

## **COMPANY PROFILE**



**Radicare**

Radicare (M) Sdn Bhd (286063-T)



**RadiFEMs**

RadiFEMs Sdn. Bhd. (639111-H)

(A Member of Radicare Group)

RADICARE (M) SDN BHD is a leading integrated facilities management company that specialises in the provision of non-clinical support services to the healthcare sector in Malaysia. RADICARE has built a foundation of excellence that enables it to remain synonym with quality hospital support services partner with reputable healthcare institutions in Malaysia.

Leveraging on 25 years of experience and expertise, RADICARE is poised to extend further the frontiers of service excellence, ultimately contributing towards higher quality of healthcare services at the various hospitals and medical institutions throughout the country and regions.

RADICARE's extensive pool of talents has enabled it to deliver optimal solutions to customers, thus letting doctors, nurses and caretakers to fully focus on patient care.

## **WEEKLY INDUSTRIAL REPORT**

### Week 1 (19 July 2020 – 23 July 2020)

Started my first day of internship with the general overview of the company and safety briefing by my supervisor, Encik Amri Bin Salleh. After that, I have been assisted to the site visit for testing the firefighting system at Hospital Hulu Terengganu. Radicare received some complaints from the fireman that the sub alarm panel at several places is not connected to the main fire alarm panel. For example, if a fire occurs at ward A, only the staff and patients at ward A will know the incident. So, the aim of this project is to connect the sub alarm panel alarm to the main fire alarm panel so that all staff and patients are aware of the incident. However, the system did not operate well because there are some problems with the main fire alarm panel.



On the next day, I continue to study the details of the firefighting system. I also consulted my mentor on how actually the firefighting system works at the hospital. Other than that, I also need to find the reasons of why carbon dioxide fire suppression system not suitable for the kitchen at the hospital.

After that, I attended a meeting for the introduction and explanation for vehicle steering system with Encik Zaidin Ali, who is from Radifleet Sdn Bhd and other ambulance's drivers. In this meeting, Encik Zaidin explain all the important information about the vehicle steering system which include the type of vehicle steering system and how the system works.



Overall for the first week, I able to learn many new things and apply my theoretical knowledge during the practice.

## Week 2 (26 July 2020 – 30 July 2020)

The second week started as usual. I was assisted to the Radicare workshop this week by Encik Zul. The subcontractor and Encik Zul need to fix a laboratory oven that does not operate properly. The broken AC filter line is the problem with the oven. The automatic voltage stabilizer is used to replace the filter operation. Before that, the subcontractor explains to me and Encik Zul about the power quality issues that include the supply voltage (input) to the oven fluctuates. Due to that, the oven does not work properly. He also explains that the AVS is capable of transforming the fluctuating waveform into a steady waveform.

Some parts in the oven have been explained to me which is the liquid indicator. Mercury is the liquid used in this laboratory oven. This liquid indicator is used to keep the temperature in the oven. For example, if we set the temperature to 50°C, the oven temperature will remain at 50°C. This oven also needs 240 V. As a result, the input voltage is measured using a multimeter and we find that the value is 236.7 V. This shows that the voltage supplied to the oven fluctuates. AVS will therefore stabilize this voltage and supply the oven with a steady voltage to prevent any damage. In general, there are three laboratory ovens that need to be fixed. Then, we are going to the pathology unit to fix each oven.



Testing and commissioning of the fire protection system is also carried out this week. The system failed last week due to a problem with the main fire alarm panel. So, it was fixed, and we were going to test the system again. Luckily, the system operates properly, as this system is very important when a fire incident occurs. Each sub-panel is tested to ensure that the overall system is working properly.

#### Week 3 (2/8/2020 – 8/8/2020)

For this week, nothing much work has been done. I only help Encik Fahmi to prepare the goodies for the event. I also become his assistant to organize the event.

#### Week 4 (9/8/2020 – 15/8/2020)

Have been taken to see the contractors replacing the ceiling lamp at ‘Pejabat Pentadbiran’. The ceiling lights have been replaced by fluorescent lamps to save energy and electricity. It can be said that, overall, all the places with ceiling lights have been replaced to fluorescent lamps. During this site visit, I was able to learn from the contractors how to change the ceiling lights.



This week, I also have been shown how to install air conditioning in a dietitian office. During this time, I was able to learn how to install the air conditioner step by step. After lunch, the technician also install the same model of air conditioning in the operator's room. Air conditioning in the operating room has been replaced due to problems with leakage of air conditioning. At both locations, the air conditioning used is the inverter air conditioner. As we already know, the inverter air conditioner consumes less power than the traditional air conditioner. It is also capable of maintaining constant room temperature and no voltage fluctuations. I also had the opportunity to ask the technician about the refrigerant being used in the air conditioner. The refrigerant used is R23.



### Week 5 (16/8/2020 – 22/8/2020)

Overhaul the autoclave machine in the laboratory. Overhaul needs to be done once every 15 months. I am able to see the technician replacing the heater coil, also known as the steam boiler element, to ensure the machine work properly. After all this was done, the machine was tested for 3 minutes. This machine is used to kill bacteria or germs in medical equipment. The process involves conditioning, exposing and exhausting. Actually, there is some specific time for the process to involve, but since we just need to test the performance, 3 minutes is enough.



## Week 6 (23/8/2020 – 29/8/2020)

Follow the technicians to the logistics pharmacy. The planned preventive maintenance (PPM) of the air conditioner was carried out there. The air conditioner filter has been cleaned to ensure that the air conditioner is working well. PPM has also been done to ensure the safety and performance of the air conditioner before it can be used. Air conditioner is very important for the logistics pharmacy because all the medicines are stored here. If the temperature inside the medicine store is incorrect, the performance of the product may be compromised, which, in turn, could put patients at risk. It is crucial that the room is set at the appropriate temperature. After that, the technicians show us some of the large air conditioners used for the hospital in the air handling unit (AHU) room.



Going to the gas store with the technician to study the medical gas system used at the Hospital Hulu Terengganu. Overall, there are four gas store rooms, including the oxygen gas

room, the nitrous oxide gas room, the vacuum or compressed air room, and the hose reel system room. First of all, we are going to the oxygen gas room. The technician explained to us about the use of oxygen gas. This oxygen gas is used to be supplied to the ward. It has been used for the patients in the ward. We have also been explained about the system used. The installation of the system will maintain the supply of gas to the system at a nominal pressure of 60/100 psi, unless both cylinder banks are allowed to fall below that pressure. Normally, only one bank is in use, while the other is held in reserve. Then, we are going to the nitrous oxide gas room. Nitrous oxide gas is used as a sedative. The system for this gas is the same as the oxygen gas system. We can see the vacuum and the compressor in the vacuum or compressed air room. The technician cannot explain the system because he is not the one in charge of this room. Finally, the hose reel system room. There are two types of pumps used in this room, including a duty pump and a standby pump.



After that, we follow the technicians who are in charge of the air conditioner to the air handling unit room. We can see the technicians change the air conditioner filter. Since this is a large air conditioner, the filter is quite different from the standard air conditioning unit. Then we were also directed to fill in the maintenance work order (scheduled) form for the air conditioner.



## Week 7 (30/8/2020 – 5/9/2020)

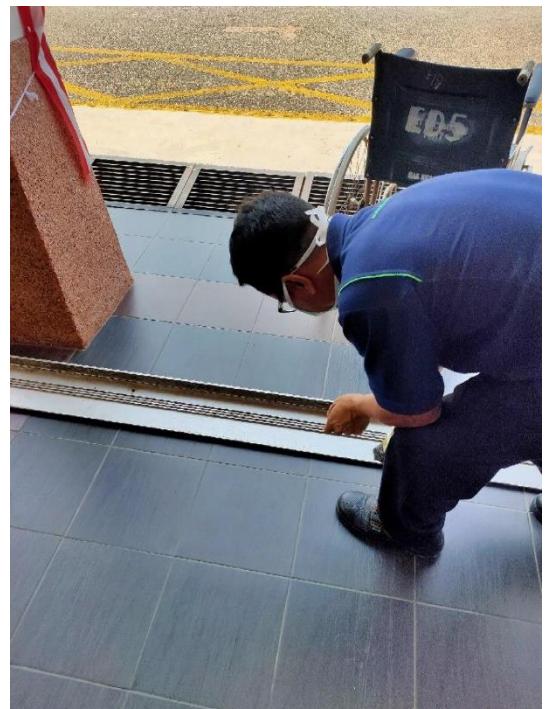
### 30/8/2020

9.30 A.M.

Follow the technician to the female ward to repair the plug. The plug cannot be repaired so that it was replaced with a new plug. The technician also explains the wires inside the plug, which include earth (green), neutral (black) and life (any colour) wires. After the plug has been replaced, it has been tested with the power supply to check if the electricity is connected to the plug.

10.30 A.M.

Planned preventive maintenance (PPM) have been done for the automatic sliding door in the emergency ward. PPM for this sliding door needs to be done once every 3 months. The track and wheel of the sliding door have been lubricated to reduce the friction between the contact. I can also learn from this about the sensor used for this sliding door, the motion detection sensor. This sensor activates the motorized opening and closing functions. It is integrated from above into the door frame. But this sensor only detects the movement from the inside of the ward. To enter the ward, the outside guard will press the open or close button provided to activate the opening and closing functions.



3.30 P.M

Firemen come to Hulu Terengganu Hospital to inspect the fire protection system. Each fire alarm panel has been tested at different locations to ensure that the system operates properly.



1/9/2020

Planned preventive maintenance of the heater has been carried out at the UBBS. After that, we are going to do PPM for the autoclave machine, but it cannot be done because the machine is in use. So, we are planning to do it tomorrow.



2/9/2020

9.30 A.M

Doing PPM for the cctv system at the control room. This cctv system includes a TV, an uninterrupted power supply (UPS) and a digital video recorder (DVR).

10.00 A.M.

Doing PPM on the autoclave machine at the 'Bilik Suci Hama'. After doing PPM, the autoclave machine has been tested for 3 minutes. I have also been explained again by Encik Zul about the autoclave machine function and process since there are new internship students. The process involved is conditioning, exposing and exhausting. The maximum temperature for items that need to be discarded is 121 Celsius. Overall, in this room, there are two autoclave machines.



2.30 P.M.

Also do the PPM for the autoclave machine at the different location which is at UBBS. The machine has also been tested to ensure that it is working properly. The PPM for this machine has to be done once in every month.



3/9/2020

11.00 A.M

Doing the PPM of the cctv system in the male & female psychiatric ward. The process is the same as it was yesterday.

2.15 P.M.

Doing the PPM of heater in the maternity ward.

Week 8 (6/9/2020 – 12/9/2020)

6/9/2020

10.00 A.M.

Follow Encik Zul to the Genset room. We are also going to do PPM today for the fire protection system in the Genset room. We inspect fire detector devices, which includes a smoke detector and a heat detector. Encik Zul checks whether the detectors are working well by connecting them to a 12 V battery because the detectors require 12 V to operate properly. We find that the signal (light) of the heat detector is not shown. So, it needs to be replaced by the new ones.



10.30 A.M

Then, we are going to the logistics pharmacy. We are also doing the PPM for the fire protection system. We just need to remove the dust from the fire alarm panel. Encik Zul explains the operation of the fire alarm system. He also checks whether the system operates properly.



11.00 A.M.

Finally, go to the psychiatric ward to do the PPM of fire protection system. This PPM is the same as the previous one.

7/9/2020

10.00 A.M.

So, we are going to the system hose reel room for today. We are doing some inspection and cleaning there, as the audit team is coming to inspect tomorrow. Besides cleaning, Encik Zul also explains how the hose reel system works. In the Hospital Hulu Terengganu, two types of pumps were used, the duty pump and the standby pump. The duty pump operates with the presence of electricity while the standby pump uses diesel. Standby pump is used as a backup when the duty pump is unable to operate properly.



2.30 P.M.

In the evening, we do some cleaning at the gas store behind the kitchen.



9/9/2020

Installing a cctv camera near the operator room because the old ones are not working. We adjust the angle of the camera to get a clear view before installing it.



Week 9 (13/9/2020 – 19/9/2020)

Doing PPM of the air conditioner in the x-ray room. The process involves cleaning and adjusting the air conditioner. This week, we also doing the PPM of the water heater at the female ward. The breakdown maintenance of the washer disinfector has been completed. We are also doing PPM for a washer disinfector at the sterilization room.

Week 10 (20/9/2020 – 26/9/2020)

20/9/2020

The PPM of the air conditioner was carried out at the office of the forensic unit.

21/9/2020

Fill in the maintenance work order form. Then, going to the pharmacy to perform PPM of the air conditioner.

23/9/2020

Doing PPM of the stretcher in the emergency ward. Then, going to overhaul the air conditioner which includes cleaning the part of the blower by using the chemicals.

24/9/2020

Follow the technicians to install the air conditioner in the room in front of the operator room.

Week 11 (27/9/2020 – 3/10/2020)

27/9/2020

Have a complaint from the nurse about the problem of the washer disinfector. Then, go back to the sterilization room to check the condition of the water disinfector.

29/9/2020

Going to the sterilization room again to do the breakdown maintenance of the washer disinfector. After that, we are doing the PPM of the autoclave machine in the engine room.

30/9/2020

Fill in the maintenance work order form of the air conditioner.

1/10/2020

Doing the PPM of the air conditioner.

Week 12 (4/10/2020 – 10/10/2020)

4/10/2020

Change the capacitor of the air conditioner.

6/10/2020

Fill in the maintenance work order form of the air conditioner.

7/10/2020

Doing the PPM of the air conditioner at the psychiatric ward.