East Timor has called in the United Nations to help resolve its bitter dispute with Australia over a permanent sea border in the oil-rich Timor Sea.

The tiny nation on Monday informed Australia that it would trigger conciliation proceedings under the UN's Convention of the Law of the Sea (UNCLOS) where the merits of a new boundary and where it should lie will be considered by a panel of five experts.

The move was sharply criticised by the Australian government, with a spokesperson for foreign minister Julie Bishop saying it contravened previous agreements between the two nations.

East Timor believes that a permanent boundary determined under international law would see the vast bulk of an estimated $US40 billion ($53 billion) in oil and gas reserves in the Timor Sea fall within its territory.

It also believes it has lost about $US5 billion ($6.6 billion) in revenue due to the current temporary arrangements, enough to fund the entire East Timor
government budget for about three years.

Australia disputes the contention, arguing a boundary set under UNCLOS principles would likely see most of the massive Greater Sunrise oil and gas deposit lie in Indonesian territory.

Either way, Australia's ongoing refusal to negotiate a permanent boundary has infuriated East Timor (also known as Timor Leste). It believes Australia exploited its vulnerability as an economically weak nation state recovering from mass violence in the wake of Indonesia's occupation.

"Establishing permanent boundaries is a matter of national priority for Timor Leste as the final step in realising our sovereignty as an independent state," said Prime Minister Rui Maria de Araujo.

While temporary revenue sharing agreements between the two countries were forged in 2002 and 2006, East Timor views them as unfair, not least because Australia spied on East Timor's negotiators in 2004.

Under the latter treaty, known as the Treaty of Certain Maritime Arrangements in the Timor Sea (CMATS), East Timor received 90 per cent of revenue from a “Joint Petroleum Development Area” and a half share of Greater Sunrise, most of which lies outside the JPDA.

The treaty also included a clause stipulating a 50-year freeze on negotiating a permanent maritime boundary.

"We stand by the existing treaties, which are fair and consistent with international law," the spokesperson for Ms Bishop said in a statement.

"These treaties have benefited both our countries and enabled Timor Leste to accumulate a Petroleum Fund worth more than $16 billion.

"Timor Leste's decision to initiate compulsory conciliation contravenes prior agreements between our countries not to pursue proceedings relating to maritime boundaries."

In the espionage operation, Australian Secret Intelligence Service agents pretended to be aid workers repairing East Timor's government offices. The spies inserted listening devices into the wall cavity of East Timor's cabinet office where its CMATS negotiating team met.

Australia's conduct earned it a rare and remarkable rebuke from the International Court of Justice, which ordered Australia cease spying on East Timor.

The outcome of the UN conciliation process is non-binding because Australia controversially exited the jurisdiction of UNCLOS two months before East Timor became a nation state in 2002.

However, East Timor's Minister of State Agio Pereira said the process was worthwhile.

"It's fair. It's neutral. It allows both parties to have a deeper understanding of the merits of the arguments under international law, under politics ... and the impact of the treaties as well," he told Fairfax Media.

The conciliation will lead to a report after 12 months. Both sides can appoint two members of the panel. The chair of the conciliation has to be agreed by both sides. If Australia declines to participate, the UN will intervene to appoint experts.

While Australia refuses to negotiate a new sea border, East Timor and Indonesia have committed to formal talks on the boundary.

Mr Pereira said East Timor would continue to pursue a separate, binding arbitration underway in the Hague to have CMATS annulled because it was negotiated in "bad faith" due to the spying in 2004.