

NuclearFuel

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IAEA probes Myanmar data, discourages new research reactors

The IAEA Department of Safeguards during most of 2009 has been sifting through open-source documents, aerial photographs, and other data to obtain a clearer picture of the scope and intent of nuclear activities in Myanmar, Western officials and other sources said last week.

Separately, according to these sources, the IAEA Department of Nuclear Energy — supported by the IAEA legal department, US agencies, and some member states — has been discreetly encouraging Myanmar and other countries in southeast Asia not to launch new research reactor construction projects but to better utilize existing facilities in the region instead. Contrary to some recent media reports, no reactor is being built in Myanmar with the help of Russian industry.

Myanmar, formerly known as Burma, is a poor, politically isolated country that has been run by a military junta since 1962.

Speculation about Myanmar's nuclear activities flared up after US Secretary of State Hillary Clinton said last month that the US was concerned about the possibility that North Korea was providing clandestine nuclear assistance to Myanmar's secretive leadership. Shortly after these remarks, Australian newspaper reports, which relied on accounts attributed to Burmese refugees, asserted that Myanmar is building a secret reactor.

Beginning two weeks ago, some private researchers have posted photographs on the Internet that they speculated might show a secret reactor being constructed in Myanmar. The photos show a square, box-like structure about 80 meters, roughly 262 feet, across that is in a jungle area

about 30 miles east of Mandalay. Some of these reports claim that the location where the photos were taken is identical with the site named in one Australian press account, described as near Pyin oo Lwin.

According to some information that sources said has been made available to Western governments and the IAEA, the "box" in the photos is likely not a reactor but a non-nuclear industrial workshop or machinery center.

That determination, the sources said, follows from the absence of certain "overhead signatures" for a reactor in the photos and from specific information derived from first-hand knowledge of the site and its activities, deemed to be highly reliable.

"We can conclude that it's not a reactor with near certainty," one Western analyst said.

The IAEA, sources said, has studied photographs of the site in question and has also not concluded the installation is a reactor under construction. Western governments and the IAEA have become familiar with data on this site over about half a year, one source said.

In 2008, the US and Israel asserted that North Korea provided assistance to permit Syria to build a clandestine reactor at a site called Al Kibar. Aerial photographs of the site taken prior to an aerial attack by Israel in 2007 were posted on web sites and abetted speculation about the identity of the box-like structure in these photographs.

A former nuclear intelligence analyst for one Western government said August 6 that, after the Clinton statement in July warning of possible North Korean aid to Myanmar and the publication of Australian press articles and photographs, "what happened was a

minor feeding frenzy in cyberspace." To some observers, he said, "the photos looked sexy because there was suddenly fresh information pointing to another country getting a secret reactor from North Korea."

No Russian reactor

According to the former government intelligence analyst, beginning around 2001 agencies learned that "hundreds of people were traveling from Myanmar to Russia to work in nuclear research centers. Nearly all of them were trainees." Most of the Burmese on these trips, he said, went to Dubna, the site of Russia's Joint Institute of Nuclear Research, which is involved in high-energy physics, neutron physics, and theoretical physics. "We had no idea why they were going there, or what exactly they were doing, and we never established a research profile" for Myanmar that was related to the trips to Russia, he said.

At about the same time, Myanmar announced its interest in setting up a research reactor with Russian help. The IAEA visited Burma and found serious deficiencies in the area of safety culture and infrastructure to support such a project.

Nonetheless, in 2007 Russia announced that it had reached an agreement with Myanmar for the supply of a 10-MW research reactor.

According to sources, around that time both the US and some IAEA officials expressed strong reservations about that project, supported by efforts at the IAEA Department of Nuclear Energy to discourage poor countries from embarking on expensive projects to build new research reactors without having in place sufficient supporting know-how, infra-

structure, and financial resources. "The IAEA doesn't want countries like Burma to end up with stranded research reactors," one source said. "Without a supporting environment," he said, these facilities "will over time pose a safety and security risk."

For a country like Myanmar, "they're also superfluous and a waste of resources," he said.

Beginning a few years ago Myanmar has told the IAEA it needs the reactor because it needs radioisotopes, he said. "This is the classic rationale poor countries usually give for having to have a national research reactor. But many of the isotopes Burma needs can be produced elsewhere in the region, such as at established reactors in Thailand and Malaysia." The IAEA has been "encouraging all these countries to form a research reactor coalition," he said. More advanced IAEA regional programs to share research reactors are already in place for countries in eastern and central Europe.

If Myanmar were to give up its research reactor quest, it might even qualify for financial support from US DOE and from the private Nuclear Threat Initiative, or NTI, to participate in such a cooperative program, he said.

Some media and blog reports alleging secret reactor construction in Myanmar this month nonetheless asserted that Myanmar is building, or has built, a Russian supplied research reactor. Some of these reports, citing Burmese refugee sources, claimed the reactor is sited near Myaing. Others said that it was at Kyaukse. The two locations are about a hundred miles apart.

A senior official responsible for external projects at Atomstroyexport, which would be tagged by Russia to build the research reactor and associated infrastructure in Myanmar under the 2007 Russo-Burmese agreement, told Platts August 7 that currently there is no construction in Myanmar of any reactor with Russian assistance.

The US since 2007, on political and nuclear policy grounds, has opposed this project and, according to US officials, has voiced its objections to both the IAEA and the Russian government. Diplomatic sources suggested the project might be discreetly on hold, or is being intentionally delayed, following talks involving the US, Russia, Burma, and the IAEA.

Lax reporting requirement

Thus far, sources said, no reactor project or installation has been declared by Myanmar to the IAEA Department of Safeguards. Under reporting requirements that Myanmar has not amended regardless of IAEA requests since 2005, Myanmar could legally build a reactor and complete it without reporting that activity to the IAEA.

Myanmar joined the Nuclear Nonproliferation Treaty in 1992, and concluded a comprehensive safeguards agreement, Infirc-477, three years later.

According to the IAEA, Myanmar since 1995 is subject to the small quantities protocol, or SQP, which waives certain safeguards reporting requirements for states that have virtually no nuclear infrastructure and have 1 kilogram or less of nuclear material associated with nuclear facilities.

Under Myanmar's SQP, it must declare a facility no later than six months before nuclear material is introduced into it, the IAEA said.

Infirc-477 also contains so-called subsidiary arrangements, including so-called Code 3.1, which sets requirements for provision of design information for facilities to be safeguarded. A recent modification of Code 3.1 requires early notification of this information.

Since 2005 the IAEA has requested that Myanmar revise its SQP to essentially harmonize its requirements with those of the modified code 3.1, but Myanmar has not complied.

Were Myanmar to revise its SQP and accept the modified version of Code 3.1, should Myanmar then decide to build a nuclear reactor, it must notify the IAEA as soon as the facility is "planned." Until then, however, Myanmar could construct a reactor or other nuclear installation without declaring it, until it was six months away from introducing nuclear material into it. So far, Myanmar has not notified the IAEA of any intended reactor construction.

It is also not implementing Code 3.1, an IAEA spokesman said, since there are apparently no facilities to be put under safeguards in Myanmar.

Young scientists

In step with Myanmar's intensifying nuclear links with Russia since the beginning of this decade, Myanmar has also increased its participation in the IAEA's technical cooperation program.

From 2000 through 2008, according to a statement by Myanmar's ambassador to the IAEA last year the country participated in numerous TC projects worth about US\$5.2 million. About one-quarter of this work was in the field of radiation health and medicine, about 20% related to application of radiation in agriculture, 17% in radiation safety and security, 14% was for "general atomic energy development," and another 11% in "nuclear engineering and technology," he said.

Under these last two rubrics, the IAEA is providing what one IAEA official said was "very basic assistance" to Myanmar concerning its efforts to set up a nuclear research and development infrastructure. The current TC project dubbed MYA/0/007 is meant to "establish a nuclear science and technical training center for scientists, engineers, technicians, and graduate students," according to IAEA data. This endeavor has been under way since 2001, according to Burmese TC documents, but its activities have been focused on Myanmar personnel in Yangon, the former capital and headquarters of Myanmar's Ministry of Science & Technology and its Department of Atomic Energy — not in any site designated to host a future nuclear research center or reactor.

Separately, Myanmar has been participating in a technical cooperation program for the Asia-Pacific region called RCA, sponsored by the IAEA and administered largely by the South Korean government. Most of Myanmar's activities in this program have, as is also the

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case for the IAEA's TC program, been focused on agriculture, medicine, and other developing-country concerns. But two Myanmar researchers in 2003 and 2005, respectively, participated in six-month programs at the Korea Atomic Energy Research Institute in the fields of research reactor technology and advanced spent fuel management.

In both these cases in Korea, and as was the case for nearly all the trainees known to have been sent to Russia since about 2001, one Western government analyst said, "the typical profile is young, inexperienced scientists and technicians in their early to mid-twenties." During a visit to Myanmar in 2004, Platts was told by university students that until recently, the junta during many years since the late 1980s had closed virtually all institutions of higher learning in the country.

Every year, the Department of Safeguards evaluates several

thousand published scientific papers that might signal proliferation-sensitive research is taking place in member states. Said one official close to this effort, in south and southeast Asia, "there are lots of papers from Vietnam, Pakistan, Thailand, Malaysia, Indonesia, Singapore, Taiwan, India, and China. There's practically nothing from Myanmar."

Given Myanmar's severe educational infrastructure deficiencies, the official said, Western states are concerned about Myanmar "because of the North Korean connection and because they could hide facilities deep in jungles and mountains. But this would have to be a totally black [i.e., secret] program with everything imported" because "in Burma there is no national R&D center for them to hide behind. It's unthinkable that they could mount a [clandestine] nuclear program on the basis of what we already know is there."—*Mark Hibbs, Bonn*

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