



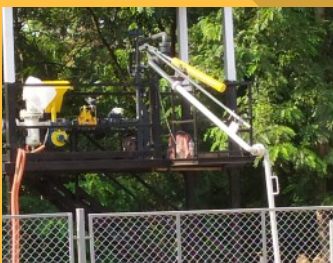
## In this newsletter..



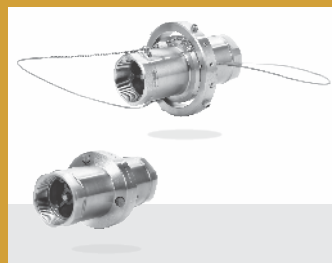
Woodfield LNG Truck Loading Skid with Terminal Automation System running successfully at Shell Energy India's LNG terminals, Gujarat.



Woodfield Loading Arms finding favour down under in Australia.



Woodfield successfully supplied a robust system for door to door delivery of high speed diesel.



Woodfield Emergency Release Couplings- the dependable ones

## Woodfield LNG Truck Loading Skid with Terminal Automation System running successfully at Shell Energy India Site

Woodfield has designed, engineered, manufactured and supplied LNG Truck loading system with complete PLC based automation right from truck entry to exit for Shell Energy India's LNG Terminal, Gujarat (India).

### Scope of the Project:

The scope of the Project was to design a system to deliver LNG (in cryogenic conditions at -176 Deg. C) in road tankers from LNG storage tanks.

### System Description:

The system supplied by Woodfield comprised of field unit which was skid mounted metering and control of the tanker filling operation. The system also included a control room based PLC system to operate the entire loading operation cycle starting from truck entry to truck exit and invoice generation.

The Skid system was supplied with features like recirculation of flow, sick tanker unloading facility and LNG loading & vapour arms.



Human Machine Interface (HMI) was provided on skid as operator interface for managing and controlling the loading operation. The screen supplied is auto updated for loading sequence, command for starting the operation, status of loading, displaying alarms and events during course of loading.

### Salient Features:

1. LNG truck loading skid with loading arm suitable for LNG loading with a filling capacity 76 m<sup>3</sup>/hr (1266 LPM)
2. System is supplied with complete safety interlocks that safeguards against any operational hazards and meets Shell global safety standards.
3. Skid is fully insulated with cold insulation made of high class insulation material to prevent any gas / vapor / ice formation.

The PLC is created keeping in mind future expansion and programmed to have 4 systems operational on the same PLC Control Panel & TAS Operations.

### Commissioning Support:

A dedicated Woodfield team was deployed at site for installation and commissioning work.

Before handing the system over, successful loading trial runs were conducted for Tank Truck capacity. Overall loading time is 45 minutes for complete loading operation including precooling, loading and nitrogen purging.

Complete operation cycle trial had been carried out as per designed procedure from truck entry to exit and training was provided to Shell Operations and Maintenance team as part of system hand over.

The PLC control Panel and all other systems together were integrated with weigh bridge & present DCS Terminal Software.



## Woodfield successfully supplied a robust system for door to door delivery of high speed diesel

With a huge potential for doorstep delivery for high speed diesel (HSD), the Oil Marketing Companies (OMCs) have started a new concept of 'fuel pump on wheels'. Start up companies will source fuel from nearest OMCs and deliver them at doorstep. The high speed diesel is required for stationary equipment like generator sets, earth moving equipment, heavy machineries used in construction sites, mobile towers, etc. and these may not have facility / resource to store.

As soon as this concept started taking shape, Woodfield started conceptualizing and designing systems for loading HSD. With Woodfield's global expertise, it was natural for the Company to step up and design a reliable system comprising of loading arms & metering skids.

Woodfield has supplied metering skids with top loading arm to retail outlets of India's largest OMC in various parts of Madhya Pradesh & Chhattisgarh for filling the exact quantity duly certified by weights & measures authorities.

Woodfield supplied these systems with imported PD meters & batch controller from Europe along with other reliable products put together to offer a robust solution.





Bitumen loading application in Sydney, Australia

## Woodfield Loading Arms finding favour down under in Australia

Since Woodfield tank truck loading arms first entered Australia in early 2015, over 120 units have found successful service in very demanding applications. Woodfield supplies loading arms in Australia through its local sales & service partner.

The first project delivered in 2015 by Woodfield included sixteen, four-inch bottom loading arms with gas strut balance mechanisms for a seaboard lubricant distribution terminal on behalf of an international lubricants manufacturer.

Since then, the Woodfield bottom loading arms have been successfully deployed in many different applications ranging from major oil company marketing terminals to outback storage depots and remote mining facilities in harsh desert environments.

Woodfield arms have also found favour in the pacific islands, with several units successfully operating in Papua New Guinea, Guam, and Palau where they have been commended for their durability, rugged design and low maintenance requirement providing reliable operation in remote locations and demanding environments.



Melbourne, Australia



Perth, Australia

Woodfield loading arms have found a home in Australia where they have become part of the local landscape!

## Woodfield Emergency Release Coupling – the dependable one

Woodfield Emergency Release Couplings (ERCs) have been the most reliable couplers across the globe for quite some time now, ensuring safety of the operators and the environment in case of emergency.

Woodfield couplers are designed & manufactured keeping in mind all the safety parameters required during transfer of products from terminal to tanker or vice-versa. These ERCs can be used with hoses or loading arms.

In case of an emergency if the tank truck moves during loading, ERC gets activated and detaches from the hose or loading arms safely with minimum spillage by instantly closing the safety valves in the ERC.

Woodfield has designed two types of ERCs for different needs – Shear Pin (S-ERC) Type & Cable Release (C-ERC) Type.

### Features of S-ERC and C-ERC

- Safe & reliable
- Spill-free separation
- High flow rate / low pressure drop
- Simple design & easy to maintain onsite
- Coupling automatically senses an excessive load and closes the valves and disconnects

**Shear Pin (S-ERC)** type is used when non-axial forces are generated on the shear bolts as the tanker moves in case of an emergency. These bolts are sheared which instantly closes the two valves present inside the ERC thus preventing any spillage.

While **Cable release (C-ERC)** type is used when non-axial forces are generated as the tanker moves in case of an emergency and these forces are transferred on the ERC spring plungers through a cable. With this the ERC gets separated with instant closing of the two valves inside the ERC causing minimum spillage.

### Key features of C-ERC

- No extra spares required to reassemble once activated
- Breaking force can be adjusted with same arrangement

