing business as usual.
We need to be honest about the risks and hazards – we are not doing people a favor by encouraging them to ignore hazards.
Thank you