

# **Bond Case Briefs**

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## **Sandy's High Costs Spur Municipal Finance Innovation.**

Faced with nearly \$5 billion in losses from Hurricane Sandy's storm surge alone, severely constrained in the conventional global reinsurance market and with its premiums for traditional reinsurance essentially doubled, officials from the Metropolitan Transportation Authority turned to an alternative vehicle — catastrophe bonds.

The \$200 million MetroCat Re Ltd. Series 2013-1 is the first catastrophe bond that covers storm-surge risk arising from named storms.

The deal is only one example of Sandy affecting public finance. As the one-year anniversary of the megastorm beckons, municipal issuers are still grasping what they need to do, how to do it and how to pay for it.

New York City Mayor Michael Bloomberg in June released a 420-page storm-resistance plan, which also raised a long list of questions. Who would fund what is left for the successor to Bloomberg, who will leave office Jan. 1. Bloomberg's 250 recommendations include calls for levees, floodwalls, surge barriers, bulkheads and other features for shoreline areas.

At the local level, concerns range from liquidity to the role of the federal government — how much cities and towns will receive and what strings may come — to relocating valuable assets such as police headquarters from vulnerable locations.

According to MTA chairman Thomas Prendergast, the MetroCat deal represents a capital markets breakthrough. "We anticipate that this deal represents the start of a long-term alternative reinsurance option that diversifies MTA's risk-management strategy," he said.

Risk Management Solutions Inc. of Newark, Calif., provided the risk analysis, using its North Atlantic hurricane model. RMS officials say it's the only hurricane model in the industry that quantifies risk from catastrophic hurricane-driven storm surge.

Standard & Poor's issued its first surge-only rating, assigning BB-minus which reflects the principal at-risk nature of the offering. MetroCat Re is collateralizing the reinsurance through a cat bond and has its own credit rating separate from mainstream MTA credits such as transportation revenue bonds and dedicated tax fund bonds.

Sandy was not even a hurricane at landfall, yet it struck the Northeast with an 18-foot Category 2 surge. Sandy's \$71 billion worth of damage ranks second behind \$108 billion Katrina, which hammered the Gulf Coast in 2005.

Peter Nakada, a managing director for capital markets at RMS, has seen a trend the past couple of years — that catastrophe bonds are more mainstream. "There's a convergence of the capital markets and reinsurance worlds," Nakada said in an interview.

"What's happened the past couple of years is that pension funds are investing more in catastrophe bonds. It's gone from a sort of fringe thing to a mainstream diversified asset."

That's a far cry from about three years ago, Nakada said.

"Pension-fund managers used to tell you that the absolute worst thing to happen was for an investment to go uncommonly wrong. If you made a 3% allocation to something like this and the wind blew too hard, they'd fire you. Now it's mainstream, something to strengthen a diversified asset class. Investors are here to stay," he said.

"This has expanded the market for insurance," Nakada said. "A lot of people think that the capital markets and reinsurance are fighting for the same pie. It's not that at all. This will actually grow the pie."

According to RMS, surge accounted for nearly two-thirds of Sandy's total insured loss. The RMS model projects a 20% chance that a U.S. hurricane will cause more damage from surge than wind, and 40% along the Northeast coast.

"Storm surge really is a separate peril," said Nakada. "You've got to model it separately. It is the driver.

"The geography of New York City is the absolute worst for storm surge. It has a right angle. Waves are driven into the right angle. In New Jersey, New York City, Long Island it gets magnified and you saw that effect."

The MetroCat parametric index allows MTA to efficiently access capital without requiring investors to underwrite the infrastructure of the MTA, according to RMS. The index proxies MTA exposure to elevated water levels, using measurements at five key tidal gauge locations in the metropolitan area, including Battery Park in lower Manhattan.

The trigger event occurs if during a named storm, surge height reaches 8.5 feet at the Battery or 15.5 feet in Long Island Sound. This also helps the MTA plan for related capital projects such as barriers to entrances.

"The MTA gets a measuring stick and a no-haggle insurance policy," said Nakada.

According to Alan Rubin, a consultant with law firm Cozen O'Connor LP in New York, said resiliency is today's buzzword. "It used to be preparedness," said Rubin.

Federal, state and local officials called Rubin the "hurricane czar" for his work in Miami-Dade County, Fla., after Hurricane Andrew caused more than \$30 billion in damage in 1992. While working in Lehman Brothers' investment banking division, Rubin helped design and underwrite the catastrophe fund for hurricane relief.

"What I like about MTA is that it did use scientific data to determine the surge level," said Rubin.

"They also used a stepped approach and they found an inexpensive source of funding for this type of protection and activity," Rubin said. "The biggest problem, I see, is that they need to look at debt service for these funds so that riders are not inconvenienced with fare increases at the end of the day to pay for it."

Scientific data itself can be a variable, which can befuddle local issuers.

"You have the European model, the American model, the Asian model, all of which effectively look at different climactic effects," said Rubin. "It's a pretty big challenge. Part of the problem is that if you're off by a foot in terms of a surge, the multiplier is gigantic. You try to project as close as you

can get. It's a major issue for public issuers.

"In Florida, they raise and lower the levels of the canals. Here, how you direct water is different. You have the Hudson and East rivers and essentially you want water to go a certain way."

Rachel Barkley, an analyst at Morningstar Inc., said Sandy has made the leaders of coastal communities wiser, although planning is still difficult. "Infrastructure and liquidity are still big issues. The leaders of these affected communities want to do the right thing. The question is, what is the right thing and what is affordable? It's hard to use a scientific approach when the scientific community can't agree."

And assessing cost is still incomplete, she said. "Are there capital needs down the road, direct or indirect, as a result of Hurricane Sandy? The MTA, for example, detected wires deep in the tunnels."

MTA officials, well after extracting water from the tunnels, found corroded wires and other under-the-radar damaged equipment in its saltwater-damaged Montague and Greenpoint underwater tubes. The Montague tube, a pair of 5,000-foot tunnels, carries the R train under the East River between Manhattan and Brooklyn. The shorter Greenpoint tube transports G train riders between Brooklyn and Queens under the Newtown Creek.

"Every time you push a button, there's a cost," said Prendergast, while displaying some of the corroded parts at a press conference.

Some protective measures are well within the control of municipalities. Exposed areas of Long Island, for instance, are reconsidering waterfront locations for public works facilities and even first-floor headquarters for police departments.

"When you're running a municipality, you're not a weatherman. You wind up with your finger in the air trying to tell which way the wind is blowing," said Anthony Figliola, the vice president of Empire Government Strategies of Uniondale, N.Y., and former deputy supervisor of Brookhaven, N.Y. "But there are tangible options to try and protect your assets with limited resources."

Jonathan Peters, a finance professor at the College of Staten Island, said nobody envisions low-lying assets as a problem until the storm arrives. "Then the event becomes a major test," he said. Peters referenced New Jersey Transit's \$120 million in damage to train cars left in the low-lying Kearney and Hoboken yards — despite the agency having a plan in place for four months to move the trains to higher ground.

The MTA, by contrast, moved cars to higher grounds and minimized damage.

But the MTA was vulnerable at South Ferry station in lower Manhattan, which sustained the most damage in the system — less than four years after the authority spent \$600 million on a remodeling — artsy tiling and all — for an asset that sits below the water table.

"A subway station is a 50- to 100-year asset," said Peters, whose research includes mass-transit financing. "The newest work is essentially a replacement. You can't be doing this every four years."

"Bus rapid transit might be more reasonable to low-lying areas. The lower end of Manhattan has a lot of unanswered questions. Areas like South Street Seaport, people don't know what to do."

How many moves by the federal government affect local policies is still unanswered.

"There's no clear answer," said Peters. "No one's saying they wouldn't protect Kennedy Airport, but

do we protect [nearby] Jamaica Bay?”

Rubin worries that Sandy has spawned “instant experts” on storm protection, further confusing local and state issuers.

“Once you have a situation like this, a very credible disaster, you get all kinds of people coming out of the woodwork, from all the agencies to scientists who say ‘oh boy, this is a chance to get a grant.’ Ninety percent of the stuff is not doable, and you have to drill down on what’s going to work and what isn’t. Otherwise, nothing happens and five years go by.”

By contrast, according to Rubin, a more focused group of engineers enabled the low-lying Netherlands to complete its \$8 billion flood-defense system in 1997. It consists of computer-operated dams and sea-surge barriers. Floodgates are quickly lowered during storms.

But Nakada of RMS thinks the more ideas, the better.

“We have what we think is the best detailed surge model — the only sure model — out there, but we’re not claiming to be the single voices of truth,” he said. “We encourage our clients who are investors to do their homework.”

BY PAUL BURTON