



Food and Drug Administration
10903 New Hampshire Avenue
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Silver Spring, MD 20993-0002

Hitachi, Ltd., Health Care Company
% Mr. Jonathan Kahan
Regulatory Counsel
Hogan Lovells US LLP
555 13th Street NW
WASHINGTON DC 20016

November 2, 2015

Re: K152592

Trade/Device Name: PROBEAT-V
Regulation Number: 21 CFR 892.5050
Regulation Name: Medical charged-particle radiation therapy system
Regulatory Class: II
Product Code: LHN
Dated: September 10, 2015
Received: September 10, 2015

Dear Mr. Kahan:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Industry and Consumer Education at its toll-free number (800) 638 2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>. Also, please note the regulation entitled, “Misbranding by reference to premarket notification” (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to

<http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH’s Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

A handwritten signature in blue ink that reads "Michael D. O'Hara". The signature is written in a cursive style. In the background, there is a faint, large watermark of the FDA logo.

For

Robert Ochs, Ph.D.
Director
Division of Radiological Health
Office of In Vitro Diagnostics
and Radiological Health
Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (if known)

K152592

Device Name

PROBEAT-V

Indications for Use (Describe)

The PROBEAT-V is a medical device designed to produce and deliver a proton beam for the treatment of patients with localized tumors and other conditions susceptible to treatment by radiation.

Type of Use (Select one or both, as applicable)

☒ Prescription Use (Part 21 CFR 801 Subpart D)

☐ Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

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510(k) SUMMARY

Hitachi PROBEAT-V

Submitter's Name, Address, Telephone Number, Contact Person and Date Prepared

Hitachi, Ltd., Health Care Company
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Facsimile: +81 (3) 45642882

Contact Person: Naoya Nishimura

Date Prepared: September 10, 2015

Name of Device and Name/Address of Sponsor

PROBEAT-V Proton Beam Therapy System

Hitachi, Ltd. Power Systems Company
3-1-1 Saiwai-cho, Hitachi-shi, Ibaraki-ken, 317-8511
Japan

Common or Usual Name

Proton beam therapy system

Classification Name

Medical Charged-Particle Radiation Therapy System, 21 CFR 892.5050, Product Code LHN

Predicate Devices

Hitachi Ltd. PROBEAT with Discrete Spot Scanning System (K073059)

Hitachi Ltd. PROBEAT-V (K151132)

Intended Use / Indications for Use

The PROBEAT-V is a medical device designed to produce and deliver a proton beam for the treatment of patients with localized tumors and other conditions susceptible to treatment by radiation.

Technological Characteristics

The PROBEAT-V is a proton beam irradiation system, which provides a therapeutic proton beam for clinical treatment. It is designed to deliver a proton beam with the prescribed dose, dose distribution and directed to the prescribed patient treatment site. The equipment to perform the above work is composed of two main components: (1) a beam delivery system whose primary responsibility is to ensure that the desired prescription parameters are properly delivered and (2) equipment necessary to generate the proton beam and direct it to the beam delivery system for patient treatment.

The beam delivery system is composed of the following components”

- Gantry Room
 - Rotating Gantry
 - Scanning Nozzle
 - Patient Positioning System
 - Cone Beam CT / X-ray Imaging System
- Fixed Beam Room
 - Scanning Nozzle
 - Patient Positioning System
 - Cone Beam CT

The beam production system is composed of the following components”

- Accelerator system (LINAC, Synchrotron)
- Beam transport system (Low/High Energy Beam Transport systems)

Performance Data

The company performed testing, as follows:

- The mechanical performance of the rotating gantry and patient couch
- Beam performance testing to evaluate beam dose shape and beam dose
- Safety interface testing to evaluate beam stop control, dose monitor, area safety, and mechanical interlocks.

Further, electrical safety and electromagnetic compatibility testing was also performed in accordance with IEC 60601-1 and IEC 60601-1-2.

In all instances, the PROBEAT-V functioned as intended and met its specifications.

Substantial Equivalence

The PROBEAT-V has the same intended use and indications for use, as well as substantially similar principles of operation and technological characteristics, as compared to Hitachi's cleared PROBEAT with DSSS (K073059) and a previously cleared version of the PROBEAT-V (K151132). Each of the systems comprises the same components of the beam production and beam delivery subsystems. The minor differences between the PROBEAT-V that is the

subject of this submission and the cleared PROBEAT and PROBEAT-V do not raise different questions of safety or effectiveness. Thus, the PROBEAT-V is substantially equivalent to its predicate devices.