

Mott Electric GP

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SINCE 1930

MOTT ELECTRIC



Ruskin Dam & Powerhouse Upgrade: Page 4

President's Message

When I am asked to contribute to our newsletter I tend to think about the market, the economy, the future and the risks we are facing. Instead - this time - I want to talk about something that as humans we tend to overlook.

So much of our day is spent solving and fixing; telling the kids "not to do that", or advising how to do things differently. I know we do not think that way all the time but perhaps a little too much, instead of acknowledging effort, praising the positive and even on those tougher days using a smile to lighten someone else's load. I believe in the inherent goodness of human nature and I know personally of the pride I feel when we receive letters of recognition from customers or the phone call that someone in the company has paid it forward. We do not do enough to broadcast the many accolades that are received every week. Many are casual comments about a crew, your team, an individual and a job well done. When I hear a parent mentioning how much they appreciate the opportunity their son, daughter or relative has been given and how they have benefitted from working for the company, it makes me smile. Those positives live on and assist in maintaining and cultivating a culture that attracts quality individuals and provides a competitive advantage for us through customer awareness and appreciation.

With sincerity and a great deal of pride I would like to thank everyone in our company that continues to accentuate the positive through their efforts and their smiles.

We all make a difference!

Danny Mott

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Recently Awarded Projects:

Surrey Memorial Hospital Feeder Relocation:
Replace damaged 600V cable feeders between buildings.

Viterra Belt Conveyor Replacement:
Installation of new feeders and devices at Pacific grain elevators.

Richardson Infrastructure Installation:
Pulling in fibre optic cables at Richardson International Terminals.

BC Hydro, Ruskin Dam Completion Project:
Phase 2 of Hydro's major upgrade to the Ruskin Generating Facility.

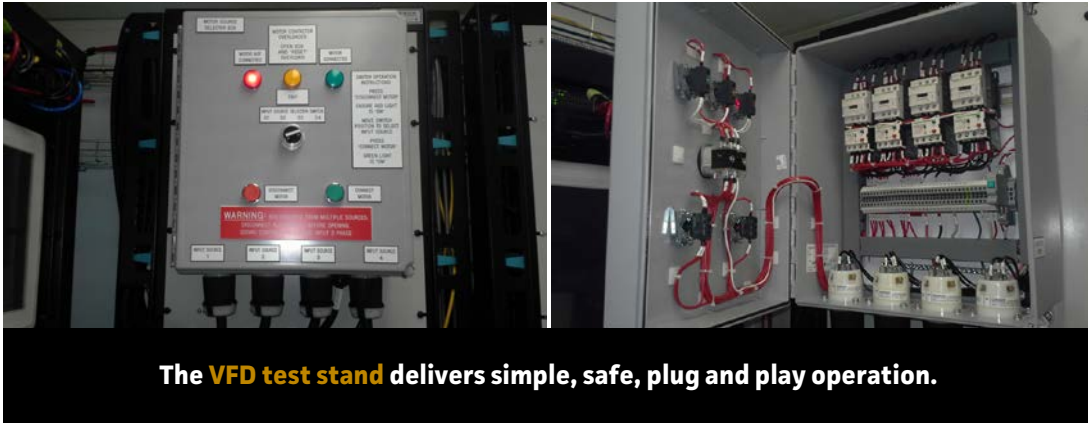
Pac 1 – Cleaner Viterra Pacific Terminals:
Electrical work associated with the installation of new cleaner batteries at Pacific Grain.

Queen's Park Care Centre:
New high voltage feeder and distribution equipment installation.

Peace Arch Hospital Generator Building:
Supply and installation of generator and associated equipment.

Tank 72 & 84 Containment Upgrades:
This project for Kinder Morgan is part of their ongoing tank upgrades at their Burnaby Mountain facility.

Port Mann Water Supply Tunnel:
Electrical installation in the north and south valve chambers at either end of the Port Mann water supply tunnel crossing under the Fraser River.



The VFD test stand delivers simple, safe, plug and play operation.

MANAGER'S CORNER:

Dan Ternoway, Burnaby Service Division Manager

Our Burnaby Service Division works with all types of clients from homeowners to commercial retail and industrial property owners and managers. In recent months projects have included Metro Vancouver Waste Water Treatment Plants, BC Hydro H-Frame service upgrades, BC Hydro Smart Meter RF upgrades, electrical upgrades to many Starbucks retail locations and the massive Port Mann Water Main Crossing.

“This fall, Project Manager Murray Davisson & Foreman Jon Smith will have to complete their best two step to keep all the residents of a small apartment complex in Vancouver happy,” said Dan Ternoway. Their crew is replacing all of the components of the main 400 service and they must also juggle the replacement of all of the branch circuits throughout the building including all the wiring in 32 suites. “This type of project tests our professional and our public relation skills,” he adds. “Jon and all our service techs in the field continue to make things run smoothly with great one on one contact with our customers.”

Kyle Steel engineered & assembled a VFD test stand from scratch with minimal design help from Metro Vancouver. This test rack assisted in the evaluation of bus technologies for motor control from a DCS. One motor is connected to the panel where up to four drives to be connected to a motor can be selected for testing. This convenience allows for quick switching between drives during the testing process. It allows for selection of up to four drives to be connected to a motor used for testing. Why the innovation? He said,

“The closer to the real world conditions, the better the results.”

Mr. Steel adds, “First, I had to translate a verbal explanation of what our customer wanted and convert it to an electrical design using basic motor control logic. The next task was to provide all the necessary equipment from local wholesalers to fabricate a user-friendly control cabinet. My plan was to allow a safe and simple plug and play method of operation with the use of flange mounted receptacles to connect multiple sources of power to one motor simultaneously with Stop/Start functions and one master selector switch. Once the cabinet was built the final challenge was to fit all necessary operating instructions and electrical information on the front face of the enclosure to meet CEC standards and provide clear operating instructions of the test equipment.

“This project, like many others, gives us an opportunity to provide service above and beyond our competition. Kyle’s interaction with our customer made the process of converting their ideas to a final product go smoothly, from concept to design to a functioning test stand. We should always look for and take advantage of these situations to set ourselves apart from the rest.” said Dan Ternoway

The Burnaby Service Division has four project managers / estimators: Carlo Magno, Brian McNeill, Murray Davisson and Dan Ternoway. The crew includes 10 to 12 service techs plus 10 to 15 crewmembers, depending on our project schedules.

Seven Tips for Becoming More Optimistic:

The following is an excerpt taken from “The Power of a Dream”, by author and keynote speaker, Peter Legge.

Optimism – whether it comes naturally or is learned – is good for you. Not only do happy people live longer than those who are pessimistic and cynical, but they also lead healthier lives. Researchers at the Mayo Clinic reviewed the records of people who completed the Minnesota Multiphasic Personality Inventory in the early 1960s. Three decades later they found that pessimists, as compared to optimists, had an increased risk of death. In a follow up study, it was found that optimistic people had better general health across the board. If you are not naturally an optimistic person, you may still be able to learn to be more optimistic – and improve your health! Here are some suggestions for becoming more optimistic:

1. Stop negative self-talk.
2. If you are irritated with a spouse, partner or family member, think back to a time you last shared a laugh or a special moment.
3. Find joy in your work.
4. Surround yourself with positive, upbeat people.
5. Deal with the situations you can control and try to accept those you can't.
6. Put things in perspective. A bump in the road is only temporary unless you dwell on it.
7. Each day write down 3 positive things that happened and why they happened. This will keep you focused on what is working!

UPDATE: Safety Climate Survey Action Plan

In April, Mott Electric GP and the BC Construction Safety Alliance worked together with the Health & Safety Laboratory on a new joint venture in safety.

147 completed surveys were gathered from Mott employees in all divisions. The Safety Climate Survey results are being used to improve the overall performance of the company's health and safety program.



Two work groups have been created: a Project Planning Work Group and a Procedure Work Group. Each work group includes an experienced representative from each division. Both groups had their first meeting in July 2014

and will meet monthly to complete their assigned projects.

The overall goal of the Project Planning Work Group is to develop a project planning process that is specific for each division. This process will help align and effectively plan for safety, productivity, and scheduling from estimating to project completion. The expected outcome will mean a safer and more profitable project that has met the desired schedule and quality requirements.

The overall goal of the Procedure Work Group is to assess the usability of the company's safe work procedures. The work group will consider if safe work procedures are easy to follow, if procedures are practical and if procedures reflect how the job is actually done. The work group will then determine ways to simplify safe work procedures, make these procedures easier to understand and follow while meeting the requirements of health and safety legislation.

Mott Electric GP is the first company in British Columbia to use the Safety Climate Survey. The BC Construction Safety Alliance will review the results and consider promoting the survey to other companies in the province.

discovered asbestos containing material was being disturbed during project work and did everything in their power to stop work and/or evacuate personnel from the area preventing harmful exposure.

Each safety intervention and the action taken should be reported to the Project Manager and the Occupational Health and Safety Specialist for review and nomination. Once a year, Management will select the top rated safety hero. The winner will receive an award of \$1,500.

Aerial Lift Training (Scissor & Boom)

The required training to operate an aerial lift, scissor or boom, has changed.

Until recently, operators only received an orientation session from the equipment rental company. This practice does not meet WorkSafeBC requirements and in order to ensure that workers are properly trained and competent to operate aerial lift equipment, further training is required every three (3) years. The company has selected a training provider and courses are now available.

If you are a Division Manager, Project Manager or Foreman - contact Perry Harvey to have this training scheduled.

Safety First!

Perry Harvey, Health and Safety Coordinator

Safety Awards

The Dino Barazza Innovation Award:

In the September 2013 issue of Watts New, the Dino Barazza Innovation Award was announced. The structure for this award was revised to include innovations that incorporate safety. Some examples would be safety by design, suggesting changes to the safety management system, developing a safe work procedure and recommending a new tool or piece of equipment that would enhance safety during the work process.

Part of the selection process will be the consideration of how diverse the innovation is and whether it can be applied to more than one project. Individuals may submit their ideas to the General Manager or be nominated by co-workers. Once a year, a three-person selection committee will determine the best idea or innovation. Top prize will be an award of \$2,000 and there will be three runner-up awards of \$500, \$300 and \$200. Our goal is that this initiative, in Dino Barazza's memory, will help us continue to improve the company and our industry.

Safety Hero Award:

A safety hero is someone who displays the courage to intervene with the purpose of preventing a potentially hazardous situation. This can be described as reacting to a situation that is immediately dangerous to life, or health, to either correct the situation or stop the situation from evolving.

For example: An employee would be nominated if they



"Wait For Me Daddy"

War Memorial Unveiled October 4:

Warren "Whitey" Bernard was only 5 years old when a photo was taken of him running towards his father who was marching with other soldiers on 8th Street in New Westminster. The photo was taken for the Vancouver Province by Claude P. Dettloff and is captured as a bronze memorial sculpture entitled "Wait for Me, Daddy."

The memorial will be unveiled on Saturday October 4 at Hyack Square. The photo will also appear on a Canada Post commemorative stamp.

Mott Electric GP is proud to have installed the lighting for the statue. Employees and their families are welcome to attend the unveiling ceremony on October 4, 2014 at 11:00 am. Hyack Square is located at Columbia and 8th Street New Westminster.

Who's New?

Burnaby Office:

Teresa Hurrell returned from maternity leave as an Estimator / Project Manager; Nathan Merkel, Estimator / Project Manager

MTI:

In August, Pete Kuyvenhoven was appointed the Manager of the MTI Division.

Featured Project:

Ruskin Dam & Powerhouse

Dave Billson, Project Manager
Bruce Mackay, Site Foreman

After 80 years, it's time for an upgrade...

The Ruskin Dam and Powerhouse was built in the 1930s and since then has provided a clean and reliable supply of electricity to the lower mainland. It is a concrete gravity dam on the Stave River located 60 kilometers east of Vancouver, close to Mission, BC. The dam created Hayward Lake that supplies water to a 105 MW powerhouse. As well as a source of power the dam has been a filming location for many movies and TV series including The X-Files, MacGyver, Smallville, Dark Angel, and others.

The Ruskin Dam is 59.4 m (195 ft) tall and 110 m (361 ft) long and consists of seven radial gates. It has a 4,430 m³/s (156,444 cu ft/s) maximum discharge capacity. The dam's powerhouse is immediately adjacent on the river's eastern bank. It contains three 35 MW turbine-generators and water is fed to each by a single penstock. Access to the powerhouse is by a truss bridge.

Major upgrades to the facility will make it safer, better able to withstand an earthquake, and more efficient.

Beginning in the spring of 2012 and continuing until 2018, the dam and its facilities are expected to undergo an \$800 million upgrade. The project includes replacing the generators, reinforcing the right bank of the dam, upgrading the intake and penstocks, replacing the spillway piers and gates and relocating the switchyard. The upgrades are aimed at bringing the dam and its facilities up to safety standards, improving their seismic performance and increasing their efficiency and life. The upgrades on the 3 generating units will be phased, so power supply to the lower mainland will be uninterrupted.

We have two contracts and a third is pending...

"Mott Electric is working as the electrical subcontractor to Flatiron/Dragados. We have two separate contracts A and B," said Bruce Mackay, Site Foreman. Contract A is the first phase of the project that started in July 2012 and will complete around June 2017. It consists of various grounding and electrical modifications necessary for the structural and seismic modifications to the Powerhouse. "Also included is the demolition of the existing 7 gates and control rooms on the dam. There will be 5 new gates with 5 new gate control rooms and 2 additional control rooms on the upgraded dam. Mott's Contract B will encompass the complete electrical renewal of the powerhouse, lighting, security, fire alarm, protection and control. We will install new generators, new 15 kv distribution and remove 9 – 69kv transformers and replace them with 3 new 69 kv transformers. We have 5 workers on the job but will increase as the civil work gains speed towards the end of this year," said Mackay.

He adds, "The biggest challenge is managing the environmental impact during project work. The reservoir is a source of drinking water for the residents in the area. The powerhouse is full of asbestos, lead paint and silica dust and all demolition work must be planned out and approved by the site safety team in advance. Another big challenge is the powerhouse. It has 3 generators and 2 must be running at all times. This complicates any work as the shortage of existing drawings and the interconnection of 3 generators can cause electrical hazards and surprises. If a second generator trips out, the river on the low side will empty and cause major impacts to the fishery."

"Our project manager/estimator Dave Billson has been very valuable bringing his years of experience working with BC Hydro and several other large construction projects. This type of work is all very specialized and Dave has a strong understanding of what tools and equipment are needed to complete the work in a safe yet efficient manner.

"A third contract is still pending which will consist of the existing switchyard on the powerhouse. The roof will be removed and a new yard will be constructed in the current FDJV office compound. We are hopeful that our bid will be successful for that final phase," said Mackay.

To watch a brief video on the project go to:

<https://www.youtube.com/watch?v=R67S0w164rM>



Nathan Townsend left and Brad Solven prepare for another day's work at the Ruskin dam. The project will take an estimated 30 more months.



Looking across the Stave River. Old gates 1,2,3 have been removed. New pier 2 & 3 formwork started. During the upgrade project the dam continues to generate power to the lower mainland.



Temporary dam bulkhead with 275 tonne barge crane located on the upstream side of the dam for removal of existing gates. Operational gates at left of photo.



Looking down into the new pier gate formwork. A new gate control building will be constructed at the top of each pier in addition to the main control building on the east side and a backup control building on the west side.

We Keep **GOOD COMPANIES!**

Here are some client comments we have received about our people and projects:

“Outstanding performance...”

"I just wanted to take a minute to recognize the entire Mott Electric team for an outstanding performance on the Cologix VAN2 data centre facility. This was a complex project... The Mott team rose to the challenge, completing (the job) in less than five months.

The proactive planning, technical expertise, responsiveness, cooperation and can-do attitude demonstrated by Mott's project leadership team of Mike Murray and Rick Corness Jr. were instrumental to the timely, successful completion of the project. Mott's field team set the standard for all the subcontractors on-site with respect to safety, productivity and quality. Thank you for a job well done!"



Craig Southorn, Vice President
Mortenson Construction

“Precision and speed...”

"I wanted to thank you and your crew for the great job done this weekend during the HV Switch installation at Rogers Arena. Your crew worked with precision and speed. This allowed us to get back on line a full day ahead of schedule. I will definitely recommend Mott for any project based on this performance, if asked."



Al Hutchings, Director Facility Operations & Engineering
Canucks Sports & Entertainment

“The most competent...”

"From a Superintendent's point of view Derrick has been by far the most competent Electrical Foreman that I have worked with. He is very involved with his crew and knows everything about this project. Numerous times he has helped me to understand by explaining the electrical side of things. I think we have worked very well as a team trying to figure out the SNC/Stantec issues. Yesterday we had a visit from WCB and it couldn't have gone any smoother thanks to Derrick and the rest of the Mott team on site."



Steve Rosa, Superintendent
SCOTT Construction Group



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