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Tectonic relief involved in seismic risks of the Nuclear Fuel Cycle Facility - the Rokkasho flexure, Northeast Japan

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We have deciphered the active reverse fault (Rokkasho fault) on the basis of deformation of the marine terrace surface formed in MIS 5e (M1 surface) around Rokkasho village in the southeastern part of the Shimokita peninsula. A 1-2 km wide flexural scarp tilting toward east is found on M1 surface, which is consistent with the prevailing Tertiary monocline structure well recorded in seismic reflection record. The Rokkasho fault may merge into the extensive submarine active fault along shelf edge in the north composing an over 100-km long active fault. The Nuclear Fuel Cycle Facility is constructed on the deformed M1 surface. Thus, we should evaluate active fault properly. Slurred active fault is threatening the safety of the facility. We reexamine the tectonic features of the active flexure based on the original surface expression restored by aerial photogrammetry.

Keywords: active flexure, active fault, marine terrace, Nuclear Fuel Cycle Facility, Shimokita peninsula