

## *R&M Technologies Ltd*

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FAO: Department of Enterprise,  
Trade & Employment,  
23 Kildare Street,  
Dublin 2.

Our company R&M Technologies Ltd. Have been involved in the fuel control and monitoring business for years, in 2007/2008 we developed a Chip & Pin Terminal to sell fuel on forecourts 24/7 unattended we then contacted health & safety for guidelines but discovered there are no guidelines available.

At that stage, we contacted the British health & safety they were most helpful. We then designed the safety features of our terminal to comply with their standards, we also contacted a number of fire officers from various fire stations around the country because of this consultation, we have built in more safety features than is required in the UK. These safety features have been incorporated into our document number (R&M H&S 1) which we are submitting to you for your consideration in preparing new legislation.

When we visited the fire officers around the country, the indication was, that they would have no problem having our terminal operating in forecourts in an unmanned situation but because they had no guidelines from health & safety they would not take responsibility for allowing it.

Yours Sincerely

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Paddy Ryan  
Operations Manager  
R&M Technologies Ltd

# Recommendations When Station is Unmanned for Petrol Sales

Document No. R&M H&S 1

**Submission** Prepared by R&M Technologies Ltd. For the Department of Enterprise, Trade and Employment for consultation on the Arup report in relation to the sale of petrol from unmanned Stations

## Pump Evaluation

Before a Pump is considered for unmanned operation it is evaluated for its suitability.

This would include checking that any auto fill mechanism that might be fitted is completely removed or disabled.

Also the Auto Cut off mechanism will be tested to ensure its operation is working correctly

## IP Camera Monitoring during unmanned hours

Every fill which takes place during unmanned hours is monitored by a Trained operator at all times via a live IP Camera. This operator will have the ability to remotely terminate any fill at any time during a transaction via An R&M Technology propriety **Motor Control Safety Box**.

## Two way Audio communication to the Fueling Site

There is always two-way Audio communication between monitoring station and service station.

When a service station is dispensing petrol unmanned a loudspeaker system is fitted on the terminal as standard.

The Remote Operator can use this audio speaker to relay messages to the customer either Prior, during or after a fill.

## Remote Operator Station

Once a customer approaches the Pay at Pump terminal and selects their Pump Number, A signal is sent to the remote monitoring station, to inform the operators that there is activity at that particular forecourt.

Once the customers payment method has been verified, the Pay At Pump terminal will instruct the Mains Control Box to supply power to the pump motors, and for the duration of the fill the Pay At Pump Terminal will continually communicate with the Control box and will also keep in continual contact with the remote monitoring station throughout the fill, this allows the remote monitoring station the ability to cut the Pump Motor power at any time, thus ending the fill. The Control box will have **inbuilt failsafe procedures** built in to it. E.G. If for some reason the Control box losses contact with the Pay At Pump Terminal for a period of time during a fill, the control box will automatically end the fill, without instruction

## **Added Petrol Fill Measures during unmanned operation:**

When A customer chooses A petrol only pump or chooses A petrol product on A multi Product pump, before the pump receives authorization the terminal will request a continue command from the Remote monitoring station Operator, thus the remote operator can verify the full integrity of the Camera system and control measures at the Forecourt, before he allows a Petrol Fill to commence. The Terminal is programmed to prevent the continuous operation of pumps for more than 3 minutes and continuous outflow of more than 75 liters (or equivalent monetary amount) it can also limit the number or vehicles to be refueled simultaneously.

## **Example of Central Operator Checklist for Petrol Authorization:**

### **1) Prior to Fill**

- Ensure minors or unauthorized personal are denied authorization.
- Ensure the container the fuel is to be dispensed to is a fit for purpose container.
- Ensure Vehicle motor is switched off.
- Ensure no hazards are in the vicinity of the pumps before granting authorization (such as personal smoking etc)
- Ensure Emergency cut off systems and communication Systems are operational prior to each fill.

### **2) During Fill**

- Monitor petrol hoses for over stretching by customer.
- Monitor that customer does not leave the Fueling area of the vehicle, before a fill is fully completed.
- Monitor that proper operation of the pumps is happening at all times.
- Terminate the power to all pumps should a potentially serious situation arise, and inform relevant authorities.

## **On Site Customer Safety Notices and Apparatus**

Each Terminal is supplied with **Dry Powder fire Extinguishers** and an **Emergency phone** with both Direct 999 access and Operator help access available.

Also A container with dry sand is made available to the customer should minor spillages occur.

Prior to commencing A fill, the customer will be presented with a screen telling them of the existence and location of the safety equipment, **they will be required to confirm by pressing a button on the terminal touch screen that they are fully aware of the existence and location of this equipment.**(See Page 3)

Both the Phone Line and Fire Extinguishers are maintenance checked at regular intervals.

## **Motor Control Safety Box**

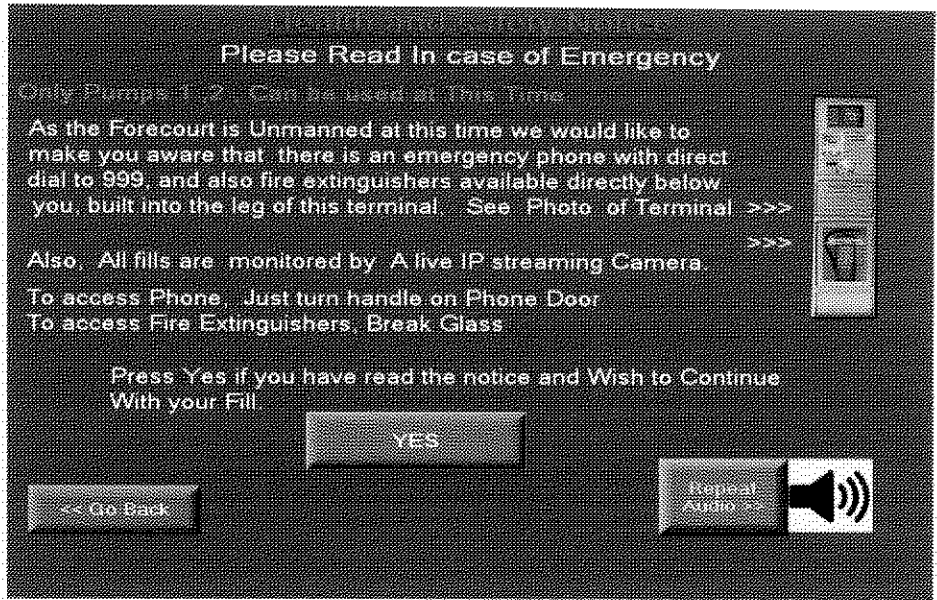
Each Forecourt pump is supplied by two separate mains supplies, one of these mains supply is used to power the Electronics which are located in the pump head, the other mains supply is used to supply the actual 230V, which is used to power the Pump motors when the Pumps are running.

The Pump motor supply from the fuse board has a three way manual switch determining its output, it can either be Always on (Normal Mode), Electronically controlled (Unmanned operation), or Off (Pump Shutdown)

During Unmanned operation, the pump motor supply is activated via an Electronic Mains control box, thus allowing this motors mains supply to be controlled by the pay at pump terminal or via the remote monitor offsite.

## **Monitoring Station Staffing Levels**

In approximately 95% of the time Unmanned operations, will be from 10pm to 6am at this time the volume of business is very small, and the maximum number of petrol pumps permitted is two, but most cases it wood be only one. We would recommend at this time that one monitor wood be responsible for no more than 25 sites. In the event of a site been 24 hrs. Unmanned operation the staffing levels would have to be reviewed.



Screen shown to Customer Before they Fuel, when station is Unmanned

The Emergency Phone is hosed in the Terminal and is easily accessed just turn handle and door opens out with the phone.

When door is open the phone is immediately accusable and carries clear instructions

