

June 30, 2015

**Small Robot Developed to Investigate Interior of Primary Containment Vessel
of Fukushima Daiichi Nuclear Power Station Unit 2**

TOKYO - Toshiba Corporation (Tokyo: 6502) today announced that the company and the International Research Institute for Nuclear Decommissioning (IRID) have developed a small robot to investigate the interior of the primary containment vessel (PCV) of Fukushima Daiichi Nuclear Power Station Unit 2. Training of robot operators will begin in July, with the aim of deployment on site by the end of August ^[1].

Developing procedures and methodologies for removing fuel debris from the PCV requires an understanding of its distribution. The robot will be used to determine the location and positioning of fallen objects, if any, and conditions along access routes to the PCV base. This must be done prior to a full investigation around the PCV base.

The robot is approximately 54cm long and 9cm high and wide, and is equipped with two cameras, LED lights, a radiation dosimeter and a thermometer. Remotely operated by a wired cable, the robot will enter the PCV along a pipe approximately 10cm in diameter.

LED lights and CCD cameras are attached to both the front and rear of the robot. Once the robot reaches a point near the center of the PCV, the operator will raise the rear section, like the tail of a scorpion and video the interior of the PCV: the robot will illuminate its surroundings with the LED lights, and swivel its rear to capture a wide area of the PCV, even in darkness or fumes. The robot is designed to be self-righting, so rollovers are not a concern.

Toshiba and the IRID will continue to develop technologies that contribute to the decommissioning of the Fukushima Daiichi Nuclear Power Station.

Note [1] The deployment schedule is subject to change depending on the situation in the reactor building.

Overview of the Robot

Weight	Approx. 5kg
External dimensions	Approx. 54cm (L) × 9cm (W) × 9cm (H)
Power supply	Wire-supplied
Specs	Two CCD cameras, LED lights (12 embedded LEDs per camera + one separate LED), one radiation dosimeter, one thermometer
Radiation hardness	Approx. 1000 Sv (target) or higher (Design target:100 Sv/h × 10 hours)
Drive time	Designed to operate approximately for 10 hours in an environment with a dose rate of 100 Sv/h

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About Toshiba:

Toshiba Corporation, a Fortune Global 500 company, channels world-class capabilities in advanced electronic and electrical product and systems into five strategic business domains: Energy & Infrastructure, Community Solutions, Healthcare Systems & Services, Electronic Devices & Components, and Lifestyles Products & Services. Guided by the principles of The Basic Commitment of the Toshiba Group, “Committed to People, Committed to the Future”, Toshiba promotes global operations towards securing “Growth Through Creativity and Innovation”, and is contributing to the achievement of a world in which people everywhere live safe, secure and comfortable society.

Founded in Tokyo in 1875, today’s Toshiba is at the heart of a global network of over 590 consolidated companies employing over 200,000 people worldwide, with annual sales surpassing 6.5 trillion yen (US\$63 billion).

To find out more about Toshiba, visit www.toshiba.co.jp/index.htm

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About IRID:

International Research Institute for Nuclear Decommissioning (IRID) was established on August 1, 2013 as an organization to develop nuclear power plant decommissioning technologies efficiently based on collective wisdom from Japan and abroad, composed of

18 member corporations such as electric companies, plant manufacturers and research institutes.

Now IRID carries out research and development of the technologies required for the decommissioning of the Fukushima Daiichi NPS as a matter of urgency and enhances the collaboration with the international and national relevant organizations as well as promotes human resource development for the research and development.

To find out more about IRID, visit <http://irid.or.jp/en/>

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