

## THE GREAT EAST JAPAN EARTHQUAKE AND THE NUCLEAR POWER IN A POST FUKUSHIMA WORLD

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**Rezumat.** *Evenimentele de la Fukushima Dai-ichi și-au pus amprenta asupra viitorului energiei nucleare (concluziile publicate de echipa de experți IAEA aflați în misiune la unitățile afectate) și au pus în discuție mai multe aspecte: creșterea securității nucleare "paive" precum și creșterea elementelor de siguranță la bazinele de combustibil ars. Prezenta lucrare își propune realizarea unui rezumat al evenimentelor de la centrala nucleare-electrică Fukushima, sublinierea impactului lor asupra energiei nucleare precum și primele decizii luate, la nivel internațional, în ceea ce privește siguranța centralelor nucleare. Toate acestea pentru ca energia nucleară să rămână un vector important în mixul energetic.*

**Abstract.** *A team of international nuclear safety experts completed, a preliminary assessment of the safety issues linked with TEPCO's Fukushima Dai-ichi Nuclear Power Station accident following the Great East Japan Earthquake and Tsunami. Considering the gravity of the accident and the conclusions of the IAEA Fact-Finding Team, the European Council declared that "the safety of all EU nuclear plants should be reviewed, on the basis of a comprehensive and transparent risk assessment ("stress tests"). This paper presents a summary of the catastrophic events on Japan and their impact on world nuclear power.*

**Keywords:** energy, nuclear accident, stress tests

### 1. Introduction

The Great East Japan Earthquake on 11 March 2011, a magnitude 9 earthquake, generated a series of large tsunami waves that struck the east coast of Japan, the highest being 38.9 m at Aneyoshi, Miyako.

As well as other enterprises, several nuclear power facilities were affected by the severe ground motions and large multiple tsunami waves: Tokai Dai-ni, Higashi Dori, Onagawa, and TEPCO's Fukushima Dai-ichi and Dai-ni.

The operational units at these facilities were successfully shutdown by the automatic systems installed as part of the design of the nuclear power plants to detect earthquakes.

However, the large tsunami waves affected all these facilities to varying degrees, with the most serious consequences occurring at Fukushima Dai-ichi. [1, 2]

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