By Martin Groarke

According to a report by the Nuclear Threat Initiative, scientists at the Los Alamos National Laboratory in New Mexico are in the process of developing 'detailed, virtual models of nuclear reactor facilities to help provide more true-to-life training to inspectors' whose job it is to monitor such sites for the illicit diversion—to non-peaceful purposes— of nuclear material. Reportedly involving the same computer tools as those used in the production of today's animated films, the team at Los Alamos have already built a three-dimensional model of a reactor in Idaho, including small details such as wiring, warning markers and radiation indicators. The system has been provided to the International Atomic Energy Agency (IAEA) and, according to Kelly Michel, the official in charge of the project, has already helped IAEA safeguards officials to notably improve their inspection test scores.

Indeed, the training benefits are as obvious as they are huge. And the system could in time lead also to the development of safer and more secure facilities. 'In virtual reality, we can let people learn about a facility by standing in places that would not be safe or possible to stand,' noted Philip Hypes, a non-proliferation projects coordinator at Los Alamos. 'We can make walls and pipes transparent and actually watch material flow or not flow. We can treat an entire multibillion dollar facility as a laboratory where we play around
with different configurations of detectors and cameras and things, and essentially do experiments that would be prohibitively expensive if you tried to do them any other way.'

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