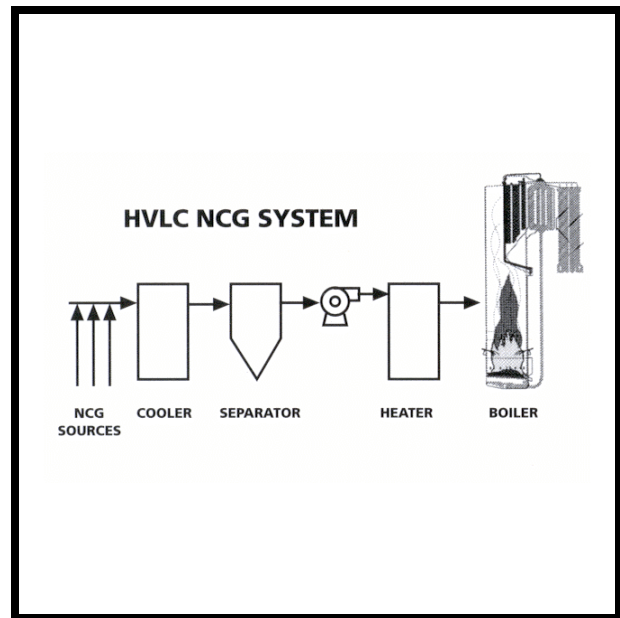
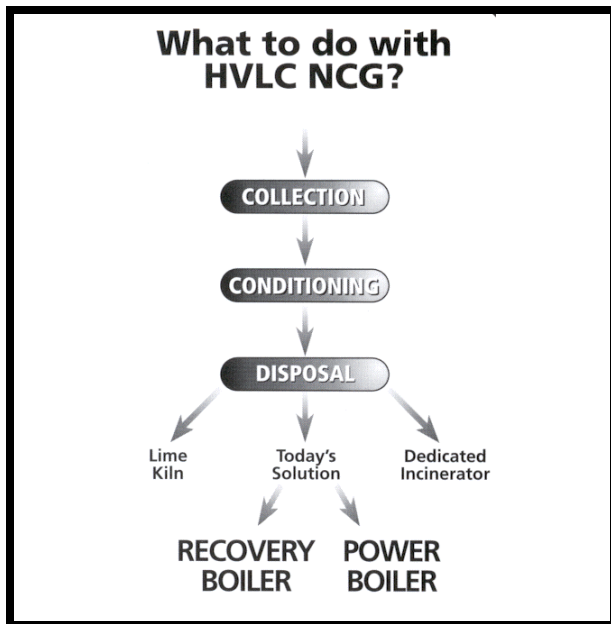


PROJECT CAPABILITIES

EVALUATION DISPOSAL OF HVLC (AND LVHC) NCG IN RECOVERY/POWER BOILERS



Because of Cluster Rule legislation, many kraft mills in North America have to collect and incinerate high volume low concentration (HVLC) non-condensable gas (NCG).

These dilute non-condensable gases (also called DNCG) are collected from various sources such as washers, deckers, chip bins, liquor tanks, sewers, and many others. They contain small amounts of TRS and volatile organics, with moist air making up over 95% of the DNCG. As a less expensive alternative to purchasing a dedicated incinerator, this stream can be conveniently combined with balance of combustion air in a power boiler (at the level of overfire air) or recovery boiler (secondary/tertiary air levels). More and more mills are disposing of CNCG in boilers as well.

Mills are faced with making informed decisions where and how to inject the NCG stream safely in an existing boiler and in a manner that will not detrimentally affect normal boiler operation.

- Help select boiler(s) best suited for disposal of DNCG and CNCG stream (i.e., specific power or recovery boiler).
- Evaluate impact of NCG injection on boiler efficiency, normal fuel burning capacity, air emissions, corrosion factors, safety, and potential odor problems.
- Determine best location and method of injection of the NCG stream into the furnace in order to assure rapid and complete thermal oxidation.
- Define NCG injection conditions consistent with BLRBAC Recommended Good Practices.
- Define potential secondary (pay-back) benefits of HVLC NCG injection (i.e. combustion air delivery upgrade).
- Develop budgetary estimate or Class 10 cost to design, supply, and install boiler modifications for the injection of the NCG stream.

Selected References (see next page)

Selected References

Appleton Papers - Roaring Spring, PA
Bowater, Inc. - Calhoun, TN
Bowater, Inc. - Catawba, SC
Eddy Specialty Papers - Espanola, ON
Domtar, Inc. - Windsor, PQ
Georgia-Pacific Corporation - Camas, WA
Georgia-Pacific Corporation - Clatskanie, OR
Georgia-Pacific Corporation - Old Town, ME
International Paper Company - Franklin, VA
International Paper Company - Pensacola, FL
International Paper Company - Texarkana, TX
MeadWestvaco Corporation - Covington, VA
MeadWestvaco Corporation - Luke, MD
MeadWestvaco Corporation - Phenix City, AL
Roseburg Forest Products - Dillard, OR
Roseburg Forest Products - Weed, CA
Simpson Tacoma Kraft - Tacoma, WA
Westvaco - Evadale, TX
Weyerhaeuser Company - Oglethorpe, GA
Weyerhaeuser Company - Plymouth, NC
Willamette Industries - Hawesville, KY