Case No.2

Paper dust ignited during repair work in milling room of a paper manufacturing plant

[Circumstances of Incident]

The accident occurred in the process of tissue milling and winding rolls (an intermediate product) in a paper manufacturing plant.

Following the instructions of an operations chief to replace the cutter edge used to peel raw paper from the paper mill dryer, the victim turned on the switch to rotate the cylinder by compressed air and cut the raw paper by means of the cutter edge.

When the victim next tried to turn on another switch to start positioning the cutter edge, accumulated paper dust in a dust-collecting system located between the dryer exit and the winding roll suddenly ignited, injuring the victim by the blast and heat from the flare-up.

Resulting fire was fed by floating dust particles (dust cloud) in the air and spread throughout the entire paper milling room.

[Causes]

The following can be cited as the causes of this accident.

1. Ignition causes
   (1) Ignition of a paper dust layer at a law temperature
   (2) Contact sparks from the dryer
   (3) Friction sparks from the nozzle and chain of the dust collecting system
   (4) Sparks due to static electricity

2. Concentration of dust, etc.
   (1) The room humidity was partly below 15 percent.
   (2) The dust-collecting system was designed to release a large part of collected air after filtering.
   (3) The dust-collecting method and capabilities were inadequate, considering the accumulated dust in the duct of the system
[Type of business] Pulp/paper manufacturing
[Type of accident] Explosion
[Number of victims] One injured (not involving any absence from work)