

Cellphones and Refuelling

A query from a reader prompted us to do some research into the possible hazards of using a cellphone near refuelling operations.

Cellphones seem to have become an indispensable item of equipment these days – for business and pleasure – and many people wonder how they survived without them! Most pilots (and airline passengers) are probably familiar with the requirement contained in Civil Aviation rule 91.7, which prohibits the use of any portable electronic device on an aircraft operating IFR (except in cruise under certain conditions). This is because of the potential for interference with aircraft navigation systems. Cellphones, of course, fall into this category.

But what about the hazards when operating your cellphone on the ground, in close proximity to aircraft operations, particularly refuelling?

Using a cellphone anywhere on an aircraft apron can be hazardous because of the distraction it incurs for the user. It is a wise move for operators to discourage the use of cellphones by passengers when in the apron area. Passengers can be unpredictable at the best of times – a cellphone glued to the ear and the accompanying mind being miles away engrossed in the call could well be a recipe for disaster in an environment with moving propellers and rotors (and vehicles).

Pilots have also taken to this new technology – a cellphone can be a very useful piece of equipment at an airport to: ring for a taxi, or let the family know you arrived safely, or alter the business appointment, or make alternative arrangements in the event of weather delays. They can also play a part in radio failure situations in flight (or in the worst case scenario of search and rescue services being required).

We might assume that pilots are aware of the potential dangers from aircraft movement in the apron area, but what about making that important phone call while refuelling the aircraft (or allowing

your passengers to do so)? That may not be such a good idea.

The Dangerous Goods (Class 3 – Flammable Liquids) Regulations 1985 are applicable to Jet A-1 and Avgas. In order to eliminate the possibility of an

ignition of dangerous goods, one very important feature of these regulations is to preclude any sources of ignition from within specified distances where dangerous goods or flammable vapours might be stored or used. It will depend on the class of dangerous goods present and the circumstances under which they are used.

A source of ignition is defined as any agency capable of igniting a flammable gas, vapour or other combustible substance. It includes a fire flame, a spark, or any electrical equipment of a type not approved for use in the particular location where flammable substances may be present.

In general, a source of ignition is not permitted within 15 metres of any place involving dangerous goods processing or handling. For electrical equipment, this distance is modified if the equipment is certified as flame-proof or 'intrinsically safe'.

A cellphone is considered as a source of ignition with respect to these regulations; it is classed as electrical equipment which has **not** been certified as 'intrinsically safe'. (Incidentally, a hand-held radio would come into the same category.)

The same situation applies when refuelling your car, and a recent pamphlet available at service stations recommends that cellphones or vehicle radio telephones not

be used while on the service station forecourt.

We have heard reports of explosions at service stations overseas, reportedly involving cellphones. One newspaper report in December 1996 referred to an accident in Melbourne, where an Australian woman sustained serious burns after her stationary car exploded while she was using a cellphone. Fire investigators believed petrol leaking from the car ignited, and they were investigating whether the explosion was sparked by the cellphone or by other electrical equipment in the car.

A cellphone service provider contacted said that there was no record, to their knowledge, of any radio device igniting combustible materials. Explosions resulting from radio devices were mainly historical events when the equipment had high voltage. We have 3-volt technology nowadays (with nothing more than 7.2 volts in their products) and the potential for generating a spark is almost nil. It was conceded that if the battery contacts of a cellphone somehow came into

contact with each other, a spark could occur. At present, however, no manufacturers of cellphones will warrant their phones to be 'intrinsically safe', ie, able to be used in combustible environments.

Fuel companies confirm that cellphones are classed as a potential source of ignition. The risk is not particularly high, but in risk management terms, it is a risk that can be readily controlled (indeed, eliminated).

We are all more conscious of hazard identification and risk management techniques these days.

The simple answer is that cellphones could be a potential source of ignition, and although the risk is considered to be low – why take it? ■

