

RENOVA
LLP "Renova Medikal Muhendislik Tidzh., Ltd. Shti-ti"

### SERVICES OF ENGINEERING OF RADIOLOGICAL SYSTEMS

The company RENOVA started operating at the end of 2015 at the head office of the company located in Istanbul, the main task of the company saw the satisfaction of requests for alternative services in the field of radiology, represented in the market by radiological equipment of the SIEMENS brand. The company, having been formed by qualified engineering specialists, who have worked for many years in the production company SIEMENS in various modal divisions (MRI-CT) and in the management of the service departments, provides services as a service company throughout Turkey and for foreign countries.



Mr. Ozgur Kaska Has attended the course Magnet System Course MR2MAGNET

From September 21, 2009 to September 25, 2009 at Siemens Magnet Technology Ltd with the following course contents:

- Routine Safety checks
- Advanced magnet care
- Component replacement and care
- Magnet troubleshooting
- Post quench procedures
- Introduction to De-icing
- Helium fill procedures for both 4K and 10K systems

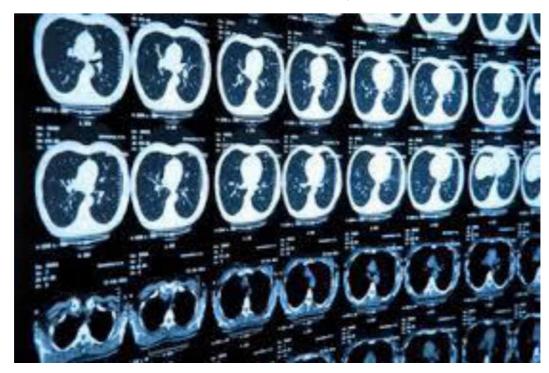
/Signed/ Training Center Blemere med Date: 25/09/2009

#### **SIEMENS**

The company RENOVA, RENOVA Medical Myuchendislik (Medical Engineering) was established by qualified specialists in this field for 10 years providing technical services in relation to radiological systems with high-tech modern equipment (radiography equipment, MRI-devices, nuclear medicine and molecular visualization systems, tomography and ultrasonic equipment), with the departure to the site.

First of all, in Turkey, as well as in Europe and the Middle East, the company, acting as a business partner, renders services in maintenance, repair, supply of spare parts and components, sales of used equipment and equipment, assembly and installation of systems and storage organization.

RENOVA Medical Myuchendislik (Medical Engineering), fully using knowledge and experience, provides services to healthcare professionals not as an ordinary performer, but as an interested business partner. And in the future, together with a team of employees who are aware of the ethical value of the work performed, who understand the importance of the precision required in the work in the field of health care, and the high professionalism in their field of activity, will continue to provide optimal technical solutions to their business partners.



**RENOVA**, in addition to the services rendered with respect to radiological equipment, also deals with the purchase and sale of second-hand equipment and carries out a comprehensive implementation of this kind of projects from A to Z on a turn-key basis.

#### Our services:

Services in Repair and Maintenance of Radiological Equipment Paid service maintenance of radiological equipment Sales of radiological equipment, spare parts and X-ray tube Services on repair and sale of coils for MRI of any brand

### Purchase and sale of used equipment

Transportation and assembly of radiological equipment Startup of radiological equipment Sale and installation of RF Cabinet for MRI devices

### Maintenance of magnets of the device MRI

Cooling of magnets
Activation of magnets
Replacing Cool Heads (ColdHead)
Replacing Displacer
Replacement Adsorber
Compressor maintenance
Filling with helium

#### **Chiller Maintenance Services**





#### **Service Contracts**

**RENOVA** provides various options for service agreements depending on the needs of the client. The paramount principle for the company is to provide the most cost-effective and optimal solutions, creating added value for customers without compromising the quality of the services provided. The main benefits and benefits provided by the terms of contractual relations with the company RENOVA with respect to repair and maintenance services:

- High degree of efficiency
- Priority Services
- Operational organization of the work area
- Phone Support
- Remote access to equipment
- A detailed report on the maintenance and the provision of a checklist of completed work (checklist)

On request, one-time periodic maintenance and repair services can also be provided.

### **Design and Installation of Equipment**

Correct installation and connection of equipment are crucial in terms of ensuring the performance and continuity of the operation. A professional design team first performs preliminary planning of the working area and design work, after which the appropriate place / room is prepared, assembly and placement of equipment assemblies and installation thereof. All these operations are performed by the service team, after which the installation, to run one in the project work, is given to the startup group.



**RF** shielding

The MRI devices operate at a certain predetermined RF frequency, which is influenced by the frequency of environmental emissions and electromagnetic interference. In order to neutralize these parameters, directly affecting the quality of the image received on the device, an extremely important factor is the qualitatively designed design and the RF screen design. A professional design team, before installing the MRI device, prepares and mounts a RF shield. After installing the screen with the help of special tools, tests are conducted to determine whether there is a leakage of the RF screen design, depending on the results of which the necessary corrective work is being carried out.



#### Start Up

After the assembly, installation and connection of the device are completed, the working group starts the procedures for launching it into operation. Upon completion of the start-up procedures, different for each piece of equipment, the apparatus is fully operational and is subject to delivery to the user.



Procedures for launching MRI machine into operation, which differ from those for starting other types of equipment, may take longer. Throughout the time of installation through a special device used in the installation (power supply cihazı) on the magnets high voltage is applied, than the magnetic field is formed. The homogeneity of the magnetic field necessary to obtain a high-quality image is achieved by constant measurement with the help of special instruments (measuring instrument shim), and upon completion of this

procedure, calibration (adjustment) of other nodes is performed with the apparatus connected to the mains. The result of all these actions is the complete readiness of the MRI device to work.

Our professional design and service work team RENOVA, trained in the framework of specialized training programs, repeatedly and successfully performed these procedures and handed over the device to the customer in a state of full readiness for operation.

#### Maintenance of magnets

The magnetic block of MRI devices is a fairly vulnerable part of the equipment,

which can cause very negative consequences in case of incorrect and unprofessional interference in its operation, and therefore always requires only highly qualified service. In this regard, our team of certified engineers trained on the basis of manufacturing companies professionally, qualitatively and properly maintains the magnetic equipment (helium filling, defrosting, cooling of magnets, replacing the cooling head, replacer replacement, connecting the magnets to the mains and selection of energy from magnets)



Due to the special engineering projects of the warning signal in emergency situations, developed by our technical specialists for the magnetic unit, the stability of the magnets is maintained and the consumption of helium is regulated. Thus, material losses in the form of helium overruns are prevented, and higher overall plant performance is maintained.

### Briefing on working with the application

After completion of the procedures for launching the equipment, practical instruction is given to work with the installation for technical specialists and doctors, and then patients are received. These training activities conducted within the framework of a specific program are aimed not only to teach users to work with equipment, but also to ensure the maximum effective use of all the properties of installed equipment.

At the same time, on request, it is always possible to create special applications for existing operating systems, with the organization of training of users and medical specialists.



LLP "RENOVA MEDICAL MUHENDISLIK TIDZH. LTD. SH-TI"
Khuzur Mahallesi neighborhood, Chay Sokak street, No. 18 / B Umraniye /
ISTANBUL

Phone: 0533 150 56 45 - <u>www.renovamedical.com-info@renovamedikal.com</u>