

Operations Launched at Electron Beam Irradiation Facility

Japan Irradiation Service Co., Ltd. (JISCO), an affiliate of Sumitomo Metal Mining (SMM) Co., Ltd., launched operations on April 27 at a newly constructed electron beam irradiation facility.

JISCO has been engaged in irradiation operations since 1998, using cobalt-60 gamma rays to sterilize medical devices, laboratory equipment and food packaging and to modify industrial materials.

In response to increased and diversifying demand for irradiation in recent years, in April 2008 the company commenced construction of an e-beam irradiation facility adjacent to an existing gamma irradiation facility at its Tokai Center in Ibaraki Prefecture (Tokai-mura, Naka-gun). Construction was completed this March.

Electron beams are capable of only modest substance penetration but offer advantages in terms of their energy density, short processing times and minimal impact on materials. These advantages make e-beams useful for modification processing – e.g. electronic components, cross-linking, degradation and polymerization of macromolecular materials such as polyethylene and nylon – and for sterilizing medical paraphernalia such as gauze and cotton swabs, sanitary materials such as non-woven cloths, pharmaceutical and cosmetic containers, and laboratory apparatuses such as Petri dishes.

Products – in their packaging – are placed on trays and carried by conveyor, where they are continuously irradiated by electron beams generated by an accelerator. JISCO's electron beam irradiation facility incorporates the following features that together enable irradiation of high speed and reliability.

1) With products of significant thickness or density, both the front and back surfaces are

irradiated through use of an automatic turnover machine, enabling more uniform dose distribution.

2) A production control system controls products and trays by bar-code. Operating conditions of the accelerator and the conveyor are set automatically for each tray. The system also enables product traceability – including record keeping – from order receipt to goods acceptance, irradiation and shipment.

JISCO is committed to providing customers services of increasingly higher quality by selecting the appropriate method of irradiation, gamma ray or electron beam, in accordance with the demands of each product and by processing ever-larger quantities with high efficiency.

Address inquiries concerning this News Release to:

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Caption 1: Electron beam accelerator

Caption 2: Scanner

Caption 3: Automatic turnover machine

Reference:

Japan Irradiation Service Co., Ltd. (JISCO)

1. Company Profile

President: Masatoshi Yoshioka

Capitalization: 450 million yen (100% ownership by Sumitomo Metal Mining Co., Ltd.)

Employees: 40 (5 at Head Office and 35 at Tokai Center, as of April 1, 2009)

Address: Sales Department: Shimbashi 5-11-3, Minato-ku, Tokyo 105-8716

Tokai Center: 2600 Ishigami-Tojiku, Tokai-mura, Naka-gun, Ibaraki 319-1101

2. Brief History

August 1996: Establishment of Japan Irradiation Service Co., Ltd.

February 1997: Acquisition of approval to use radioactive isotopes (Ministry of Education, Culture, Sports, Science and Technology)

January 1998: Commencement of operation of gamma ray irradiation facility

April 1998: Acquisition of approval to manufacture medical equipment (Ministry of Health, Labour and Welfare)

July 1998: Acquisition of Quality Management System certification (ISO 9002)

November 2002: Acquisition of Environmental Management System certification (ISO14001)

July 2003: Acquisition of International Quality Standard certifications (ISO9001 , ISO13485¹, EN552², ISO11137³)

October 2003: Acquisition of approval to manufacture veterinary medical equipment (Ministry of Agriculture, Forestry and Fisheries)

April 2008: Inauguration of construction of electron beam irradiation facility

July 2008: Acquisition of approval to manufacture pharmaceuticals (Ministry of Health, Labour and Welfare)

April 2009: Launch of operations at electron beam irradiation facility

- 1) Quality management system for medical devices
- 2) Sterilization of medical devices
- 3) Sterilization of health care products (Radiation)

3. Outline of Facilities

Gamma ray irradiation facility (existing)

Radiation source: cobalt-60

Maximum storage volume: 111 petabecquerels (3 million curies)

Electron beam irradiation facility (new)

Electron beam accelerator: Cockcroft-Walton type

Maximum beam energy: 5MeV (megaelectron volts)

Maximum output: 100kW