A KCNA newsreader announced the test, saying it had "great explosive power"

North Korea has carried out its third, most powerful nuclear device test in defiance of United Nations warnings.

The move prompted criticism from its sole major ally, China, and condemnation around the world.

Nuclear test monitors in Vienna say the underground explosion had double the force of the 2009 test, despite apparently involving a smaller device.

Analysts say this could take Pyongyang closer to building a warhead small enough to arm a missile.

The UN Security Council will meet at 14:00 GMT to discuss the test and its ramifications, diplomats say.

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Analysis

Jason Palmer Science reporter, BBC News
All we know at the moment about the North Korean test is gleaned from seismic data: the event was magnitude 4.9, significantly larger than the 2006 and 2009 tests.

Learning more than that will be difficult. Monitoring stations in the region can pick up radioactive elements and particles that may - or may not - have been released from the test site; that would indicate whether the device was based on plutonium, as earlier tests, or the more worrisome uranium.

But that could take days, and may be frustrated by weather conditions; it will be virtually impossible to determine if the device was "miniaturised", as North Korea claims.

- Q&A: North Korea nuclear programme
- North Korea's nuclear tests

North Korea announced last month that it would conduct a third nuclear test following those in 2006 and 2009 as a response to UN sanctions that were expanded after the secretive communist state's December rocket launch, a move condemned by the UN as a banned test of missile technology.

Activity had been observed at the Punggye-ri nuclear test site for several months.

Seismic activity was then detected by monitoring agencies from several nations at 11:57 (02:57 GMT) on Tuesday morning. A shallow earthquake with a magnitude of 4.9 was recorded, the US Geological Survey said.

Confirmation of the test came three hours later in a statement from state-run KCNA news agency.

"It was confirmed that the nuclear test, that was carried out at a high level in a safe and perfect manner using a miniaturised and lighter nuclear device with greater explosive force than previously, did not pose any negative impact on the surrounding ecological environment," it said.

North Korea said the nuclear test - which comes on the eve of US President Barack Obama's State of the Union address - was to "to protect our national security and sovereignty against the reckless hostility of the United States".
The Vienna-based Comprehensive Nuclear-Test-Ban Treaty Organisation said the "explosion-like event" was twice as big as the 2009 test, which was in turn bigger than that in 2006.

It is the first such test under new leader Kim Jong-un, who took over the leadership after his father Kim Jong-il died in December 2011.

'Provocative'  
"It is a grave threat to our nation's safety and cannot be tolerated as it will significantly damage international society's peace and safety"

Shinzo Abe Japanese prime minister

- **Asian market reaction mixed**

UN Secretary General Ban Ki-moon condemned the test as a "clear and grave violation" of UN resolutions and a "deeply destabilising" provocation.

Mr Obama said the test was a "highly provocative act", and called for "swift" and "credible" international action in response.

China expressed "firm opposition" to its ally's test, urging the North to honour its commitment to denuclearisation and "not take any actions which might worsen the situation".
In other reaction:

- Russian Foreign Minister Sergei Lavrov said the North should "abandon its nuclear arms programme", and he called for the revival of talks on the issue
- South Korea's presidential national security adviser, Chun Young-woo, said the test was an "unacceptable threat to the security of the Korean peninsula and north-east Asia... and a challenge to the whole international community"
- Japanese Prime Minister Shinzo Abe said it was a "grave threat" to Japanese security and could "not be tolerated"
- Nato described the test as an "irresponsible act" and a "grave threat to international and regional peace, security and stability"
- Britain called for a "robust response" from the UN Security Council
- French President Francois Hollande condemned the test and said Paris would back firm action by the UN Security Council

A South Korean official explained the seismic waves from the blast with a graph

The BBC's Lucy Williamson, in Seoul, says the trouble, as ever, is what the international community can do in response without triggering an even bigger crisis - North Korea is already tied up in layers of sanctions which do not seem to have have any impact.

She adds that some in Washington have talked of maybe targeting North Korean financial interests, but the only real pressure is seen to lie with China.

By defying the UN and launching its nuclear test now, our correspondent says, Pyongyang is giving the new leadership in Beijing a very public test of its own.

12 February 2013 Last updated at 04:40 GMT

North Korea 'earthquake' amid nuclear test fears
North Korea, led by Kim Jong-un, announced plans for a nuclear test last month

Seismic activity has been detected in North Korea, in what several nations say indicates that a widely-anticipated nuclear test has taken place.

A shallow 4.9 magnitude quake was detected near a known nuclear test site on Tuesday morning, the USGS said.

A UN monitoring agency described it as an "unusual seismic event" with "explosion-like characteristics".

There has been no word yet from North Korea, but it announced plans for a third nuclear test last month.

The UN Security Council had warned of "consequences" if Pyongyang went ahead.

'High-level'

**North Korean nuclear tests**

- Two underground nuclear tests have been carried out by North Korea, in 2006 and 2009
- They were believed to have used plutonium, but experts believe a third test could use highly-enriched uranium as the fissile material
- North Korea is thought to have enough nuclear material for a small number of bombs, but not the technology to make a nuclear warhead
- Multiple rounds of multi-national talks have failed to convince Pyongyang give up nuclear ambitions

The USGS said the quake occurred at a depth of 1km (0.6 miles). China's Earthquake Administration described it as a "suspected explosion", AFP reported.

Japan's Meteorological Agency said the tremor was "different from a normal earthquake".

"We believe that there is a possibility that North Korea carried out a nuclear test, looking at past cases," said Chief Cabinet Secretary Yoshihide Suga - an opinion echoed by South Korea's
Yonhap news agency says South Korea has raised its military alert. Japan says it will hold a meeting of its national security council, public broadcaster NHK reported.

North Korea is not prone to seismic activity. It conducted nuclear tests in 2006 and 2009, each time after rocket launches condemned by the UN as disguised tests of long-range missile technology.

It announced in January that it planned to conduct a "high-level" nuclear test, in response to expanded UN sanctions imposed after its latest rocket launch on 12 December 2012.

That rocket launch successfully put a satellite into orbit, in an apparent breakthrough for the North.

The US, South Korea and Japan had all warned Pyongyang not to go ahead with the test. China, North Korea's closest ally and biggest trading partner, had also called for restraint.

24 January 2013 Last updated at 04:59 GMT

North Korea 'plans third nuclear test'

The UN says Pyongyang's rocket launch last month was a banned long-range missile test

North Korea says it is proceeding with plans for a third nuclear test.

In a statement carried by KCNA news agency, the top military body said the "high-level nuclear test" and more long-range rocket launches were aimed at its "arch-enemy", the US.

The statement gave no time-frame for the test. North Korea has conducted two nuclear tests, in 2006 and 2009.

The move comes two days after a UN Security Council resolution condemned Pyongyang's recent rocket launch.

The Security Council also expanded sanctions against the communist country following its December launch, which was seen by the US and North Korea's neighbours as a banned test of long-range missile technology.

North Korea said the rocket was solely aimed at putting a satellite into space for peaceful purposes.
"Ready"
The statement, which came from North Korea's National Defence Commission, hit out at the resolution as "illegal", before pledging a response.

"We do not hide that the various satellites and long-range rockets we will continue to launch, as well as the high-level nuclear test we will proceed with, are aimed at our arch-enemy the United States," KCNA quoted it as saying.

"Settling accounts with the US needs to be done with force, not with words," it added.

Recent reports from South Korean and US bodies which monitor North Korea's nuclear test sites had said North Korea could be preparing for a third test.

Earlier on Thursday, a South Korean defence ministry spokesman said it appeared that North Korea was "ready to conduct a nuclear test at anytime if its leadership decides to go ahead".

Regional neighbours and the US have urged it not to proceed.

"We hope they don't do it, we call on them not to do it. It will be a mistake and a missed opportunity if they were to do it," said Glyn Davies, the US special envoy on North Korea policy who is currently visiting Seoul.

"This is not a moment to increase tensions on the Korean Peninsula."

Both North Korea's previous nuclear tests followed long-range rocket launches.

If it were to go ahead, this would be the first nuclear test under Kim Jong-un, who took over the leadership after the death of his father Kim Jong-il in December 2010.

The was no explanation in the statement of what "high-level" test might mean.

Experts believe the two previous tests used plutonium as fissile material, but North Korea is also believed to have been working on a programme to produce highly-enriched uranium.