

PROJECT DESCRIPTION

Concentrated Non Condensable Gas (CNCG) White Liquor Scrubbing System
SAPPI FINE PAPER, SOMERSET DIVISION
Skowhegan, Maine

PROJECT SCOPE

The project consisted in the treatment of low volume high concentration (LVHC) non-condensable gases (NCG), as well as their safe transport to the lime kiln, to minimize ring formation and to recover valuable sulphur in the cooking liquor.

MESAR/ENVIRONAIR was mandated to provide engineering and supply for the new backup NCG scrubbing system at the Somerset mill of Skowhegan, ME.

At the Somerset mill, the non-condensable gases sources were collected from:

- ↗ blow heat recovery system
- ↗ evaporator hotwell
- ↗ turpentine plant vent



The concentrated non-condensable gases were then scrubbed using a mixture of demineralised water and sodium hydroxide. The gases were safely transported using a steam ejector and were incinerated in the lime kiln. The system was designed to also use white liquor as the scrubbing liquid.

Other key equipment like a condenser and a mist eliminator were supplied to insure a safe and reliable system design.

RESULTS

The system was installed in July 2005 as scheduled. Performance trials in September 2005 showed that the CNCG system operates consistently, it achieved >99% destruction for hydrogen sulphide (H₂S) and methyl mercaptan (CH₃SH).

The CNCG system has been running flawlessly since its start-up.