



DRAX get a safer bang for their buck with REMBE® Ltd



The installation of REMBE® ExGoVent explosion panels was completed by engineering contractor C. Spencer Ltd as part of the new £16m DRAX biomass handling facility at the Port of Tyne. The new facility will receive wood pellets from around the globe to be used in the co-firing operation at the 3000MW power station in Yorkshire.

Storing wood pellets poses many technical challenges for the systems designer, one of which is how to negate the risk of potential dust explosions. During handling and storage all wood pellets break down to varying degrees and can produce an extremely fine combustible dust. If measures are not taken to deal with this explosive risk the consequences can be catastrophic.

REMBE's in-house dust explosion expertise proved vital in offering an economical and safe solution for the project.



Precision engineered explosion venting devices were installed onto the wood pellet rail-road loading silo, the design of which was a result of performing several explosion calculations and technical and economic considerations.

When the pellets leave the Port of Tyne, they are taken to DRAX and loaded into 2 further large storage silo's, also protected by REMBE® explosion venting devices.

Wood pellet production – an explosive industry

Despite the frequent dust explosions which occur throughout the wood pellet production industry, the risks are still commonly underestimated and are too often ignored completely. Due to an on-going global shortage of this feedstock, production demands are constantly under pressure, factory automation and machine speeds are increased, and hence so are the explosion risks.

The most high-risk area of wood pellet production is after the press where high energy is used forcing the material through the die before quickly being introduced to large air volumes. If a pellet overheats or begins to smoulder, the oxygen in the cooler can dramatically increase it's combustion state. It then has sufficient temperature and energy to be an effective dust cloud ignition source.

Potentially explosive dust clouds are often also present in the bucket elevators and storage silos which should also be protected. Other potential areas of explosion risk areas include the milling, drying, and dust extraction systems.

All of these dust explosion risks can easily be mitigated with current technology. A well designed spark detection system can

significantly reduce the risk of the ignition source reaching an explosive atmosphere. In the event of an explosion, vent panels will relieve explosion pressures and flames in a safe manner protecting the personnel, plant and production operation. For installations where personnel or dust accumulations are present, flameless venting devices such as the REMBE® Q-BOXII (pictured) should be used.

Call REMBE® today on 0800 232 1821 to discuss your requirements.

