



BRIDGE GAP ENGINEERING

Bridging the Cement World through Expertise and Relationships you can Trust

PROJECT LIST:

2009 **Polysius/TXI, Oro Grande, California, USA**

Re-Start and Commissioning services for 6000 tpd cement production line. Major equipment included; Polysius 5.2 m dia. x 75 m kiln, 5-Stage Preheater-Precalciner, and Polytrack clinker cooler.

2009 **CemCorp Cement, Canada**

Consulting services and Environmental Impact Assessment (EIA) in support of a new Greenfield 5000 tpd cement production facility complete with waste heat recovery (WHR) and captive power plant (CPP) generation facilities.

2009 **Federal White Cement, Canada**

Feasibility study for new 335 mtpH raw mill system to be integrated into an existing cement production facility. Scope included assessment of existing facility, conceptual general arrangements, generation of equipment list, commodity material quantities (foundations, steel, piping, insulation, electrical, instrumentation, etc.) and estimate of total installed cost.

2009 **Southern Welding & Millwrights, Texas, USA**

Guided development of presentation materials and operational protocols as to support the prequalification to construct Buzzi's new 75 mtpH finish grinding system (HoroMill®).

2009 **Confidential Client, Confidential Location**

Review documents in support of a potential legal proceeding and provide technical advice. Provide expert witness services for Hearing for Discovery.

2009 **CemCorp Cement, Caribbean Region**

Evaluate mechanical condition of various used core drills, assist customer in purchase of same, and supervise the subsequent core drilling activities on site.

2009 **Alcan, Strathcona Works, Alberta, Canada**

Generate inspection list for Pet Coke Calcining Kiln/Cooler for annual maintenance shutdown and recommend repairs/upgrades to both units.



- 2009 **Loma Negra, Catamarca Plant, Argentina, South America**
Assess documentation provided by plant and make recommendations for repair/upgrade.
- 2009 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Provide inspection service for Compax Cooler on lime re-burning kiln and supervise maintenance and repair activities.
- 2009 **Domtar, Nakoosa, Wisconsin, USA**
Inspect lime kiln and direct adjustments on kiln support rollers.
- 2009 **Essroc, Speed, Indiana, USA**
Provide assessment of information supplied by plant/corporate regarding kiln gear and pinion in order to assist plant with justification of new gear train.
- 2009 **Plamarejo Gold Mine, Mexico**
Inspect damaged ball mill gear boxes and provide recommendations to prevent future failures, including the assessment of the suitability of current gear boxes for application.
- 2009 **Trade Mark Industrial Supply, Cambridge, Ontario, Canada**
Support contractor for a ball mill pinion re-alignment and assess condition of gear train for contractor.
- 2009 **Colacem, Canada, Kilmar, Quebec, Canada**
Inspect LVT separator on a cement grinding mill, remove rotor blades and re-balance rotor, and provide recommendations on short term repairs/maintenance and longer term upgrades.
- 2009 **Wahl Refractories, Fremont, Ohio, USA**
Engineering Services for Hybrid Refractory/Steel Precast Thimble for Preheater Cyclones and Engineering Services for Kiln Ovality Study for New Kiln Refractory Concept.
- 2010 **Buzzi/Lonestar Industries, New Orleans, LA, USA**
Expert witness services related to 80 ton per hour ball mill facility. Services included process review and assessment, full quantity estimates, and total installed cost opinion for facility.



- 2010 **Southern Welding & Millwrights, Beaumont, Texas, USA**
Design of fall arrest systems to allow safe work access for rehabilitation of baghouse system.
- 2010 **Polysius/Vulcan Materials (Florida Rock), Newberry, Florida, USA**
Start-up and commissioning services for 2,400 tpd cement production line. Major equipment included; Polysius RM 41/20 – 192 stph raw vertical roller mill, CP 8000 ston homogenizing silo, DOPOL 90 preheater tower, REPOL RS-2418 grate cooler, Polysius 136 stph finish grinding (2 compartment ball mill), and Loesche 19.2D coal grinding vertical roller mill.
- 2010 **Ciment Quebec, St. Basile de Portneuf, Quebec, Canada**
Supply of main kiln gear (spur-type, 2-piece, fabricated), dual pinions, and accessories; Supply of thrust riding ring (16.5' ID x 19' OD x 2.5' face width); Field erection supervision including training and inspections.
- 2010 **Cariboo Pulp & Paper, Quesnel, British Columbia, Canada**
Design and supply of internal components for satellite cooler.
- 2010 **RKM Services for Graymont, Joliette, Quebec, Canada**
Design and supply of Floating Tire Pad System for Rotary Kiln including Tire pads, complete with shim retainers, Tire retainers, Pad retainers, Side retainers, Wear rings, and Pad shims including field erection supervision of same.
- 2010 **Confidential Client, Andhra Pradesh, India**
Pre-Commissioning Process Design and Plant Design Audit of a new 4500 tpd cement plant in Andhra Pradesh, India for the purposes of identifying areas of improvement and recommendations to ensure trouble-free start-up and operation.
- 2010 **Confidential Client, Andhra Pradesh, India**
Preheater modification to top stage exit including new stage-1-to-fan duct for power savings resulting in a 100 tpd increase in clinker production.
- 2010 **Kingston Refractory Services, Napanee, Ontario, Canada**
Design and supply of replacement furnace hot wall.
- 2010 **Lehigh Cement, Evansville, Pennsylvania, USA**
Design and supply of kiln feed inlet sectors for long dry kiln (Kiln No. 1).



- 2010 **Lehigh Cement, Evansville, Pennsylvania, USA**
Design and supply of kiln inlet spring plate air seal for long dry kiln (Kiln No. 1).
- 2010 **Lehigh Cement, Multiple locations, USA**
Consulting engineering services to provide a desk study of various Activated Carbon Injection (ACI) Systems for Mercury (Hg) Remediation as part of the National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations.
- 2010 **Essroc Cement, Martinsburg, West Virginia, USA**
Engineering design of the necessary foundation and structural steel supports for a new roofing and siding enclosure for the existing rail loading area.
- 2010 **TXI, Midlothian, Texas, USA**
Field supervision through Southern Welding for rebuild of 6000 TPD Fuller/FLS grate cooler.
- 2010 **Holcim, Mississauga, Ontario, Canada**
Assess gear train on Aerofall SAG mill and re-align pinion.
- 2010 **Cariboo Pulp and Paper Co, Quesnel, British Columbia, Canada**
Inspect coolers on lime kiln and advise plant personnel on upgrades.
- 2010 **Ciment Quebec, St. Basile, Quebec, Canada**
Check kiln gear-to-pinion contact and adjust drive pinions to achieve greater root clearance.
- 2010 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Inspect lime kiln, Compax cooler, and hot lime bucket elevator. Provide repair/maintenance recommendations and supervise the repairs.
- 2010 **Graymont, Joliette, Quebec, Canada**
Generate Microsoft Project Schedule for filler pad installation on pier 1 on lime kiln. Supervise installation of same.
- 2010 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Design and Supply of Crank Arm Assembly and Drive Shaft for Agitator.



- 2010 **Holcim, Mississauga, Ontario, Canada**
Generate Job Scope for major kiln maintenance shutdown. The 2011 shutdown included four (4) kiln shell sections, new gear, pinion and gear guard. Remove thrust rollers and remove thrust tire off old shell and install on new shell. Generate Microsoft Project Schedule in detail for same shutdown and inspect/inventory all new components on site for installation during major shutdown. Assist in contractor selection and supervise contractor.
- 2011 **Ciment Quebec, St. Basile de Portneuf, Quebec, Canada**
Design and supply of replacement pinion for ball mill.
- 2011 **St. Marys, Bowmanville, Ontario, Canada**
Design and supply of SIFCA material nose ring castings for rotary kiln.
- 2011 **Holcim, Mississauga, Ontario, Canada**
Manage project for retrofit of used dynamic classifier on old KVS classifier for coal grinding mill project which took place in March 2011.
Supervise installation of used LV Classifier.
- 2011 **Lehigh Cement, Evansville, Pennsylvania, USA**
Repeat order for the design of kiln feed inlet sectors for long dry kiln. This time for Kiln No. 2 (previously Kiln No. 1).
- 2011 **Holcim, Joliette, Quebec, Canada**
Provide details on kiln gear replacement for the purposes of supervising the contractor for new gear installation in February 2011.
- 2011 **Lehigh Cement, Allentown, Pennsylvania, USA**
Engineering Manpower Services to support client with NESHAP requirements at a number of plant sites.
- 2011 **Lehigh Cement, Waco, Texas, USA**
Engineering Feasibility Study for Environmental Emissions Control System Upgrades (necessary to meet NESHAP standards to be imposed as of September 2013) at the existing white cement plant in Waco, Texas. This study included developing sufficient preliminary engineering to generate cost estimates to a +/- 10% accuracy for three (3) emissions control system upgrade options:
- A dust collector replacement
 - A dust collector replacement with a hydrated lime injection system
 - A dust collector replacement with All-Dry Scrubber for SO₂.



- 2011 **H+M Architects & Engineers, Memphis, Tennessee, USA**
Duct Design and Professional Engineer's Stamp for a new Fly Ash Beneficiation Plant in Maryland.
- 2011 **Lehigh Cement, York, Pennsylvania, USA**
Engineering Feasibility Study for Environmental Emissions System Upgrades (necessary to meet NESHAP standards likely to be imposed) at the existing white cement plant in York, Pennsylvania. This study included developing sufficient preliminary engineering to generate cost estimates for four (4) emissions control system upgrade options:
- Addition of a Polishing Filter to the existing electrostatic precipitator
 - Retrofit of the existing electrostatic precipitator to a Bag Filter (hoppers up)
 - Retrofit of the existing electrostatic precipitator to a Bag Filter with on-line maintenance facility (including new hoppers and product conveying equipment)
 - Replacement of the existing electrostatic precipitator with a new Parallel Bag Filter.
- 2011 **CemCorp Cement, Canada**
Consulting services and plant design of a new Greenfield 5000 tpd cement production facility complete with 30 MW power facility and 9MW cogeneration plant using waste heat from the cement manufacturing process.
- 2011 **Goldcorp Inc. Zacatecas, Mexico**
Design and supply of an adaptor ring to an existing Ball Mill.
- 2011 **Cemex – Dominican Republic**
Perform a process audit of a Vertical Cement Mill for the purposes of establishing a baseline and the subsequent improvements made possible by a LVT Modification of the existing Loesche Classifier.
- 2011 **Cemex – Clinchfield, Georgia, USA**
Design and supply of a Burner Trolley for existing kiln burner.
- 2011 **Olimag – Thetford Mines, Quebec, Canada**
Supply of a new Pillard NOVAFLAM® Kiln Burner.
- 2011 **Domtar, Windsor, Quebec, Canada**
Design and Supply of Kiln Inflight Feed Spiral System for 11' 6" diameter Lime Kiln.
- 2011 **Cariboo Pulp and Paper Co, Quesnel, British Columbia, Canada**
Supply of Satellite Cooler Tube Components (cross plates and flights) and stainless steel inlet section complete with conveyor flights and access ports.



- 2011 **Lehigh Cement, Evansville, PA, USA**
Design of Splash Box for 1-Stage Preheater Cyclone Addition to Long Dry Kiln.
- 2011 **H+M Architects & Engineers, Memphis, Tennessee, USA**
Duct Design for J-Valve including Professional Engineer's Stamp.
- 2011 **Texas Industries (TXI), Hunter, Texas, USA**
Wear Inserts and Replacement Tubes for Air-to-Air Heat Exchanger of Cooler Vent System.
- 2011 **Texas Industries (TXI), Hunter, Texas, USA**
Design and Supply of Abrasion-Resistant (Stellar Ceramite) Tripper Scoop.
- 2011 **Cementos Yura S.A., Peru, South America**
Desk Study of Rotary Kiln Drive System (Second Opinion of Supply by OEM).
- 2011 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Annual Inspect/Repair Compax Cooler.
- 2011 **Lehigh Cement, Evansville, Pennsylvania, USA**
Design and Supply of Kiln Inlet Sectors for Kiln Inlet Feed Hood.
- 2011 **Continental Cement, Hannibal, Missouri, USA**
Kiln Burner Process Audit.
- 2011 **St. Marys, Detroit, Michigan, USA**
Field Service – Finish Mill Torque Tube Failure.
- 2011 **Lehigh Cement, Evansville, Pennsylvania, USA**
Second Opinion Structural Assessment of Spray Tower Expansion Joint.
- 2011 **Ciment Quebec, St. Basile, Quebec, Canada**
Supply of a new Fives Pillard NOVAFLAM® Kiln Burner.
- 2011 **St. Marys Cement, St. Marys, Ontario, Canada**
Supervise replacement of Broken Kiln Trunnion.
- 2011 **St. Marys Cement, St. Marys, Ontario, Canada**
Prepare Welding Procedure for Kiln Nose-Ring Repair.
- 2012 **Wahl Refractory, Freemont, Ohio, USA**
Product Development of a new design (Bottom-Up) Air Seal for Tertiary Air Duct Damper.



- 2012 **St. Marys Cement, St. Marys, Ontario, Canada**
Field Service – Expert Supervision of Finish Mill Gear Alignment.
- 2012 **Ciment Quebec, St. Basile de Portneuf, Quebec, Canada**
Design and Supply of five (5) Replacement Kiln Shell Segments.
- 2012 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Annual Inspection and Supervision of Repairs on the plant's existing Compax Coolers.
- 2012 **Buzzi Sweetwater, Texas, USA**
Field Service through Southern Welding – Expert Supervision of Kiln Shell Installation.
- 2012 **Lehigh Cement, Waco, Texas, USA**
Field Service through Southern Welding – Expert Supervision of Mill Gear Alignment.
- 2012 **Cemex, Balcones, Texas, USA**
Plant Design and Supply of Equipment Modifications to existing Cement Handling and Clinker Handling Systems through Southern Welding.
- 2012 **Continental Cement, Hannibal, Missouri, USA**
Raw Mill Process Audit.
- 2012 **Buzzi Hercules Cement, Stockertown, Pennsylvania, USA**
Design Engineering for a proposed Tertiary Air Duct Modification including firing hood.
- 2012 **Cemex, Balcones, Texas, USA**
Supervision of Loesche Vertical Cement Mill Rebuild through Southern Welding.
- 2012 **Vulcan Materials Company, Newberry, Florida, USA**
Engineering Feasibility Study for Environmental Emissions System Upgrades (necessary to meet NESHAP standards likely to be imposed at the existing cement plant) in Newberry, Florida. This study included developing sufficient preliminary engineering to generate cost estimates for three (3) emissions control system upgrade options to an accuracy of +/-15%.
- 2012 **Ciment Quebec, St. Basile, Quebec, Canada**
Supervise Kiln Shell Section Installation supplied from Bridge Gap (Canada) Limited.
- 2012 **Rio Tinto Alcan, Kitimat, British Columbia, Canada**
Equipment Inspection Services.
- 2012 **Tembec Skookumchuk, Skookumchuk, British Columbia, Canada**
Maintenance Shutdown Support.



2012 Lehigh Cement, Union Bridge, Maryland, USA

Supply of a new Fives Pillard NOVAFLAM® Kiln Burner, including new primary air fan and modifications to the coal and alternative fuel conveying systems.

2012 Undisclosed South American Customer

Analysis of kiln ring formation associated with numerous kiln stoppages. Provided recommendations based on chemistry analysis gathered from different portions of kiln ring.

2012 Delaware Municipal Electrical Corporation, Delaware, USA

Provided emissions analysis services to assist in optimization of pollution control equipment. Operated FTIR analyzer and assisted in ammonia usage optimization.

2012 Cement Jamaica Limited, Jamaica

Consulting services (both technical and commercial) for a new 5000 tpd cement plant.

- Prepare Design Criteria and Basic Design Data:
 - Plant Location
 - Meteorological Data
 - Electrical Standards
 - Mechanical Standards
 - Plant Utility Standards
 - Geotechnical Standards
 - Contract Documentation Standards
- Assist in the negotiations of the EPC Contract
- Perform design review and comments to the following documents and drawings:
 - Raw Mix Design
 - Environmental Emissions
 - Process Flow Diagrams
 - Specifications of main process equipment
 - Site layout and Plant Design
 - Alternative Fuels and Raw Materials (costs, benefits, and technical implications).
 - Development and Negotiation of Performance Guarantees.

2012 Lehigh Cement, Edmonton, Alberta, Canada

Supply of a new coal/gas-fired Fives Pillard NOVAFLAM® Kiln Burner.

2012 Continental Cement, Hannibal, Missouri, USA

Supply and Installation of a new coal/gas-fired Fives Pillard NOVAFLAM® Kiln Burner, including new primary air fan and modifications to the coal conveying system.

2012 Graymont, Joliette, Quebec, Canada

Supply of Super Bolt Nut Tensioner.



- 2012 **Lehigh, Union Bridge, Maryland, USA**
Design Engineering for new Primary Air Fan including ducting and fan foundation together with the design and supply of coal transport piping components.
- 2012 **ESSROC, Picton, Ontario, Canada**
Engineering Design of Raw Mill De-dusting Cyclones for fabrication by others.
- 2013 **Confidential Client, Confidential Location - USA**
Process Audit and Evaluation of existing clinker cooler dust collector for NESHAP Compliance.
- 2013 **Holcim, Three Forks, Montana, USA**
Mechanical Inspection and Troubleshooting of O-Sepa High Efficiency Separator.
- 2013 **Trademark Industrial for St. Marys Cement Company, St. Marys, Ontario - Canada**
Expert Supervision of Kiln Shell Replacement.
- 2013 **Confidential Client, Confidential Location - USA**
Engineering Design of SNCR System including process design, mechanical, civil/structural, and electrical engineering (operating instructions, functional specification, including stop/start interlock list). Programming by others. Included construction supervision and commissioning assistance to identify optimum injection points to minimize ammonia usage.
- 2013 **Confidential Client, Confidential Location - USA**
Feasibility Study of High Efficiency Separator Upgrades of existing ball mill circuits for CAPEX Development and Approval including vendor recommendation, cost estimate, constructability analysis, operating costs, and impacts to product quality, temperature, and capacity.
- 2013 **Metso Minerals - Russia**
Supply of a Heavy Fuel Oil (HFO) Air Heater for Metso Mineral's OLKON Project.
- 2013 **Buzzi Sweetwater, Texas, USA**
Engineering design and Professional Engineer's Stamp of Kiln Jack Stands.
- 2013 **Buzzi Sweetwater, Texas, USA**
Field Service through Southern Welding – Expert Supervision of Kiln Shell Installation.
- 2013 **Buzzi Sweetwater, Texas, USA**
Design and supply of a Burner Trolley for existing kiln burner on Kiln 1.



- 2013 **Confidential Client, Andhra Pradesh - India**
Plant Modernization including engineering design of top stage preheater cyclones.
- 2013 **Sappi Fine Paper NA, Cloquet, Minnesota, USA**
Annual Inspection and Supervision of Repairs on the plant's existing Compax Coolers.
- 2013 **Lehigh Cement, Delta, British Columbia, Canada**
Inspection of existing clinker cooler to determine the recent cause of T-bolt failures.
- 2013 **Confidential Client, Confidential Location - USA**
Preparation of a contractor bid package for High Efficiency Separator Upgrades of existing ball mill circuits.
- 2013 **Heidelberg Technology Center - Indonesia**
Feasibility Study of new vertical roller mill for slag grinding, including CAPEX Development, operating costs, equipment flow sheet, mass flow diagram, general arrangement drawings, and process flow diagram.
- 2013 **Argos, Confidential Location - USA**
Pre-Feasibility Study of a new hot gas generator for an existing vertical mill circuit.
- 2013 **Argos, Confidential Location - USA**
Pre-Feasibility Study for the addition of an external material circulation system to an existing vertical roller mill.
- 2013 **EPCM/Cobra Technology, Inc., Chile, South America**
Crusher and Conveyor System Audit.
- 2013 **Argos, Confidential Location - USA**
Energy Audit.
- 2013 **Confidential Client, Confidential Location - USA**
Supply and Installation of corrosion protective coating.
- 2013 **Confidential Client, Confidential Location - USA**
Clinker Cooler process audit and mechanical failure analysis.
- 2013 **Southern Welding, Odessa, Texas - USA**
Plant Engineering for Gypsum Handling System
- 2013 **Lehigh, Union Bridge, Maryland - USA**
Transport Piping and Trolley Engineering



- 2013 **St. Marys Cement, St. Marys, Ontario - Canada**
Nose Blocks for Kiln (Cerimite)
- 2013 **CEMEX, Louisville, Kentucky - USA**
Lamella Seal Plates
- 2013 **Sappi Fine Paper NA, Cloquet, Minnesota - USA**
Pre-Outage Meeting
- 2013 **Continental Cement, Hannibal, Missouri - USA**
Field Service Support for Outage / Burner Pipe and Raw Mill
- 2013 **Southern Welding, Maryneal, Texas - USA**
Kiln Shell Sections Replacement – Replaced 90ft of Kiln Shell
- 2013 **Buzzi, Maryneal, Texas - USA**
Kiln Adjustment Training
- 2013 **Tembec Skookumchuk, Skookumchuk, British Columbia - USA**
Kiln Maintenance Shutdown Support
- 2013 **Confidential Client, Confidential Location - USA**
Engineering Design of SNCR System including process design, mechanical, civil/structural, and electrical engineering (operating instructions, functional specification, including stop/start interlock list). Automation programming by others. Included construction supervision and commissioning assistance to identify optimum injection points to minimize ammonia usage.
- 2013 **Monarch Cement, Humboldt, Kansas - USA**
Plant Audit (Kiln Process Study)
- 2013 **Vulcan Materials Company, Newberry, Florida - USA**
Engineering and Supply of a new Mass Flow In-Feed for Apron Feeder
- 2013 **Confidential Client, Confidential Location - USA**
Provide an entire SNCR Pump Skid Design, including Electrical Design
- 2013 **Confidential Client, Confidential Location - USA**
Plant Upgrade Evaluation – process evaluation to increase capacity in clinker and cement production
- 2013 **Lehigh, Confidential Location - USA**
Cement Terminal CAPEX Development



- 2013 **HTC Lehigh, Allentown, Pennsylvania - USA**
Consulting Engineering Services for a NESHAP Project (addition of a new bag filter and stack)
- 2013 **Compania Guatemalteca de Niquel, Guatemala – South America**
Supervision of New Kiln Installation at Nickel Mine
- 2013 **Confidential Client, Confidential Location - USA**
Pozzolan Feasibility Study for a minerals processing system at a cement plant for the production of cement additives.
- 2013 **Confidential Client, Confidential Location - USA**
Consulting with an OEM of emissions control equipment to provide assistance in evaluating opportunities for technology applications.
- 2013 **Lehigh, Confidential Location - USA**
Preparation of Contractor RFP Package for a new cement terminal
- 2013 **Lehigh, York, Pennsylvania - USA**
Stack Testing - provided emissions testing service and equipment to review stack emissions for comparison with plant analyzers in preparation for annual RATA certification.
- 2013 **Confidential Client, Confidential Location - USA**
DDC Hoist Evaluation - provided structural engineering services to evaluate an existing calciner burner removal system for potential modifications to make the removal of the burner more trouble-free and safer than the existing arrangement.
- 2013 **Confidential Client, Confidential Location - USA**
Feasibility Study for Ship Loading of Slag Cement
- 2013 **St. Marys Cement, St. Marys, Ontario - Canada**
Rebuild of Gyratory Crusher
- 2013 **Confidential Client, Confidential Location - USA**
Kiln Inspection, Cooler Inspection, Atox Seals, and FRM Separator Louvres