A PUBLICATION OF THE ATLANTIC PROVINCES READY MIXED CONCRETE ASSOCIATION
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READY MIX NEWS

A SUPPLEMENT TO THE ATLANTIC CONSTRUCTION & TRANSPORTATION JOURNAL

AFT FIBERS GAINING ACCEPTANCE

By Dr. Dean Forgeron

The Atlantic Fiber Technologies' (AFT) Synthetic Structural Fiber, produced at the East Coast Rope facility in North Sydney, Nova Scotia, is making a big name for itself in the construction industry. Since development began more than 10 years ago, this unique fiber is being used throughout the world in a wide range of applications from slabs on grade to reinforcing tunnel linings in some of the deepest mines in the world.

The idea that led to this development began with a simple phone call from Jim Kehoe, part owner of East Coast Rope Ltd. in North Sydney, Nova Scotia, to Dr. Jean-Francois Trottier, P.Eng., a civil engineering professor at Dalhousie University.

Kehoe wanted to diversify the company's product line, to ensure its long-term viability. He wanted to know if the filaments produced at East Coast Rope to make their rope products could be modified and marketed as a concrete reinforcing additive.

After three years of research and many modifications to the original filament, Trottier and his research team began to see toughness performance that hadn't been seen before in commercially available synthetic and steel fibers.

The AFT Synthetic Structural Fiber is made up of a proprietary blend of resins, which are forced together during the extrusion process. It's this forcing together of two incompatible materials that produces a fiber that separates and frays (partially fibrillates) when mixed in concrete. In effect, the fibrillation process increases the fibers surface area and the bond between the fiber and the surrounding cement matrix. The result is a fiber reinforced concrete (FRC) mixture with increased toughness, impact and fatigue resistance and high resistance to plastic shrinkage cracking.

Independent testing has shown the AFT fiber outperforms other synthetic fibers, conventional reinforcement (such as welded wire fabric and rebars) and steel fibers in applications such as slabs on grade, precast concrete, marine concrete, Insulated Concrete Form homes and shotcrete applications.

Dalhousie University and its researchers now hold the patent for a monofilament strand that fibrillates during mixing. The patent is assigned to Atlantic Fiber Technologies (AFT), with East Coast Rope maintaining the exclusive manufacturing rights. The Euclid Chemical Company holds the North American distribution rights.

As the North American distributor of the AFT Fiber, the Euclid Chemical Company has successfully supplied it, branded TUF-STRAND SF, in many applications, such as: slabs on grade,

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LOOK UP, WAY UP

The extension to the Fredericton Airport, the first government/institutional tilt-up project in New Brusnwick, was completed last winter (design consultant: ADI Limited; general contractor: Rideau Construction Inc.). David Beattie, ADI Limited, says they found the method to be cost effective, resulting in a durable building that's easier to heat and maintain.

APRMCA Briefs

APRMCA's membership list remains steady at 48 producer member companies operating 124 certified ready mix plants in 99 different communities around Atlantic Canada.Lafarge Construction Materials erected andcertified their plant for a project in PointLepreau NB. Gerard Gaudet, P. Eng., APRMCA's Vice President, will oversea the management of the plant. Fundy Contractors Limited, St. George NB opened a new plant under the name Valley Concrete Inc. in Quispamsis NB. Congratulations to Joshua Young, M. Sc. Eng., a PhD candidate at UNB, a member of the APRMCA Board, Technical Committee & NBCSLC, who was recently appointed Plant Manager.

APRMCA's associate membership has changed slightly, although the total stands at 80, including a total of three new members to date in 2006. We welcome: Roy Nichols, head of business development for Commercial Safety College, Truro, NS; Peter Polley, President of Polycorp Properties Inc., Halifax NS; and Daniel Paulin, owner of Balances Péninsule Inc. / Peninsula Scales Inc., Bertrand NB.

Dates to Remember:

- *Concrete Delivery Professional (CDP) Training & CRMCA National Certification Program for Mixer Truck Drivers, Fredericton, NB-May 27-28. Contact APRMCA for registration details*

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CANADIAN CEMENT INDUSTRY RELEASES FIRST EVER SUSTAINABILITY REPORT

The Cement Association of Canada first Canadian Cement Industry Sustainability Report outlines the progress the industry has made towards implementing the priorities outlined in the World Business Council for Sustainable Development's Cement Sustainability Initiative (WBCSD-CSI).

"The release of this report demonstrates to Canadians the extent to which the cement industry has embraced the principles of sustainable development," says Alan Kreisberg, Chair of the CAC Board of Directors. "By measuring the performance of Canadian companies against the CSI commitments, we've shown our interest is not only in making pledges, but also in being held accountable for results."

The industry has a long-standing commitment to developing innovative technologies and processes to reduce the industry's environmental footprint. In the 1990s, in response to concerns about smog and acid rain, the cement industry installed new technologies such as low NOx burners and bag houses to reduce emissions of NOx and fine particulate.

Since 1990, Canada's cement industry has improved its kiln efficiency and reduced GHG emissions per tonne of cementitious product. At

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CONCRETE CHANGING RAPIDLY: GOOD FOR US

Connely's Dura-Notes

By John Connely
APRMCA Marketing Director

The world of concrete (and I don't mean that large commercial trade show held every January in Las Vegas) is changing rapidly, and for the better. Good for us!

Concrete products today are being changed to suit the needs of our markets, our economy and our society. The chemistry of cement and concrete has been well understood for eons. However, the numbers of people who do understand this chemistry are a select few, relative to the large number of people who use concrete products in today's expanding built environment. New products come to market each year, capitalizing on refinements of this technology of concrete manufacturing. New admixtures, new blends of cement, other value added products, and new ways of combining these components are introduced regularly, whenever someone thinks they have developed a new mouse trap, or a better version of the old mouse trap.

Underlying much of today's ingenuity is the drive towards "sustainability". You have heard the term, I dare say frequently, over the past few years. Sustainability is one of those terms that raises many questions because people don't always get it, and therefore ignore it; or they do know about it, and have all kinds of questions. Mainly, what does sustainability mean? How does it affect me?

Sustainability is usually considered to be synonymous with "green". There are folks who don't like the "green" handle. For me, sustainability is a complex combination of the solutions to the rapidly escalating environmental concerns … pollution, the reduction of green house gases (GHG's), and humankind's methods for putting right what they have spent hundreds of years doing wrong to our world.

Sustainability, or sustainable development, has many meanings, partly depending on whom you are and where you are. Somehow there must be consensus to accept a general definition. One of the most common references is from former Norwegian Prime Minister Gro Harlem Bruntland who described sustainable development at the 1987 UN World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Industry has evolved this description for their sustainable decision-making by considering the triple-bottom-line. That is, "what is the social, economic and environmental impact of the decision?" Success in defining the goals and meeting the targets for each aspect of the triple-bottom-line allow virtually any company to claim its place in making a sustainable world.

Sure, that sounds pretty grandiose? But sustainability can only really be achieved by people, and by that I mean a critical mass of folks must do their part to achieve sustainability. This will happen when people and corporations and governments take actions in their own way, at all levels, from home to work, throughout our country and across the world.

What does "green" or "green building" really mean? I think the answer is obvious. The reference to "green" is a matter of degree, and it is valid whenever the environment is taken into consideration. The impact relates directly to that level of consideration. By extension, "green buildings" can be defined as those that are built or renovated to reduce the environmental footprint, the use of energy, the emission of GHG's, and the incorporation of environmentally friendly products in their construction. Taking this concept a step further, a sustainable community "… is continually adjusting to meet the social and economic needs of its residents while preserving the environments ability to support it. (Ref. Bridger and Luloff, 2001)

Sustainability is moving forward as a commonsense, recognizable concept for many reasons. Everyone wants to improve their quality of life. We want healthy places to live and work, and in general, people are now more aware of their natural and built environments. The advantages of living and building "green" are evident in greater financial values for sustainable buildings than for conventional, lower maintenance and operation costs, longer building life and increased worker productivity. A building's ecological footprint can be positively affected through better energy efficiency leading to lower requirements for heating and cooling, better handling of storm and waste water, and improved air quality and interior environments.

Consumers are wising up! They are inundated with news of environmental disasters, sick buildings, and the need to "reduce-reuse-recycle", all pushing towards increasing the degrees of sustainability. Global warming and environmental issues such as major cleanup projects (Sydney Tarponds & SYSCO sites, Sydney, N.S.; harbour cleanups in Halifax, N.S. and Saint John, N.B.) contribute to the strong public sentiments that there is much work to be done, that everybody needs to be involved, and we need to start now!

You may now ask what this has to do with cement and concrete, and how will these products affect sustainability? Remember, action is required at the personal, local, national, and global levels. Industry has a large part to play. The influences of the global economy

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SELF-COMPACTING CONCRETE MEETS SPECIFIC NEEDS

By Andy Walker

Self-compacting concrete (SCC) can be used very effectively to meet specific project design criteria and construction limitations.

For Ocean Contractors Limited of Dartmouth NS, the challenge in building an extension to the IWK Hospital for Sick Children in Halifax was to keep construction noise to a minimum.

"Obviously, being in a hospital setting, they wanted as little inconvenience to the patients as possible," says Ocean's Scott Flemming.

The other challenge, of course, is that a hospital is operational 24-hours-a-day. All these considerations made SCC the perfect choice. SCC's fluid nature means it can be molded into a smart finish and it is self-leveling.

"We have used it (SCC) on some projects in the past, but this was the largest application we have used it on," Flemming says. "There were four pours of between 600 to 1,000 cubic yards."

He adds, "It certainly isn't for every job, but in special circumstances like the ones we faced at the hospital, it really did the job quite nicely."

The addition to the IWK included two new floors, as well as some laboratory space, and is part of a multi-million expansion at the region's major childcare hospital. Ocean Contractors had previously built a public park at the main entrance to the hospital, so Flemming says they were well aware of the challenges of construction in a hospital zone.

For Fundy Contractors Limited of St. George NB, the bridge connecting New Brunswick communities of Moncton and Riverview was their first use of SCC. Fundy's Joshua Young says the aim was to give this main artery between the two municipalities a more architecturally pleasing finish. Young explains SCC was only used on the bridge mounts on either side of the structure.

As well as the form-molded designs on some of the walls of the structure, the contractor also used colour pigments to give the project what Young calls a different 'feel.'

"They wanted the bridge to stand out as a structure that people crossing would remember. It was certainly a learning curve from our perspective, but I would definitely use it (SCC) again," Young says. "Obviously, it's something that isn't going to be part of every construction project we do. I would suspect it would have limited uses."

Quality Concrete-Moncton supplied the concrete for the project. The new 425-metre-long, four-lane bridge includes a four metre wide sidewalk named 'Veterans' Walk' and two observation decks. It opened in November of 2005.

HOT WEATHER CONCRETING A GROWING PRACTICE

By Andy Walker

The challenge of placing concrete in hot weather is something technology is now working fast to overcome.

The hot summer sun means concrete stiffens faster, making it harder to place. It also dries out much faster and to compensate for that many contractors add water, which in turn decreases its strength.

Mark Munro of Pinnacle Agencies says the Departments of Transportation in the four Atlantic Provinces have sent a collective message to the contracting industry by adding temperature specifications to ensure strength isn't compromised.

"It isn't as much of an issue in Newfoundland because the weather isn't as warm, but the departments have essentially left it to contractors to choose their own technique," says Munro, whose company is a manufacturer's representative for several products designed especially for assisting concrete placement in hot weather.

Munro says there are a number of methods used to help keep the concrete cool. Some people prefer to mix in ice, while others run a cooling pipe under the concrete. He says that the frequent changes in summer weather in the Maritimes can pose challenges of their own.

"Quite often it could be cloudy in the morning and you don't need to think about hot weather concreting techniques, but by the afternoon it could be an issue," he says. "Certainly the spring and fall are the ideal times to pour concrete, but the cold weather comes with some issues of its own too."

Munro says virtually every contractor who bids on provincial construction jobs has to be concerned about mitigating the negative impacts of hot weather concreting.

"It's something everybody in the industry will be dealing with for the foreseeable future," he says.

Joshua Young of Fundy Contractors agrees the temperature specifications now being imposed by the Departments of Transportation do present some challenges. Often he says it requires close co-operation between the contractor and the concrete supplier.

"If the forecast calls for some hot days, maybe you can pour in the evening or earlier in the morning when it is a little cooler," he said.

Another method he says his company has used is to spray a water fog directly above the concrete slab, similar to the water misting systems often seen in the vegetable coolers at the supermarket.

"When the weather is really hot, you obviously get rapid evaporation of moisture," he points out.

While he's aware of the technique of using cooling pipes for very large concrete pours, he said his company has never used that technique.

Young agrees with Munro that contractors must come up with strategies for dealing with the issues of placing concrete in both hot and cold weather. It's just a necessary function of building in the maritime climate.

LETTER FROM ACI ATLANTIC CHAPTER PRESIDENT

I would like to thank everyone who attended our Annual General Meeting in Halifax, N.S. on February 2 and 3, 2006. The event was well attended and well organized with quality speakers and great social events.

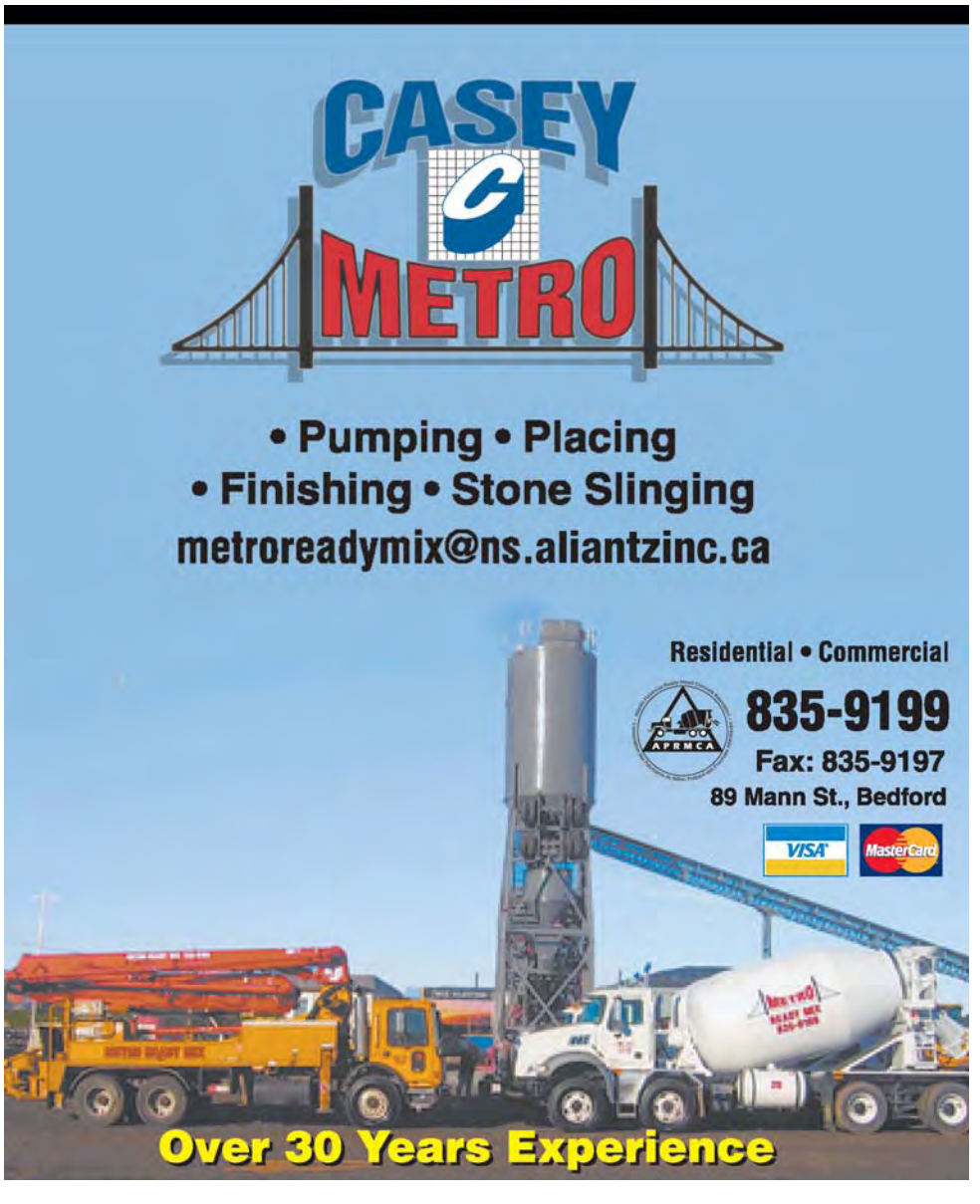
In 2007 we are going to strive to have our AGM coincide with the APRMCA AGM to allow those members who belong to these organizations to attend both events while taking as little time as possible out of their busy schedules. View the ACI Atlantic Web site to obtain more details as this event evolves.

ACI Atlantic Chapter would like to remind people that again this year we are going to have three dinner presentations with topics relative to the concrete industry. These dinner meetings are excellent opportunities to learn more about new technology in the concrete industry.

Our first Members Education Award is fast approaching with all submissions having to be submitted by May 19/06.

The Atlantic Chapter continues to promote the use of concrete in all types of construction through seminars, dinner meetings and our AGM. If you have any questions about our organization please contact any member of the board of directors or myself.

Sincerely,
Trevor Tomilson
President, ACI Atlantic



Connely's Dura-Notes

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are far reaching. Industry must react to the demands of its customers for greater environmental responsibility, limit their environmental impact in the course of manufacturing and operation, all while generating a profit. Responsible corporations see these as mutually beneficial concepts, and work hard to find ways to satisfy these demands.

The concrete and cement industry in Canada is significant in size, though not so big compared to the US and other major economic powers in the world. There are 16 plants owned by 7 companies, operating in 5 provinces producing Portland cement. In 2004 they shipped 14.88 metric tonnes of Portland cement valued at $1.62 billion dollars. This represents less than 1 % (0.75%) of world production. Canada has about 600 ready mixed concrete companies operating nearly 1,500 plants, with 8,000-9,000 mixer trucks and 13,000 employees. They produce 30-40 million cubic metres of concrete representing over $4 billion dollars in annual sales.

This story is an important one to tell. The industry is a widely disbursed source of economic activity, located in communities scattered across the country. Concrete is the most commonly used and most versatile building material in the world, with a history of use and a record of durability lasting several millennia (e.g. The Parthenon, Athens, built 447 BC; Roman Colosseum, Rome, built 80 AD).

The concrete and cement industry has a solid "green" story to tell, and to be proud of, as well. Sustainability is at the forefront on business plans and marketing plans for both the Portland cement and ready mixed concrete sectors. Their guiding principle is that triple-bottom-line, the social, economic, and environmental impacts of their decisions. Cement companies are pursuing six common priorities for sustainable development. They include employee health and safety, climate protection and C02 management, responsible use of fuels and materials, emissions monitoring and reporting, local impacts on land and communities, and innovative and sustainable solutions.

The general public, on balance, are not so aware of the many attributes of concrete, and their knowledge is fraught with misconceptions about concrete products. Design consultants, on the other hand are more accepting of concrete advantages and concrete solutions, but there still is much work to be done. Furthermore, society seems to be turning to designers, architects in particular,

Concrete is a sustainable building material in many important ways. It is durable. It does not rust, rot or burn, and its long term environmental benefits greatly out weigh the environmental cost to manufacture it. Concrete is energy efficient, its mass serving as a heat sink and therefore not subject to temperature swings and air leakage, thus reducing heating cooling costs. Concrete can contain recycled materials, reducing industrial bi-products. Concrete can be formed into any shape or size imaginable, colour or stain or pattern to simultaneously aesthetic and high performance and uses. Projects range from small residential (driveways and foundations) to infrastructure mega projects (bridges, dams and office towers) there are a multitude of variations on this simple product, making it well suited to numerous construction techniques and demanding end uses. It is the lack of understanding limits the use of concrete products. However new applications, technologies and construction techniques offer exciting opportunities for concrete in today's environmentally conscious?? market. Concrete is a highly engineered product, produced under strict specifications. It's manufactured and delivery is highly specialized. Concrete producers are experts in what they do and offer a valuable resource to owners, designers, and the public.

Concrete is not a commodity. It is our job to make more people realize its advantages. Those advantages include concrete solutions for sustainable development, by offering construction alternatives, and means to measure the value, such as in point rating systems for environmental performance as LEED (Leadership in Energy and Environmental Design), for which concrete offers a potential to achieve 23 points under the LEED green building certification criteria.

It is the absolute mandate of the cement and concrete industry to bring the full potential of our products to the attention of the world, especially in the context of sustainable development. The resulting effects to develop resources to help with this understanding, is well underway. Allow me to close by tooting the horn with a list of web sites you may be interested in visiting.

For more information about cement and concrete products their manufacture, applications, standards, and technology, please visit some of the following Web sites or contact the industry organizations directly.

Atlantic Provinces Ready Mixed Concrete Association	www.aprmca.com
Cement Association of Canada	www.cement.ca
Canadian Ready Mixed Concrete Association	www.crmca.ca
National Ready Mixed Concrete Association	www.nrmca.org
	www.concreteparking.org
	www.flowablefill.org
	www.greenrooftops.org
Portland Cement Association	www.cement.org
	www.concretethinker.com
	www.sustainableconstruction.org
Environmental Council of Concrete Organizations (ECCO)	www.ecco.org
Athena Sustainable Materials Institute	www.athenasmi.ca
British Columbia Buildings Corporation	www.greenbuildingsbc.com
Environmental Building News	www.BuildingGreen.com
Tilt-Up Association	www.tilt-up.org
Canada Green Building Council	www.cagbc.org
United States Green Building Council	www.usgbc.org
Insulating Concrete Form Association	www.forms.org

APRMCA offered the Concrete Delivery Professional (CDP) training seminar and CRMCA national certification in four locations since November 2005. Nearly 30 percent of the mixer truck drivers in Atlantic Canada (221) have successfully completed the 2-day course. Show above is the class from Cornerbrook, NFLD.

SAVING A LIFE AS SIMPLE AS SPEAKING UP

By Gerard Gaudet

The following poem was written by Don Merrell of J.R. Simplot Co. and is used with his kind permission. It addresses the safety decisions we make on a daily basis that can affect the lives of ourselves and our colleagues forever.

I Chose To Look The Other Way
I could have saved a life today, but I chose to look the other way
It wasn't that I didn't care, I had the time, and I was there
But I didn't want to seem a fool, or argue over some safety rule.
I knew he done the job before.
If I called it wrong, he might be sore.
The chance didn't seem that bad, I've done the same, he knew I had.
So I shook my head and walked on by, he knew the risks as well as I.
He took the chance, I closed my eyes, and with that act, I let him die.
I could have saved a life that day, but I chose to look the other way.
Now every time I see his wife, I'll know I should have saved his life.
That guilt is something I must bear, but it isn't something you need to share.
If you see a risk that others take, that puts their health or life at stake.
The question asked, or thing to say, could help them live another day.
If you see a risk and walk away, then I hope you never have to say,
I could have saved a life today, but chose to look the other way.

By Don Merrel

ATLANTIC FIBER TECHNOLOGIES' SYNTHETIC STRUCTURAL FIBERS

Continued from page 1

elevated pan deck slabs, elevated bridge overlays, whitetoppings, pipes, vaults, septic tanks, tunnel supports, mines, slope stabilization projects, channel linings and swimming pools, just to name a few.

In slab on grade applications, the addition of fiber reinforcement eliminates the need to purchase, transport, handle, support and cast around conventional concrete reinforcement. In addition, the lack of reinforcement in the slab allows the unobstructed placement of concrete and in many cases eliminates the need for costly concrete pumping. This new fiber technology also solves the other problem that has restricted the use of fibers in slabs, fibers on the surface (hairy slabs). The successful completion of many local slab on grade projects and many more throughout North America and the world, confirms the ease of placement and cost effectiveness of using the AFT Synthetic Structural Fiber in slab on grade applications.

The AFT Synthetic Structural Fiber is particularly well suited for precast concrete applications. For many precast products, having the fiber reinforcement within the concrete eliminated the need for costly conventional reinforcement and reinforcement placement. In addition, the lack of reinforcement within the mould improves consolidation and the final appearance of precast products. For this reason, most of the precasters in Atlantic Canada and many more throughout North America and the world have made the AFT Fiber or TUF-STRAND SF an integral part of their precast operations.

The largest user of fiber reinforcement throughout the world is the shotcrete industry. For many years designers of mines, tunnels and slope stabilization projects have recognized the benefits of fiber reinforcement in shotcrete. In the past, primarily steel fibers have been used in this application. However, the introduction of the AFT Synthetic Structural Fiber changed everything. The superior performance of the fiber in shotcrete application has meant many mines have switched from using conventional welded wire mesh or steel fibers to the AFT Synthetic Structural Fiber.

The most recent application of TUF-STRAND SF Fiber has been to replace selected conventional steel reinforcement in the construction of Insulated Concrete Form (ICF) houses.

Despite the widespread use of these locally produced fibers throughout the world, only local precasters have embraced the technology and are using it to increase production, reduce cost and improve the quality of their products. Locally, the use of fibers in slab on grade applications has increased slowly during the past few years, despite a drastic increase in fiber reinforced slabs on grade throughout the world.

For more information on the AFT Synthetic Structural Fiber, TUF-STRAND SF, or any of the topics covered in this article, contact Dr. Dean Forgeron by email at Forgeron@dal.ca or by phone at (902) 494-2847. Dr. Dean Forgeron, P.Eng. is currently the Assistant Director of the Nova Scotia CAD/CAM Center and an Adjunct Assistant Professor in the Civil and Resource Engineering Department at Dalhousie University.

SUSTAINABLITY REPORT

Continued from page 1

the same time, the percentage of total fuel derived from alternative sources reached eight per cent in 2002. The industry is also actively working with the Government of Canada to establish CO2 reduction targets.

The Canadian Cement Industry Sustainability Report establishes that the cement industry has taken their commitment to sustainability to a new level of transparency and accountability.

"The report lays out areas where we've made progress – and the progress is significant – but also where we have more work to do, as an industry and a country," Kreisberg says. "This openness and transparency, this accountability, is in my judgement the very essence of good corporate citizenship."

Canadian cement companies have agreed to take specific actions in six areas identified by the CSI: climate protection and CO2 management; responsible use of fuels and materials; employee health and safety; emissions monitoring; reporting; local impacts on land and communities; and reporting and communications.

Highlights of the report include:

- All 15 cement plants have emissions monitoring systems in place and make their emissions data available to the public.
- All plants have a statement of business ethics in place.
- All plants have a documented health and safety management system in place.
- 13 plants are using alternative raw materials.
- 13 plants have established a systematic dialogue with stakeholders.
- 12 plants have established a formal Environmental Management System.
- 11 plants have rehabilitation plans in place for quarries.

For more information on the complete 2006 Sustainability Report, it can be viewed on the Cement Association of Canada Web site at: http://report.cement.ca.

APRMCA'S PRODUCER MEMBERS & PLANT LOCATIONS

NOVA SCOTIA		COMPANY
Aberdeen		Quality Concrete Aberdeen
Amherst		Casey Concrete Limited
Antigonish		Casey Concrete Limited
Antigonish		Quality Concrete Antigonish
Auld's Cove		Quality Concrete Auld's Cove
Bridgetown		V.J. Rice Concrete Limited
Bridgewater	97	Bridgewater Ready Mix (1966)
Bridgewater		South Shore Ready Mix Ltd.
Chester		South Shore Ready Mix Ltd.
Church Point/Concession	93	Spectacle Lake Conc. & Excav. Ltd.
Elmsdale		Mobile Ready Mix Ltd.
Glenholme	93	Glenholme Ready Mix
Goldboro	**	Ideal Concrete Ltd.
Halifax Regional Municipality		Bedford Ready Mix Limited
Halifax Regional Municipality		Casey Metro Ltd
Halifax Regional Municipality		Quality Concrete Dartmouth
Halifax Regional Municipality		Mobile Ready Mix Ltd.
Halifax Regional Municipality		Ocean Contractors Limited
Halifax Regional Municipality		Sackville Concrete Ltd.
Kentville/New Minas		Quality Concrete Kentville
Kentville/New Minas		Quality Concrete New Minas
Kentville/New Minas		V.J. Rice Concrete Limited
Liverpool		South Shore Ready Mix Ltd.
Milford		Casey Concrete Limited
New Glasgow/Trenton		Casey Concrete Limited
New Glasgow/Trenton	94	Keltic Concrete Ltd.
Port Hawkesbury		Ideal Concrete Ltd.
Sheet Harbour/Watts Section		Tri-Star Concrete Services Limited
Shelburne		Harlow Construction Ltd.
Springhill		Lafarge Construction Materials
Sydney		Municipal Ready Mix Limited
Sydney		Quality Concrete Sydney
Truro		Casey Concrete Limited
Truro		Lafarge Construction Materials
Wallace	99	Rte. 6 Ready Mix Ltd.
Whycocomagh		Ideal Concrete Ltd.
Windsor		Annapolis Valley Ready Mix Ltd.
Yarmouth		Lafarge Construction Materials

PRINCE EDWARD ISLAND		COMPANY
Charlottetown/Bubbury		C.R.M. Ready Mix Limited
Charlottetown	94	Schurman Concrete Limited
Montague/Victoria Cross		MacLean's Ready Mix Concrete
Souris		MacLean's Ready Mix Concrete
Summerside		C.R.M. Summerside
Summerside		Schurman Concrete Limited

Listing Index

92 - indicates new members in 1992 = 5
93 - indicates new members in 1993 = 7
94 - indicates new members in 1994 = 4
95 - indicates new members in 1995 = 3
96 - indicates new members in 1996 = 4
97 - indicates new members in 1997 = 5
98 - indicates new members in 1998 = 2
99 - indicates new members in 1999 = 1
00 - indicates new members in 2000 = 5
01 - indicates new members in 2001 = 2
02 - indicates new members in 2002 = 3
03 - indicates new members in 2003 = 2
04 - indicates new members in 2004 = 1
05 - indicates new members in 2005 = 4
B - indicates full or partial balance owing
**- plants noted with a double asterisk are owned by members but are not currently certified.

NEW BRUNSWICK		COMPANY
Belledune		Blanchard Ready Mix Limited
Bloomfield	05	Midway Concrete Ltd.
Campbellton/Tidehead		Béton Brunswick Ltée.
Cap Pelé		Casey Concrete Limited
Darlington		Béton Brunswick Ltée.
Dunlop/Bathurst	92	Blanchard Ready Mix Limited
Edmundston/St. Jacques		Béton Brunswick Ltée.
Florenceville		New Concreete Limited
Fredericton		Econocrete Ready Mix Ltd.
Fredericton		Lafarge Construction Materials
Fredericton	02	Mira Construction Ltd.
Fredericton	94	Northside Ready Mix Ltd.
Grand-Anse	02	Chaleur Ready-Mix Ltée.
Grand Falls		Béton Brunswick Ltée.
Grand Falls		Lafarge Construction Materials
Hampton		Lafarge Construction Materials
Lamèque	92	Lamèque Ready Mix Ltée.
Lepreau		Lafarge Construction Materials
Minto		Lafarge Construction Materials
Miramichi		Lafarge Construction Materials
Miramichi		Newcastle Ready Mix Limited
Moncton		Casey Concrete Limited
Moncton		Lafarge Construction Materials
Moncton		Quality Concrete Moncton
Nackawic/Pokiok		Lafarge Construction Materials
Oromocto		Lafarge Construction Materials
Perth-Andover		New Concrete Limited
Prince William		New Concrete Limited
Quispamsis		Valley Concrete Ltd.
Rexton		Warren Ready Mix Limited
Rivière Verte	05	James Concrete Ltd.
Saint John		Lafarge Construction Materials
St. François		Béton Nouveau Ltée.
St. George/Leonardville	96	Fundy Contractors Ltd.
St. Isidore		St. Isidore Ready Mix Limited
St. Quentin		Béton Nouveau Ltée.
St. Stephen	96	Southwest Concrete & Construction
Ste.-Marie-de-Kent	05	A & P Concrete Products Ltd.
Sussex		Lafarge Construction Materials
Woodstock	97	Leonard H. Cook's Construction Ltd.
Woodstock		New Concrete Limited

NEWFOUNDLAND		COMPANY
Bay Roberts		Dawe's Concrete Products Ltd.
Corner Brook		Atlantic Ready Mix Limited
Deer Lake		Atlantic Ready Mix Limited
Deer Lake	95	Island Aggregates & Ready Mix
Dunville, P. Bay/Argentia	97	Argentia Ready Mix Limited
Forteau	97	C & T Enterprises Ltd.
Foxtrap, Conception Bay South		Mac-Mix Concrete Ltd.
Gander		Fortis Concrete Inc.
Goose Bay		Labrador Construction Ltd.
Goose Bay	05	RSM Municipal Inc.
Grand Falls/Windsor	92	Hunt's Concrete Supplies Ltd.
Grand Falls/Windsor		Penney Ready Mix
Lewisporte	01	Central Ready Mix Limited
Mary's Harbour		C&T Enterprises Ltd.
Marystown	97	Peninsula Ready Mix
Marystown	98	Cluett's Constr. & Ready Mix Ltd.
Northwest Brook/Clarenville	93	Fortis Concrete Inc.
Rocky Harbour	93	Bugden Holdings Ltd.
Roddickton		Bugden Holdings Ltd.
Spaniard's Bay	94	Murrinco Ready Mix
Stephenville	92	Bay St. George Ready Mix
St. Anthony		Budgen Holdings Ltd.
St. Barbe		Bugden Holdings Ltd.
St. John's	03	Cabot Ready Mix Limited
St. John's		Capital Ready Mix Limited
St. John's		Concrete Products 2001 Limited

APRMCA'S ASSOCIATE MEMBER LISTING

NOVA SCOTIA (43)

Aberdeen Paving Limited	03
ADI Limited	
AMEC Earth & Environmental Ltd.	
Albany Cartage Co. Ltd.	
All Weigh Systems Inc.	
Arrow Construction Products	
Atlantic Tractors & Equipment Ltd.	
Bird-Stairs Ltd.	
Cement Association of Canada	
Coastal Bulk Transport Ltd	
Commercial Safety College	
Concrete For Homes	01
Construction Association of Nova Scotia	*
Credifax Atlantic Limited	*99
Dora Construction Limited	04
GCR Tire Services	
Gallant Aggregates Ltd.	
Grace Canada Inc.	
Imperial Oil	00
J. W. Lindsay Enterprises Limited	02
Jacques Whitford Limited	
K&D Pratt Group Inc.	05
Landscape NS Horticultural Trades Association	*03
Lafarge Canada Inc.	
Langley Concrete & Materials Technology Inc. H	01
Lockhart Truck Center	04
Maritime Testing (1985) Limited	03
Martin-Marietta Materials Inc.	
Norman F. MacLeod, P. Eng. H	03
MacKay's (Volvo) Truck & Trailer Center Limited	00
Merit Contractors Association of Nova Scotia	02
NS Power Inc.	
Nova Scotia Home Builders' Assoc.	*
Parts for Trucks Inc.	
PERMACRETE Restoration Services Limited	04
Pinnacle Agencies/Degussa/Master Builders	
Polycorp Properties Inc.	
Precision Concrete Services Ltd.	
Rideau Construction Inc.	05
S.W. Weeks Construction Ltd.	
Scotia Mack, Division of TG Industries Limited	03
Shaw Resources	
Sika Canada Inc.	
St. Lawrence Cement Inc.	
Stanhope Simpson Insurance Ltd.	
Top Construction Limited	01
Truckers Association of Nova Scotia	*
TrueFoam Limited	
Urquhart-MacDonald & Associates	
Wallace Equipment Ltd.	
Weigh-Tronix Canada ULC	
Wilcraft Concrete Services Ltd.	
Wilson Equipment Limited	01
Zep Manufacturing Company of Canada	99

NEW BRUNSWICK (20)

ADI Limited	03
All Weigh Systems Inc.	
Arrow Construction Products	
Atlantic Underground Services	
Balances Péninsule Inc./Peninsula Scales Inc.	
Bird-Stairs Ltd.	
Cement Cartage Co. Ltd.	
Conquest Engineering Ltd.	03
Cement & Concrete Studies Ltd.	03
Construction Association of New Brunswick	*
Dominion Ash CCP Ltd.	02
Gemtec Ltd.	
Infrastructure Management & Associates	04
Jacques Whitford Limited	
Lafarge Canada Inc.	
MacLeod General Construction Ltd.	02
Modern Enterprises Ltd.	
New Brunswick Home Builders Association	04
New Brunswick Merit Contractors Association Inc.	02
New Brunswick Power	04
Ormac Industrial Supply Inc.	04
Parts for Trucks	
Pinnacle Agencies/Degussa/Master Builders	
R.E. & J.E. Friars Ltd., a Division of RST Industries	
Rideau Construction Inc.	
Scales & Food Equipment (Balance Équipment Culinaire)	01
St. Lawrence Cement Inc.	
Stanhope Simpson Insurance Ltd.	
TrueFoam Limited	
Ultramar Ltd.	
Wallace Equipment Ltd.	

NEWFOUNDLAND & LABRADOR (3)

A-1 Concrete Foundations 1991 Ltd.	05
Arrow Construction Products	
Bird-Stairs Ltd.	
Jacques Whitford Limited	
Lafarge Canada Inc.	
Hi-Tech Scales Ltd.	99
Merit Contractors Assn. of Nfld. & Labrador Inc.	02
Newfoundland Styro Inc.	01
Parts For Trucks	
St. Lawrence Cement Inc.	

QUEBEC (9)

Action Machineries Inc. (Div. London Machinery Inc.)	
Assn of Canadian Industries Recycling Coal Ash	*03
BMH Systems Ltd.	
Degussa / Master Builders Technologies Ltd.	
Euclid Admixtures Canada Inc.	
Geroquip Inc.	04
Grace Canada Inc.	
Lafarge Canada Inc.	
Sika Canada Inc.	03
St. Lawrence Cement Inc.	

ONTARIO (3)

Cement Association of Canada	
London Machinery Ltd.	
MPAQ Automation Inc.	02

PRINCE EDWARD ISLAND (1)

Construction Association of Prince Edward Island	*
Jacques Whitford Limited	
Parts For Trucks	

USA (1)

Separation Technologies Inc., LLC / ProAsh®	04

Listing Index

Location	# Associates
NS	43
NB	20
NL	3
PE	1
QC	9
ON	3
USA	1
Total	80

Total of 80 Associates with over 100 locations in Atlantic Canada
H indicates Honourary Life Membership with APRMCA
* indicates Reciprocal Membership with APRMCA
00 indicates new members in 2000
01 indicates new members in 2001
02 indicates new members in 2002
03 indicates new members in 2003
04 indicates new members in 2004
05 indicates new members in 2005

APRMCA PROVINCIAL BREAKDOWN

Location	Members	Plants	Non-Members	Plants	Associates	Communities with Members	Producers as Members (%)	Plants as Members (%)
NS	13	40	4	4	43	32	76.5	90.9
NB	17	43	5	6	20	37	77.3	87.8
PE	1	6	3	4	1	6	25.0	60.0
NL	17	33	7	7	3	24	70.8	82.5
ON					3			
QC					9			
USA					1			
TOTAL	**48**	**122**	**19**	**21**	**80**	**99**	**71.6**	**85.3**

BUILDERS FINDING NEW WAYS TO UTILIZE ICFS

By Andy Walker

Insulating concrete forms (ICFs) are becoming more and more commonplace in large-scale residential projects.

Polycorp Properties used an ICF system for their first project in the Residences at Mont Blanc, a multi-unit residential complex that opened recently with a picturesque view of Halifax Harbour and Bedford Basin.

Company spokesperson Peter Polley says the ICF products worked so well, they're using them in two other multi-year construction projects now under way: Ravenscraig in Flemming Park, a residential development of 77 full-height ICF single family homes, and their 85 unit SPICE condominium project in downtown Halifax.

ICFs can virtually eliminate the 'cold spots' that occur in conventional frame walls, because the structural concrete component of the walls is contained within two continuous layers of foam insulation. In an era of rising fuel costs, the resulting energy savings can be a significant plus. Polley explains the forms also offer a sound transmission classification of up to 50 on both sides of a common wall.

However, he says the first time using a new technique can present some challenges. Dave Marcattilli, manager of Sackville Concrete and Annapolis Valley Ready Mix agrees. His firm supplied the concrete for a six-storey condo in Clayton Park, near the Bicentennial Highway, for property developers Steve and Peter Gianoulis.

"We were a little worried using it (the IntegraSpec® ICF system) for a building that size," Marcattilli admits. "However, it worked out really well and the developers were extremely pleased."

He says the developers did tell him there was an adjustment period at first for the crews working with the forms. However, he adds, "Even during the project they were able to speed up the speed of construction as they became more familiar with the ICF installation techniques."

Marcattilli says there's no question using forms does add some time to building the walls of the structure. However, he emphasized that any delay can be offset because the finish work can be scheduled sooner.

"Overall there probably isn't any time lost in the schedule because of the use of the ICF system," Marcattilli says.

He adds that the primary reason for using the ICFs in the Clayton Park project was to achieve greater heating efficiency. Some sources have placed the heat savings in the range of 40 per cent. The project was built through the winter months. Once the walls were up and the roof was on, winter heat for the construction activity was at a minimum. Another important factor in favour of using ICFs for this project was to limit the annoyance of traffic noise from the busy four-lane highway just a few metres away.

Marcattilli says using the insulated forms doesn't present any great problems for the concrete supplier. He estimates the volume of concrete used in the Clayton Park project to be 7,500 cubic yards. ICFs allowed the concrete to stay warm, set up at a good steady rate and their was no worry about it freezing in sub-zero temperatures.

Sackville Concrete supplied the concrete for a six-storey ICF condo in Clayton Park, near the Bicentennial Highway, for property developers Steve and Peter Gianoulis. The project was built through the winter months. Factors for using concrete: greater heating efficiency with heat savings up to 40 percent; elimination of highway traffic noise; concrete stays warm during steady set in freezing temperatures; winter heat during construction was minimized.

TILT-UP POPULARITY CONTINUES TO GROW

By Andy Walker

The tilt-up building method has enjoyed regional success for many years, but the president of the Tilt-Up Concrete Association is convinced that the market will soon expand.

"The tilt-up method has been used in Nova Scotia and British Columbia for more than 30 years and our association is 20 years old," says Laurence Smith of J.W. Lindsay Enterprises Limited, Dartmouth NS. "There are probably two contractors in Ontario that use it, a couple in New Brunswick."

Smith says there are no tilt contractors in P.E.I. but three companies in Newfoundland have tried tilt-up construction. South of the border, he says the building technique is used in Florida and California extensively, but is rare in New England.

Basically, the tilt-up method of construction is the casting on site of large concrete walls, eliminating some of the transportation issues that are traditionally associated with the pre-cast method. For example, the front of the new Leon's Furniture location in Truro NS, built by Lindsay's, consists of five panels 25 feet tall and 40 feet wide, each weighing in excess of 18,000 pounds.

He says, "It would be impossible to ship something that size."

Smith says one of the main advantages of the tilt-up method is a short construction phase. Since it normally takes about six weeks for the structural steel to arrive for a project, that time can be used to cast the concrete. Once cast, he says walls for an entire building can usually be erected in a few days.

He adds that one of the main challenges facing the tilt-up industry is the lack of available cranes. Structural steel usually requires a 30 tonne crane; by contrast, moving tilt-up concrete wall panel requires a machine in the range of 110 to 200 tonnes. While it costs more to rent and to move a crane to a site, it's needed for less time, so this construction method usually results in cost savings.

Smith says there's a misconception the tilt-up method can only be used to construct warehouses. However, he points out Lindsay's has used it to construct everything from car dealerships and schools to furniture stores. The company constructed 22 tilt-up buildings last year and hopes to do in excess of 25 during the 2006 construction season.

At the other end of the spectrum ADI Limited, a design consultant and project management firm from Fredericton NB recently completed its first tilt up project – an 8,500 sq.ft. extension to the Fredericton Airport. Rideau Construction Inc., from their Saint John NB office, was the general contractor. David Beattie, P.Eng., Vice President of Design-Build and Project Management for ADI Limited, says they found the method to be cost effective, resulting in a durable building that's easier to heat and maintain.

"Certainly, we were very pleased with the results," Beattie says. "We would certainly consider using it again although right now we have no tilt-up projects scheduled."

APRMCA Briefs

Continued from Page 1

- *2006 APRMCA Memorial Scholarship: Applications were received until Friday, April 28, 2006. Eligibility is limited. Awards will be made prior to highschool graduation ceremonies in June. Results will be posted on the APRMCA website at www.aprmca.com*
- *ACI Atlantic Chapter Members Education Award: 2 x $500.00 scholarships, available to the children of ACI-Atlantic Members-In-Good-Standing. The scholarships will be awarded on June 9, 2006. Applications will be received after April 6th until the deadline of May 19, 2006. Contact President Trevor Tomilson, tomilson@alltechsolutions.ca, or Secretary Rob Simpson, rts@adi.ca for information*
- *APRMCA 11th Annual Industry Golf Tournament, Amherst Wandlyn Inn - Reception & Draw, 8:00 pm June 1, 2006; Amherst Golf & Country Club - Breakfast 6:15/7:15 am; Shotgun start, 7:30/8:00 am June 2, 2006*
- *APRMCA Summer Board Meeting & Family Weekend, Rodd's Brudenell River Resort, Website: www.rodd-hotel.ca, Highway #3 in Roseneath, Cardigan PEI, August 11-12*
- *CRMCA Semi-Annual Meeting, Kelowna, BC, October 20-21*
- *Cement & Concrete Industry Lobby Day, Ottawa, ON, October 24*
- *APRMCA 1-day Workshop: The Do's & Don't's of Concrete Repair: materials, placing & finishing, repair products & more for floors, bridge decks, parking garages, marine & other exposed concrete, dates & locations TBA, tentatively Fall 2006.*

Congratulations and best wishes from APRMCA to:

- *Darren Chase, Lafarge Construction Materials on his promotion as Quality Control Manager and transfer to Moncton, NB.*
- *Laurence Smith, P. Eng., JW Lindsay Enterprises Limited, Dartmouth NS, on being chosen President of the Tilt-Up Concrete Association earlier this year. Laurence is only the third Canadian to occupy this position, and will serve a 1-year term*
- *Dave Mulherin, who was appointed as General Manager for the NB operations of Béton Brunswick Ltée., which includes Béton Nouveau Ltée. & New Concrete Limited. Dave took over from Marcel Paré, on his retirement on December 31, 2005. Dave works out of Grand Falls NB. Marcel has returned on seasonal contract for the company this summer and will work from the St. Jacques NB plant.*
- *Patricia Reddick, APRMCA's administrative assistant, for her excellent results in the 110th Boston Marathon. Patricia finished her 2nd Boston Marathon, April 18, with a net time of 3:41:52. She took 26 minutes off her 2005 results (4:08:19) and finished in the top 10 percent of women in her age group.*
- *Dawn and Tim Martin on the occasion of their wedding last fall. Both work in Dartmouth NS for The Stevens Group. Special thanks go to Dawn for her generous donation of IT technical expertise to APRMCA!*
- *Trevor Tomilson on his recent appointment to the staff of Alltech Solutions Inc., Riverview NB. Trevor also became the president of ACI-Atlantic at their February AGM.*
- *Harry and Marion Manuel, Corner Brook NL on celebrating their 50th Wedding Anniversary this year. Harry is well known and respected by APRMCA members in NL as the long time sales representative for the former North Star Cement Company, purchased in the mid 1990's by St. Lawrence Cement Inc.*
- *Pierre Boucher, Eng., on his appointment in April as Executive Vice President & COO for the Cement Association of Canada, Ottawa. Pierre will take over as President June 1st, but he is already becoming a familiar figure within the C&C industry as he travels across the country. He brings 30 years of experience as a manager, engineer and economist. We wish him well and offer APRMCA's support in his new endeavours!*
- *François Lacroix, P. Eng. who retires as President of the Cement Association of Canada on June 1st. François has been a strong voice for the cement industry in Quebec and across Canada. He is counted as a friend of the ready mixed concrete industry by APRMCA and our sister organizations under the CRMCA banner. We thank and extend our sincerest best wishes for success and happiness in retirement to François and his wife, Patricia.*
- *Wensey Bernard, Lafarge Construction Materials, on his on his recent appointment as Plant Manager in Sussex NB. Thanks also for helping at APRMCA's Pump Operators' Workshop in March.*

APRMCA held its fourth ACPA Pump Operators Workshop & Certification/Re-Certification Program at NBCC, Moncton on March 25, 2006. 27 operators were examined for the first time and 43 wrote the recertification exam. Special thanks to Dave Klapstein, Putzmeister Inc., Wensey Bernard, LCM-Sussex, & Chris Burns, NB Power.