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**Second Validation Testing of Canberra-Obayashi Mobile type
TruckScan Pre-production Unit – 17214**

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ABSTRACT

Canberra Industries, Inc., (Now, Mirion Technologies (Canberra), Inc.), has developed and validated a new truck monitoring system "Mobile TruckScan (MTSCAN)" for use with the Interim Storage Facilities (ISF) in Japan. MTSCAN consists of eight shielded LED-stabilized 3x3" NaI detectors. Each detector has a lead shield with a collimated view of the truck. Four detectors are placed on each side of the truck, thus 8 in total, each at about 1.1 meter from the side of the truck. These NaI detectors and collimators were calibrated by the CANBERRA In-Situ Object Counting System (ISOCS) mathematical efficiency calculation tool.

Around the Fukushima Daiichi NPS area, the decontaminated waste was put into flexible containers called Super Sacks (SS), for transportation to the ISF, typically in 10 metric ton dump trucks.

The MTSCAN pre-production unit was used to measure multiple SSs loaded into 10 ton trucks, and was able to accurately report the activity of each individual SS, with around 10-20 second acquisition time. The system can also accommodate smaller 2 ton and larger 20 ton trucks. The system is relatively compact, and therefore easy to move and setup at a different location. MTSCAN is expected to measure the SSs after loading onto trucks at the Temporary Storage Area (TSA), and at the entrance of the ISF. The MTSCAN assay results showed good accuracy in this demonstration which simulated the actual operation. From these tests, the combined standard deviation for each SS is about 20%, when compared to the reference activity from multiple Ge measurements of each sack.