

Japan on 'maximum alert' over nuke crisis

'The situation is very grave ... We are doing our utmost to contain the damage,' top official says

msnbc.com news services

updated 3/29/2011 7:27:38 AM ET

TOKYO— Japan's prime minister insisted Tuesday that the country was on "maximum" alert" to bring its nuclear crisis under control, but the spread of radiation raised concerns about the ability of experts to stabilize the crippled reactor complex.

Prime Minister Naoto Kan told parliament that Japan was grappling with its worst problems since World War II.

"This quake, tsunami and the nuclear accident are the biggest crises for Japan" in decades, said the wan but resolute Kan, dressed in one of the blue work jackets that have become ubiquitous among bureaucrats since the tsunami.

He said the crises remained unpredictable, but added: "We will continue to handle it in a state of maximum alert."

The magnitude-9.0 offshore earthquake on March 11 triggered a tsunami that slammed minutes later into Japan's northeast, wiping out towns and knocking out power and backup systems at the coastal Fukushima Dai-ichi nuclear power plant.

Police said more than 11,000 bodies have been recovered, but the final death toll is expected to exceed 18,000.

Hundreds of thousands remain homeless, their homes and livelihoods destroyed. Damage could amount to \$310 billion — the most expensive natural disaster on record, the government said.

The premier was eyeing spending of 2 trillion to 3 trillion yen (\$24.5-\$36.7 billion) in the first of several emergency budgets to cope with the damage from the quake, Kyodo news agency reported on Tuesday.

Video: American recalls quake, tsunami in Japan (on this page)

An opinion poll published Sunday showed more than two-thirds of the Japanese public would support an extra tax to fund that effort.

Bid to stop meltdown

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Against the backdrop of the humanitarian disaster, the drama at the power plant has unfolded, with workers fighting fires, explosions, radiation scares and miscalculations in the frantic bid to prevent a complete meltdown.

The plant has been leaking radiation that has made its way into vegetables, raw milk and tap water as far away as Tokyo.

Residents within 12 miles of the plant were ordered to leave and some nations banned the imports of food products from the Fukushima region.

Highly toxic plutonium was the latest contaminant found seeping into the soil outside the plant, Tokyo Electric Power Co. said.

Safety officials said the amounts did not pose a risk to humans, but they said the finding supports suspicions that dangerously radioactive water is leaking from damaged nuclear fuel rods.

"The situation is very grave," Chief Cabinet Secretary Yukio Edano told reporters Tuesday. "We are doing our utmost to contain the damage."

Kan, meanwhile, faced stinging criticism from opposition lawmakers over the handling of a nuclear disaster stretching into a third week.

"We cannot let you handle the crisis," lawmaker Yosuke Isozaki said in parliament. "We cannot let you be in charge of Japan's crisis management."

Quake risk at nuclear plants

Preparedness 'not sufficient'

Edano admitted Tuesday that Japanese safety standards were not enough to protect the complex against the tsunami's power.

"Our preparedness was not sufficient," Edano told reporters. "When the current crisis is over, we must examine the accident closely and thoroughly review" safety standards.

An AP investigation following the tsunami found that TEPCO officials had dismissed scientific evidence and geological history that indicated that a massive earthquake — and subsequent tsunami — was far more likely than they believed.

The plant was pounded by water far higher and stronger than the complex was prepared



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to endure, the investigation found.

The urgent mission to stabilize the Fukushima plant has been fraught with setbacks.

Workers succeeded last week in reconnecting some parts of the plant to the power grid.

But as they pumped water into units to cool the reactors down, they discovered pools of contaminated water in numerous spots, including the basements of several buildings and in tunnels outside them.

The contaminated water has been emitting radiation exposures more than four times the amount the government considers safe for workers and must be pumped out before electricity can be restored to the cooling system.

That has left officials struggling with two crucial but sometimes contradictory efforts: Pumping in water to keep the fuel rods cool and pumping out contaminated water and safely storing it.

Nuclear safety official Hidehiko Nishiyama said cooling the reactors had taken precedence over concerns about leakage.

"The removal of the contaminated water is the most urgent task now, and hopefully we can adjust the amount of cooling water going in," he said, adding that workers were building sandbag dikes to keep contaminated water from seeping into the soil outside.

The discovery of plutonium, released from fuel rods only when temperatures are extremely high, confirms the severity of the damage, Nishiyama said. Plutonium is a highly toxic substance which breaks down very slowly, remaining dangerously radioactive for hundreds of thousands of years.

"If you inhale it, it's there and it stays there forever," said Alan Lockwood, a professor of Neurology and Nuclear Medicine at the University at Buffalo and a member of the board of directors of Physicians for Social Responsibility, an advocacy group.

The Associated Press and Reuters contributed to this report.

A look at the worst earthquakes in recorded history, in loss of human life. (These figures do not include the March 11, 2011, temblor off eastern Japan, the death toll of which is still not known.) Sources: United States Geological Survey, Encyclopedia Britannica

1: Shensi, China, Jan. 23, 1556

Magnitude about 8, about 830,000 deaths.

This earthquake occurred in the Shaanxi province (formerly Shensi), China, about 50 miles east-northeast of Xi'an, the capital of





Shaanxi. More than 830,000 people are estimated to have been killed. Damage extended as far away as about 270 miles northeast of the epicenter, with reports as far as Liuyang in Hunan, more than 500 miles away. Geological effects reported with this earthquake included ground fissures, uplift, subsidence, liquefaction and landslides. Most towns in the damage area reported city walls collapsed, most to all houses collapsed and many of the towns reported ground fissures with water gushing out.

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2: Tangshan, China, July 27, 1976



Reystonle / Getty Images 1976: Workers start rebuilding work following earthquake damage in the Chinese city of Tangshan, 100 miles east of Pekin, with a wrecked train carriage behind them. (Photo by Keystone/Getty Images)

Magnitude 7.5. Official casualty figure is 255,000 deaths. Estimated death toll as high as 655,000.

Damage extended as far as Beijing. This is probably the greatest death toll from an earthquake in the last four centuries, and the second greatest in recorded history.

3: Aleppo, Syria, Aug. 9, 1138

Magnitude not known, about 230,000 deaths.

Contemporary accounts said the walls of

Syria's second-largest city crumbled and rocks cascaded into the streets. Aleppo's citadel collapsed, killing hundreds of residents. Although Aleppo was the largest community affected by the earthquake, it likely did not suffer the worst of the damage. European Crusaders had constructed a citadel at nearby Harim, which was leveled by the quake. A Muslim fort at Al-Atarib was destroyed as well, and several smaller towns and manned forts were reduced to rubble. The quake was said to have been felt as far away as Damascus, about 220 miles to the south. The Aleppo earthquake was the first of several occurring between 1138 and 1139 that devastated areas in northern Syria and western Turkey.

4: Sumatra, Indonesia, Dec. 26, 2004



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TODAY



Getty Images / Getty Images MEULABOH, INDONESIA - DECEMBER 29: In this handout photo taken from a print via the Indonesian Air Force, the scene of devastation in Meulaboh, the town closest to the Sunday's earthquake epicentre, is pictured from the air on December 29, 2004, Meulaboh, Aceh Province, Sumatra, Indonesia. The western coastal town in Aceh Province, only 60 kilometres north-east of the epicentre, has been the hardest hit by sunday's underwater earthquake in the Indian Ocean. Officials expected to find at least 10,000 killed which would amount to a quarter of Meulaboh's population. Three-quarters of Sumatra's western coast was destroyed and some towns were totally wiped out after the tsunamis that followed the earthquake. (Photo by Indonesian Air Force via Getty Images)

Magnitude 9.1, 227,898 deaths.

This was the third largest earthquake in the world since 1900 and the largest since the 1964 Prince William Sound, Alaska temblor. In total, 227,898 people were killed or were missing and presumed dead and about 1.7 million people were displaced by the earthquake and subsequent tsunami in 14 countries in South Asia and East Africa. (In January 2005, the death toll was 286,000. In April 2005, Indonesia reduced its estimate for the number missing by over 50,000.)

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5: Haiti, Jan 12, 2010

According to official estimates, 300,000 were also injured, 1.3 million displaced, 97,294 houses destroyed and 188,383 damaged in the Port-au-Prince area and in much of southern Haiti. This includes at least 4 people killed by a local tsunami in the Petit Paradis area near Leogane. Tsunami waves were also reported at Jacmel, Les Cayes, Petit Goave,

Leogane, Luly and Anse a Galets.

6: Damghan, Iran, Dec. 22, 856

Magnitude not known, about 200,000 deaths.

This earthquake struck a 200-mile stretch of northeast Iran, with the epicenter directly below the city of Demghan, which was at that point the capital city. Most of the city was destroyed as well as the neighboring areas. Approximately 200,000 people were killed.

7: Haiyuan, Ningxia, China, Dec. 16, 1920

7.8 magnitude, about 200,000 deaths.

This earthquake brought total destruction to the Lijunbu-Haiyuan-Ganyanchi area. Over 73,000 people were killed in Haiyuan County. A landslide buried the village of Sujiahe in Xiji County. More than 30,000 people were killed in Guyuan County. Nearly all the houses collapsed in the cities of Longde and Huining. About 125 miles of surface faulting was seen from Lijunbu through Ganyanchi to Jingtai. There were large numbers of landslides and ground cracks throughout the epicentral



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area. Some rivers were dammed, others changed course.

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8: Ardabil, Iran, March. 23, 893

Magnitude not known, about 150,000 deaths

The memories of the massive Damghan earthquake (see above) had barely faded when only 37 years later, Iran was again hit by a huge earthquake. This time it cost 150,000 lives and destroyed the largest city in the northwestern section of the country. The area was again hit by a fatal earthquake in 1997.

9: Kanto, Japan, Sept. 1, 1923

7.9 magnitude, 142,800 deaths.

This earthquake brought extreme destruction in the Tokyo-Yokohama area, both from the temblor and subsequent firestorms, which burned about 381,000 of the more than 694,000 houses that were p artially or completely destroyed. Although often known as the Great Tokyo Earthquake (or the Great Tokyo Fire), the damage was most severe in Yokohama. Nearly 6 feet of permanent uplift was observed on the north shore of Sagami Bay and horizontal displacements of as much as 15 feet were measured on the Boso Peninsula.

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10: Ashgabat, Turkmenistan, Oct. 5, 1948

7.3 magnitude, 110,000 deaths.

This quake brought extreme damage in Ashgabat (Ashkhabad) and nearby villages, where almost all the brick buildings collapsed, concrete structures were heavily damaged and freight trains were derailed. Damage and casualties also occurred in the Darreh Gaz area in neighboring Iran. Surface rupture was observed both northwest and southeast of Ashgabat. Many sources list the casualty total at 10,000, but a news release from the newly independent government on Dec. 9, 1988, advised that the correct death toll was 110,000. (Turkmenistan had been part of the Soviet Union, which tended to downplay the death tolls from man-made and natural disasters.)



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