

PLANT ITEM	EXPLOSIVE ATMOSPHERES	IGNITION SOURCES	RISK ASSESSMENT / BASIS OF SAFETY	KEY CONTROL MEASURES	COMMENTS / RECOMMENDATIONS
<p>Grain silos 11CE01/02 (Ref. 1.3)</p> <p>Discharge of grain from diverter valve into grain silos</p>	<p>No flammable dust clouds in silos during normal filling operations.</p> <p>Dust accumulations within silos could, however, be accidentally roused by a sudden disturbance (e.g. bridging followed by collapse of material). Hence Zone 22 within the silos.</p>	<p>Flame from explosion in upstream elevator.</p> <p>Burning material from upstream elevator (e.g. ignited by frictional heating)</p> <p>Flame from an explosion in downstream aspiration filter</p> <p>Electrostatic spark from insulated conductor.</p> <p>Flames / hot surfaces from hot work etc</p>	<p>If an explosive atmosphere were generated and ignited the resulting explosion overpressure could cause the silo to fail, with potentially serious consequences.</p> <p>However the likelihood of an ignition source coincident with an explosive atmosphere is sufficiently low that safety can be based on preventive measures alone – no flammable atmosphere in normal operation and low ignition likelihood</p>	<p>Silos reliably earthed</p> <p>Maintaining an air velocity > 15 m/s in the dust aspiration line (to prevent back propagation from an explosion in the downstream dust collector).</p> <p>Control of ignition sources within the bucket elevator</p> <p>Level sensors in silos protected by enclosure to a dust tight standard (sensors pre-date the Regulations so are not Ex certified)</p> <p>Hot work permit procedures and site rules re smoking and other ignition sources</p>	<p>Silos are present in an area that is not normally occupied by associates. This in combination with low likelihood of explosion means that the situation can be considered acceptably safe.</p>