FIRE PREVENTIVE AND PROTECTIVE SYSTEMS IN PULP & PAPER INDUSTRY

Mário J.M. Gonçalves[1*], Geovane Cruz[2], Raúl Moreno Pérez[3]

[1] Technical Project Leader at Latin America, Spain & Portugal Division – Firefly AB
Heliosgatan 3, 120 30 Stockholm, Sweden
mario.goncalves@firefly.se, +46 70 132 87 30
[2] Area Sales Manager at Latin America – Firefly AB Rua Grã Nicco, 113, CEP: 81200-200, Curitiba (PR), Brazil
geovane.cruz@firefly.se, +55 41 99826-8491
[3] Director Latin America, Spain & Portugal Division – Firefly AB Heliosgatan 3, 120 30 Stockholm, Sweden
raul.moreno@firefly.se, +46 73 807 83 00

ABSTRACT

Firefly AB is a Swedish company founded in 1973, based in Stockholm, that designs and produces hightech fire protection systems for process industries. The company is presented worldwide, with customers in over than 80 countries.

Fire and explosion events on a plant have normally a very significant impact on the production process, which may lead to very long production downtimes. Firefly industrial solutions often combines preventive and protective systems for optimal safety.

Preventive systems are characterized as the detection and extinguishing of ignition sources happen before a fire or an explosion occurs. Two solutions are presented to prevent fires, spark detection for filter and/or silo storage protection and the multiple gas detector (MGD) for storage areas. It is shown the detection principles, according with equipment specifications and technical data related with the fire/explosion origin characteristics.

Firefly protective systems are known for their very quick time response to produce an effective protection of the equipment and reduce production downtimes. Quick suppression systems are a currentsolution that can be implemented in Pulp and Paper machines. A comparison between conventional sprinkler systems and a quick suppression system is presented.

Examples of existing installations are shown, as well as the principle of fire detection and extinction integrated on a Firefly system. To protect drying pulp, tissue and conversion machines it is used the Quick Suppression solution, ensuring that a fast response system minimizes the damage of the machine and keeps it in production. Extraction circuits are protected by Spark Detection systems, which detect hot and energized particles that can origin fires on filters. For storage areas, it is presented the MGDsolution, which can give an alarm if an abnormal level of combustion gas is detected, preventing ignition events.

To conclude, it is presented the Intuvision system, that englobes and processes all the Firefly system areas and provides a user-friendly interaction to the user, which can be linked to the PLC/DCS process system of the industrial plant.

Keywords: Detection, Extinction, Fire, Process, Protection