

L'Aquila, Italy Earthquake Journal

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Preface

On April 6th, 2009 at 3:32 am, while most were sleeping, a magnitude 6.3 earthquake struck the Abruzzo region of central Italy. The epicenter is located approximately 7 km northwest of L'Aquila, approximately 85 km northeast of Rome. L'Aquila is comprised of a blend of modern and Baroque and Renaissance era architecture.

Kit Miyamoto of Miyamoto International, Peter Yanev and Ilbe Salvaterra of Global Risk Miyamoto, traveled to the site to collect data on earthquake effects related to historical and modern buildings, investigate damage to industrial facilities for our clients, and to gather information to promote impactful changes to engineering practices in high earthquake risk communities worldwide.

We believe that we can make a positive impact to minimize the human and financial losses from earthquakes. Please allow us to share the personal journal entries from Mr. Miyamoto. Building awareness is the first step...

Journal Entry #3

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April 15, 2009 - East Coast

Last night, we stayed at Francavilla a town located near the scenic Adriana coast line with its long beaches. This town is also close to client facilities that we were asked to investigate. These modern facilities were located 50km to 70km from epicenter. For a moderate M6.3 earthquake, this distance is generally too far for significant damage, but we did find some concrete cracking. The cracks were minor and did not compromise the structural integrity of the buildings. When I reported this to the plant manager, I could see relief in his eyes. He had been very concerned with these concrete cracks. We were able to give him peace of mind.



The buildings we saw were constructed of heavy precast concrete frames with high cantilever columns that resist earthquake forces by acting like flag poles. It also had heavy precast concrete wall and roof panels that



were not well tied together by topping concrete.

Peter said he has seen many similar buildings collapsed in past earthquakes. Peter has visited over 50 major earthquakes around the world in his long career. When he speaks, people listen. If these buildings were located closer to the earthquake, there was a high probability of major damage... even collapse.



The equipment at these industrial plants was generally not anchored or braced for earthquakes. As I saw at recent earthquakes in Niigata, Japan, and Sichuan, China, unanchored equipment will move and/or collapse, and cause major business interruption. It is so cost effective to prepare for an earthquake with simple anchors. We see this in country after country, and in the United States. I feel it is our responsibility, as engineers, to speak out and teach the public about good earthquake practices.



After a long day of investigations, we drove back to our Francavilla hotel. The hotel was overflowing with refugees from the epicentral area. They said they didn't know when they could go back to their homes, jobs and schools. Even if their buildings were standing, they were afraid to go back into them. We talked with many and found everyone to be extremely friendly and cheerful even though they were facing such extreme hardship. It takes a lot of courage to do

that. The Italians are amazing people.

When we got back to the hotel at 9:30 pm, I realized that we hadn't eaten all day. We grabbed a quick dinner and I went back to my hotel room to corresponding with Tom Chan in our San Francisco Bay Area office regarding today's findings. We did this until 3 am. Tom and his team are our base camp for research, coordination and communication. Without them, our work would be impossible. Their jobs are not glamorous and I know they slept as little as we did.

Tomorrow, we were heading back to the destructive epicenter area...

End Journal Entry #3

About Global Risk Miyamoto (GRM)

Global Risk Miyamoto was formed specifically to provide the risk management community with accurately quantified site-specific risk identification and loss expectancies resulting from natural hazard perils such as earthquakes, windstorms, hurricanes, typhoons, and floods.

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