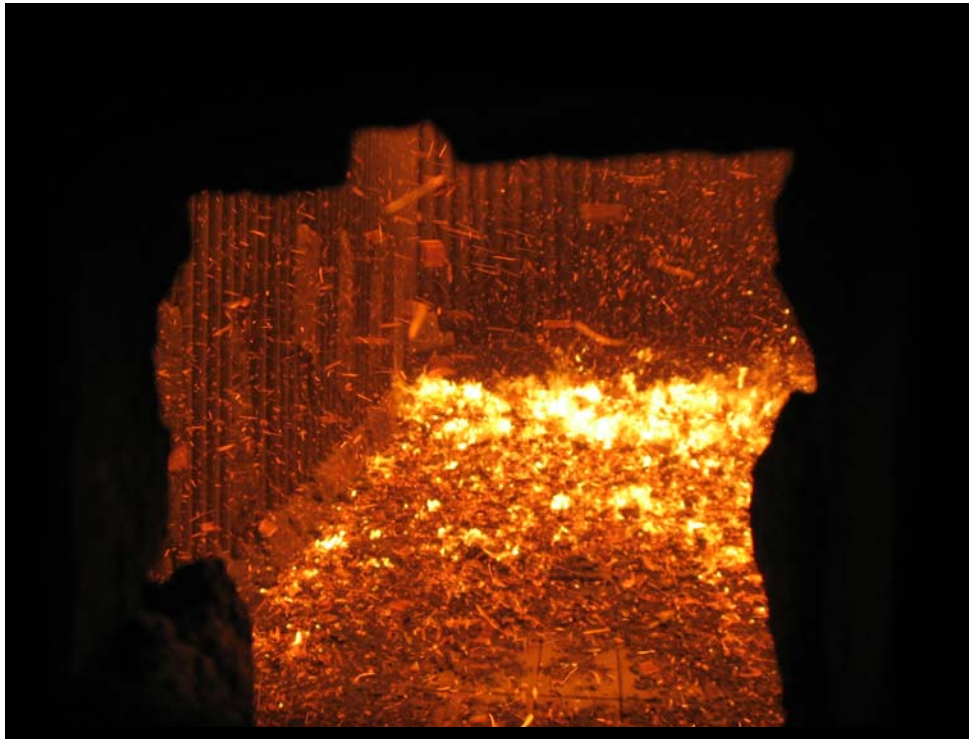


PROJECT CAPABILITIES



BIOMASS BOILER EVALUATIONS



Operation, Fuel Economy, and Emissions

Fuel economy, maximum availability, steam generating capacity, optimized emissions performance, and operating flexibility at the lowest cost are the key goals of biomass-fueled power boiler operation. JANSEN has assisted numerous mills with implementing operating and hardware changes to improve the performance and thermal efficiency, minimize fossil fuel co-firing, reduce landfill costs, and reduce air pollution emissions from their biomass boiler operations.

Scope of Services

- Waste fuels combustion problem solving (waste wood, TDF, NCG, sludge, etc.).
- Improved performance and steam generating capacity.
- Application of advanced combustion technology.
- Reduced CO, VOC, NO_x, SO₂, and particulate emissions.
- Computational Fluid Dynamics (CFD) modeling and analysis.
- Measurement and analysis of boiler circulation.
- Incineration of concentrated and dilute non-condensable gases (CNCG & DNCG), and sludges.

Selected References (see next page)



Selected References

Alabama River Pulp Company - Perdue Hill, AL
Alliance Forest Products - Coosa Pines, AL
Appleton Papers, Inc. - Roaring Spring, PA
Boise Cascade Corporation - DeRidder, LA (2 units)
Boise Cascade Corporation - Steilacoom, WA
Boise Cascade Corporation - Rumford, ME
Boise Cascade Corporation - Int'l Falls, MN (2 units)
Boise Cascade Corporation - Wallula, WA
Burney Forest Products - Burney, CA
Canfor Intercon - Prince George, BC
Canfor Northwood - Prince George, BC
Canfor PGP&P - Prince George, BC
Cariboo Pulp & Paper - Quesnel, BC
Catalyst-Hudson - Anderson, CA
Catalyst Paper - Crofton, BC
Catalyst Paper - Port Alberni, BC
Consolidated Papers, Inc. - Wisconsin Rapids, WI
Corn Products International - Winston-Salem, NC (2 units)
Corner Brook Pulp & Paper - Corner Brook, NF
Daishowa America - Port Angeles, WA
Daishowa Marubeni - Peace River, AB
Delta Natural Kraft - Pine Bluff, AR
Domtar Inc. - Ashdown, AR (2 units)
Domtar Inc. - Kingsport, TN
Domtar Inc. - Nekoosa, WI
Eurocan Pulp & Paper Company - Kitimat, BC
Evergreen Packaging - Canton, NC
Flambeau Paper - Park Falls, WI
Fletcher Challenge - Crofton, BC
Fortistar Biomass - Hillman, MI
Fraser Papers, Inc. - Park Falls, WI
Fraser Papers, Inc. - Plaster Rock, NB
Georgia-Pacific Corporation - Cedar Springs, GA
Georgia-Pacific Corporation - Crossett, AR
Georgia-Pacific Corporation - Palatka, FL
Hercules Pinova - Brunswick, GA
Inland Paperboard and Packaging - Rome, GA
International Paper Company - Augusta, GA
International Paper Company - Bastrop, LA
International Paper Company - Corrigan, TX
International Paper Company - Courtland, AL
International Paper Company - Franklin, VA
International Paper Company - Georgetown, GA (2 units)
International Paper Company - Mansfield, LA (2 units)
International Paper Company - Pensacola, FL
International Paper Company - Pine Bluff, AR
International Paper Company - Pine Hill, AL
International Paper Company - Pineville, LA
International Paper Company - Prattville, AL
International Paper Company - Riegelwood, NC
International Paper Company - Saillat, France
International Paper Company - Selma, AL
International Paper Company - Terre Haute, IN
International Paper Company - Ticonderoga, NY
International Paper Company - Vicksburg, MS
KapStone Papers - Charleston, SC
KapStone Papers - Roanoke Rapids, NC
Ketchikan Pulp Company - Ketchikan, AK
Kimberly-Clark Corporation - Everett, WA
Kimberly-Clark Corporation - Loudon, TN
Koch Cellulose - Brunswick, GA
Longview Fibre - Longview, WA
Louisiana-Pacific - Chetwynd, BC
MacMillan Bloedel Ltd. - Port Alberni, BC
Mead Paper - Chillicothe, OH
Mead Paper - Escanaba, MI
Mead Paper - Stevenson, AL
MeadWestvaco Corporation - Covington, VA
MeadWestvaco Corporation - Luke, MD
MeadWestvaco Corporation - Phenix City, AL (2 units)
Minnesota Power - Duluth, MN (2 units)
Minnesota Power - Grand Rapids, MN
Neucel Specialty Cellulose - Port Alice, BC
NewPage Corporation - Escanaba, MI (2 units)
NewPage Corporation - Wickliffe, KY
NewPage Corporation - Wisconsin Rapids, WI
Orange County Container Group - Forney, TX
Ohio Edison Company - Akron, OH
Packaging Corporation of America - Counce, TN
Packaging Corporation of America - Valdosta, GA (2 units)
Packaging Corporation of America - Tomahawk, WI
Port Townsend Paper - Port Townsend, WA
Portucel - Cacia, Portugal
Primary Power - Flint, MI
Riverwood International - Macon, GA
Riverwood International - West Monroe, LA
Rock-Tenn Company - Demopolis, AL (2 units)
Roseburg Forest Products - Dillard, OR
Roseburg Forest Products - Weed, CA
SAPPI North America - Cloquet, MN
SAPPI North America - Skowhegan, ME (2 units)
SAPPI North America - Muskegon, MI
Simpson Paper Company - Gilman, VT
Simpson Tacoma Kraft - Tacoma, WA
Smurfit-Stone Container Corporation - Fernandina Beach, FL
Smurfit-Stone Container Corporation - Florence, SC
Smurfit-Stone Container Corporation - Hodge, LA
Smurfit-Stone Container Corporation - Missoula, MT
Smurfit-Stone Container Corporation - Stevenson, AL
Smurfit-Stone Container Corporation - West Point, VA
SP Newsprint - Newberg, OR
Spruce Falls, Inc. - Kapuskasing, ON
Stone Container (Canada) Inc. - Portage du Fort, PQ
Stora Enso North America - Biron, WI
Tacoma Public Utilities - Tacoma, WA
Temple-Inland - Bogalusa, LA (2 units)
Thilmany Papers - Kaukauna, WI
Tolko Manitoba - The Pas, MB
Verso Paper - Sartell, MN
Weldwood - Hinton, AB
Westvaco - Evadale, TX
Weyerhaeuser Company - Columbus, MS
Weyerhaeuser Company - Cosmopolis, WA
Weyerhaeuser Company - Everett, WA
Weyerhaeuser Company - Kamloops, BC
Weyerhaeuser Company - Longview, WA
Weyerhaeuser Company - New Bern, NC
Weyerhaeuser Company - Plymouth, NC
Weyerhaeuser Company - Rothschild, WI
Weyerhaeuser Company - Springfield, OR
Weyerhaeuser Company - Valliant, OK
Wheelabrator-Spokane - Spokane, WA
Willamette Industries - Bennettsville, SC
Willamette Industries - Campti, LA
Willamette Industries - Hawesville, KY