

APR - 7 2004

K040172  
page 1 of 2

GE Medical Systems

General Electric Company  
P.O. Box 414 Milwaukee, WI 53201

**510(k) Summary of Safety and Effectiveness** (in accordance to 21 CFR 807.87(h))

**Device Name**

**Proprietary Device Name:** GE Discovery LS System

**Establishment Name and Registration Number of Submitter**

**Name:** General Electric Medical Systems  
**Registration Number:** 2126677  
**Corresponding Official:** Larry Kroger  
General Electric Medical Systems  
P.O. Box 414  
Milwaukee, WI 53201

**Device Classification**

**Classification Code:** 90 KPS  
**Panel Identification:** Radiology  
**Classification Name:** Emission Computed Tomography System  
(per 21CFR 892.1200)  
**Common Name:** Nuclear Medicine Imaging system  
**Classification Class:** Class II Product

**Reason for 510(k) Submission**

Modification of legally marketed device.

**Identification of Legally Marketed Equivalent Devices**

GE Discovery LS System K023988

**Device Description**

The Discovery LS is an integrated multi-slice Computed Tomography and Positron Emission Tomography scanner. In addition to providing CT and PET stand-alone capabilities, it uses the CT images to correct for non-uniform attenuation of the PET images and it uses integrated CT and PET images to localize emission activity in the patient anatomy. Discovery LS has capabilities for imaging all available PET tracers and CT contrast agents and can provide inherently registered anatomical and functional information via an integrated user interface. It can also be used as a stand-alone head and whole body multislice computed tomography diagnostic imaging system.

**Description of Change or Modification**

The Discovery LS CT-PET System is the same system as described in 510(k) K023988 except that the intended use has been revised for better definition.

K04D172  
Page 2 of 2

### **Intended Use of Device**

The GE Discovery LS System is intended for head and whole body attenuation corrected Positron Emission Tomography (PET) imaging and localization of emission activity in patient anatomy by means of integrated PET and CT images.

The Discovery LS is to be used by trained health care professionals for imaging the distribution of radiopharmaceuticals in the body for the assessment of metabolic (molecular) and physiologic functions. This can assist in the evaluation, diagnosis, staging, restaging, and follow up of lesions, disease and organ function such as (but not limited to) cancer, cardiovascular disease, and brain dysfunction. This device can also assist in radiotherapy planning.

The Discovery LS can also be used as a stand-alone head and whole body multislice computed tomography (CT) diagnostic imaging system.

### **Summary of Studies**

Discovery LS bench and clinical data demonstrate the ability of Discovery LS to image injected radiopharmaceuticals for the assessment of metabolic (molecular) and physiologic functions of the body and the ability of Discovery LS to use integrated CT and PET images to localize metabolic activity and FDG uptake in the patient anatomy.

Numerous published medical and scientific articles document the use of PET and PET-CT in evaluation of cancer, cardiovascular disease, and brain dysfunction.

### **Conclusion**

In the opinion of General Electric Medical Systems, the Discovery LS CT-PET System with the above revised intended use is substantially equivalent in terms of safety and effectiveness to the currently marketed Discovery LS System, 510(k) K023988.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

APR - 7 2004

Mr. D. Duersteler  
Safety and Regulatory Engineering  
GE Medical Systems  
General Electric Company  
P.O. Box 414  
MILWAUKEE WI 53201

Re: K040172  
Trade/Device Name: GE Discovery LS System  
Regulation Number: 21 CFR 892.1200  
Regulation Name: Emission computed  
tomography system  
Regulation Number: 21 CFR 892.1750  
Regulation Name: Computed tomography  
x-ray system  
Regulatory Class: II  
Product Code: 90 KPS and JAK  
Dated: January 22, 2004  
Received: January 26, 2004

Dear Mr. Duersteler:

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.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such 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); 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.

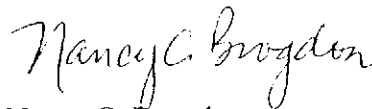
This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at one of the following numbers, based on the regulation number at the top of the letter:

8xx.1xxx	(301) 594-4591
876.2xxx, 3xxx, 4xxx, 5xxx	(301) 594-4616
884.2xxx, 3xxx, 4xxx, 5xxx, 6xxx	(301) 594-4616
892.2xxx, 3xxx, 4xxx, 5xxx	(301) 594-4654
Other	(301) 594-4692

Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97) you may obtain. Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>.

Sincerely yours,



Nancy C. Brogdon  
Director, Division of Reproductive,  
Abdominal and Radiological Devices  
Office of Device Evaluation  
Center for Devices and Radiological Health

Enclosure

STATEMENT OF INTENDED USE

510(k) Number (if known): K-040172

Device Name: GE Discovery LS System

Intended Use

The GE Discovery LS System is intended for head and whole body attenuation corrected Positron Emission Tomography (PET) imaging and localization of emission activity in patient anatomy by means of integrated PET and CT images.

The Discovery LS is to be used by trained health care professionals for imaging the distribution of radiopharmaceuticals in the body for the assessment of metabolic (molecular) and physiologic functions. This can assist in the evaluation, diagnosis, staging, restaging, and follow up of lesions, disease and organ function such as (but not limited to) cancer, cardiovascular disease, and brain dysfunction. This device can also assist in radiotherapy planning.

The Discovery LS can also be used as a stand-alone head and whole body multislice computed tomography (CT) diagnostic imaging system.

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Prescription Use ✓  
(Per 21 CFR 801-109)

OR Over-The-Counter Use \_\_\_\_\_

Nancy Hodgson  
(Division Sign-Off)  
Division of Reproductive, Abdominal,  
and Radiological Devices  
510(k) Number K040172