

### The Customer

The Company manufactures and markets bleached paperboard for the high end segment of the packaging industry. Their Customers convert the paperboard into a variety of end products, including packaging for liquids, food products, pharmaceuticals, toiletries, paper cups and plates, blister packaging and other consumable goods.

### The Process

Wood is debarked and reduced to chips. The wood chips are sent to a digester where they are "cooked" under pressure and steam heated in a chemical solution of sulfur based compounds. The solution degrades and dissolves the lignin, which holds the wood together. After cooking, the chips are expelled to a blow tank where a drop in pressure breaks the chips into pulp. The pulp is processed through various screens, beaters and refiners in preparing the wood fibers for the papermaking stage.



### The Challenge

During the Kraft pulping process various non-condensable gases (NCG's) are formed. These gases are mainly sulfur based and also include turpentine and methanol. They are extremely odorous and flammable and because of environmental reasons cannot be vented to the atmosphere. They are collected and sent to a recovery boiler for incineration. If the concentration of gas is rich enough, an explosion can occur in the recovery boiler.

The Company wanted to monitor the NCG stream and detect and divert dangerous concentrations before they could cause damage and shut down the mill. They were looking for an analyzer that could handle sampling a dirty, high water vapor atmosphere with a wide range of gases and vapors present.

### The Solution

The PrevEx Analyzer, Model SNR674, was chosen to do this job because it functions accurately and reliably in the dirty, humid environment of the pulp mill. Its simple flow system has no capillaries that can clog or pumps that can fail and because the analyzer operates at high temperatures, water droplets and mists are maintained in a vapor state throughout the sampling process, avoiding condensation, clogging and other maintenance problems. It has the unique ability to monitor the non-condensable gases in terms of percent flammability rather than percent by volume, reporting the total concentration of flammable material entering the recovery boiler. This is an invaluable feature when monitoring samples that may have additional gases present.

Its high sampling speed dramatically improves response time, allowing valuable time for corrective action before NCGS are diverted from the recovery boiler and vented into the atmosphere.

Additional features include fail-safe operation, low maintenance and easy servicing.

### SIC Code

- 2611: Pulp Mills

### NAICS Code

- 322110: Pulp Mills