



## Mobile Phones and Petrol Station Safety

Recently media reports have sought to question whether mobile phones can cause ignition of petrol fumes if used on the forecourt of a petrol station. Some reports have even cited an email 'warning' from Shell citing three 'incidents' involving mobile phones and explosions. There is no foundation to either concern – in fact the email in question has been found to be an internet hoax.

On the issue of the email - Shell UK said in a letter to the mobile phone industry last year that:

*...the email is from a non-Shell source and that the originating email was an Internet hoax. This would indicate that the three cases being referred to are completely fictitious... Shell has no knowledge of any specific incident of ignition that occurred as a result of using a mobile phone on forecourts".*

With respect to the general question of whether there are any risks from using a mobile phone in a petrol station, scientific research shows the risk of ignition from mobile phone use in such situations is very remote – essentially as the amount of radio frequency energy emitted from hand-held mobile phones is considered too low to cause a spark.

Shell UK Oil assessed the risks of a radio frequency spark from mobile phones as long ago as 1991<sup>1</sup> and said:

*...portable cellphones properly used do not represent a meaningful hazard on the retail forecourt. Without doubt, apart from the human acts of smoking and striking a match, the thing that represents the greatest hazard on the retail forecourt is the motorcar!*

More recently the concern about mobile phone use at petrol stations was based on the belief that there was a risk the battery may become dislodged and cause a spark that may ignite fuel; although no one had any credible evidence to support this opinion.

Following a recent seminar on this topic by the British Institute of Petroleum, they announced in a press release<sup>2</sup> that:

*The seminar showed the findings of research undertaken to date demonstrating that although the majority of mobile phones are not specifically designed and constructed to prevent them igniting a flammable atmosphere (in accordance with standards for 'protected equipment'), the risk they present as a source of ignition is negligible.*

While mobile phone users should always obey warning signs, there is no sound technical basis to prohibit the use of mobile phones in petrol stations or single them out as hazards.

04 September 2003

---

<sup>1</sup> Radio telephones in cabs – avoiding the big bang: Petroleum Review pp 337 – 339 July, 1991.

See also:

- Investigation of the Potential for Wireless Phones to Cause Explosions at Gas Stations: Center for the Study of Wireless Electromagnetic Compatibility, University of Oklahoma, Norman, Oklahoma USA August, 2001. [www.ou.edu/engineering/emc/](http://www.ou.edu/engineering/emc/) (Look under Research projects/gas station research.)

- Cell Phone Usage at Gasoline Stations: Exponent Failure Analysis Associates, Menlo Park, California USA, December 1999. <http://www.exponent.com/about/docs/cellphonereport.pdf>

<sup>2</sup> Ignition of Flammable Vapour by Mobile Phones Not Substantiated by Technical Evidence: Statement of the Institute of Petroleum. March 21, 2003. [www.intellectuk.org/press/news/news\\_21\\_03\\_03.asp](http://www.intellectuk.org/press/news/news_21_03_03.asp)