

YPG Quarterly Newsletter - Winter 2015

This newsletter is the second of four that will be circulated by the 2015/2016 ACEC-BC Young Professionals Group (YPG) steering committee. Established in 2006, our committee is tasked with promoting young professionals within the industry, advancing their knowledge of business practice, and helping YPs integrate and succeed in the consulting engineering business in British Columbia.

We have developed this newsletter to give you three different perspectives about project finance and risk management to help you expand your financial competency. The first article focuses on cost control from the engineering consultant's perspective, the second focuses on risk management through insurance, and the third provides an introduction to financial analysis tools which are used to determine the economic viability of construction projects. Together these articles will help you set yourself up for success in your own projects; understand project risks and insurance policies available to limit these risks; and see how our work feeds into the financial analysis which ultimately decides whether a project will move ahead.

In this newsletter we will also share details of recent and upcoming ACEC-BC YPG activities, provide an update from other ACEC-BC committees, shine a light on our YP of the Quarter who is deserving of recognition, and provide opportunities for you to get involved with our committee. Please feel free to get in contact with us for more information or to get involved! You can find us on Facebook, Twitter, or through email at info@acec-bc.ca.

Have a wonderful holiday season, see you in the New Year!

Siobhan Robinson, Chair, ACEC-BC YPG Provincial Steering Committee



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Do Project Budgets Get in the Way of Good Engineering?

Why did you become an engineer? Most of us, when asked this question, will profess our nerdish fascination about science and mathematics and how those coalesced beautifully into a desire to know how things worked. Most of us are driven by a desire to make things work better or to contribute to our built environment by honing our skills. Very few, if any, of us would declare that “making money” was our prime motivator for becoming an engineer.

That may be the reason why most all of us in the consulting industry will, at some point in our career, find ourselves sacrificing project budgets and company profitability for the “right answer” or for “the good of the project”. The truth is that the two are not mutually exclusive. There is no reason why we cannot continue to provide excellent engineering services without sacrificing project profitability. It just means we need to take a more holistic view of what “the right answer” means in the context of our client's needs, budget, and available resources while always maintaining our duties as professionals.

The goal of this article is to discuss the balancing act of being the engineer we want to be, while working in a competitive industry and maintaining client satisfaction.

Why do engineering projects go over-budget?

There can be many reasons why engineering projects go over budget. I am sure we have all used the following excuses at some point: “We had to spend a bunch of extra time verifying the clients data”; “the client was not happy with a section of the report and we had to provide a lot more detail”, “the client had extra comments at the 90% stage that resulted in a bunch of re-work”; “the designer took longer to complete the task than I thought”, “we changed the building foot-print but forgot to forward the revised base to our sub consultant and she had to do some re-work”.

There always are, and always will be, unexpected twists and turns on projects that don’t align with the neat vision we had of the project when we were putting together our fee estimate. Sometimes in hindsight we can even wonder what we were thinking!

The simple fact is our project budgets are based on assumptions which are formed by our experience. We do not have a crystal ball to predict the future so we must make assumptions in order to estimate the level of effort required to deliver a project. How we adapt to the real life experience of the project that differs from our assumptions is the basis of cost control.

Remember: There are always twists and turns on projects that you did not anticipate when you were developing your fee table. Clearly document your assumptions; they are the foundation for your fee estimate.

If you assume, you make an...

Assumptions seem risky, but they are a necessary part of putting together an engineering budget. The failure to deliver on an engineering budget is normally due to real events (or sometimes just client expectations) differing significantly from our assumptions. There are three sets of assumptions that we make:

- Assumptions related to the things our clients control;
- Assumptions related to things others control; and
- Assumptions related to things we control.

The first category relates to everything from provision of usable input data e.g. survey base data, sewer flow data, existing equipment information to frequency of review meetings and duration of reviews. All of these can have a significant impact on schedule, resource allocation, effort, and ultimately on project budget.

The second category relates to everything from permit approvals (e.g. DFO, BCH applications, building permit approval) to public stakeholder meetings or user group feedback. This category can have a huge bearing on the scope of the project and the potential for re-work. Permitting in particular can be a black box and it is important to make reasonable assumptions in order to assemble a project budget.

The final category relates to project strategy. This one we can control. It covers everything from how many drawings we intend to produce to the team we intend to use on the project.

The most important thing for all these categories is that the person preparing the proposal clearly documents the assumptions made when preparing the proposal. These should include everything from how many client meetings you intend to have, to how many hours you think it will take to review the previous reports, to how long you anticipate the construction window to be. A good rule of thumb is to record every thought you had that helped you define the number of hours for a task. This may sound excessive but it is invaluable later on when you are explaining to your project team why you only allowed 4 hours to prepare the detailed specification package.

Remember: When developing your fee estimate, record every thought that helps you define the number of hours for a task and/or the project schedule. These should include (but not be limited to):

- Number and location of client meetings;
- Availability and format of background information;
- Number and format of deliverables; and
- Duration of client review time.

Communication is key

Now that we understand the basis of our engineering budget and have it recorded in a safe place, the key is to communicate our assumptions to the right parties at the right time. There are many opportunities to communicate throughout the life of the project but we will focus here on three key areas for communication:

1. Proposal;
2. Project Meetings; and
3. Invoice Cover Letter.

Proposal:

It is important that our client understands the assumptions that form the basis of our proposal when they evaluate it. There are many assumptions that are made in the preparation of a proposal but here we want to hone in on the assumptions that are out of our control and critical to the project objectives and success factors. It is also good to highlight the assumptions that have an impact on the level of effort assumed such as number of review meetings (weekly vs. monthly) or the number of drawings in a package. Clearly identifying these now, eliminates surprises later and provides an agreed reference point to go back to if real project events turn out to be different.

Project Meetings:

Project meetings provide the opportunity to flag or draw attention to any issues arising during the project work which can have a serious impact on how the project is delivered. Meetings provide us with a feedback loop to verify that our assumptions for the project plan, deliverables, client expectations etc are being met or are changing and thus allow us to identify those and take corrective action or make agreed changes to project scope.

Project meetings fall into two categories: internal and external. Internal meetings provide a feedback loop for the project team, while external meetings provide a feedback loop to the client and allow us to identify anything differing from our key assumptions and the associated impact on scope, schedule, resources, risk, costs etc.

Meetings can be face-to-face, a simple phone call or larger group conference call. The key is that they are frequent, focused, and provide a clear feedback loop. The goal always from a cost control perspective is to compare the information in the meeting with the assumptions used in preparing the budget.

Invoice Cover Letter:

This is another great tool for communication. The best cover letters contain a tabular summary of the project tasks, budget spent to date, and budget remaining along with sections identifying the work done this month, to be completed next month and any issues that have been identified. The cover letter provides a regular picture of how the project is performing from a cost perspective. It should always be completed in tandem with an internal earned value analysis (simple to do when your project meetings keep you up to date on current progress) so you are aware of any project issues. Most importantly, the letter gives you an opportunity to formally notify your client of any current issues and to identify potential cost impacts.

Remember: A good invoice cover letter summarizes progress on project tasks, budget spent to date, and any issues that have come up that may impact project budget and/or schedule.

Why is Communication so Important?

This focus on communication helps you to:

- Let the project team know the plan for the project;
- Keep up to speed on the project progress and developments;
- Keep your client current on any issues that may affect the project;
- Identify any client concerns early so you can adapt instead of react; and

- Communicate any necessary changes of scope, schedule or cost to your client BEFORE it becomes a major issue for the project.

Some engineers fear that asking for extras or identifying issues makes them look bad and their client will think they do not know what they are doing. The opposite is usually the case. Maintaining regular communication with your client gives them the confidence that you are in control of their project. Most clients understand that things change and once they are included in the solution they are normally open to reasonable and justified increases in budget.

One thing that most engineers learn early in their careers is that clients do not like surprises. Regular communication helps alleviate this risk. But this communication must also extend to all team members including sub-consultants in order to avoid unpleasant surprises.

Summary

In summary, cost control on engineering projects is founded on two cornerstones:

- Clearly identifying and understanding the assumptions that form the basis of your fee estimate; and
- Developing a communication plan which allows a feedback loop to: 1) identify when real project events differ from assumptions and 2) provide a means to address these differences with the project team and the client as they arise and in a positive manner.

With a good communication plan in place, we can put aside the stress of over budget projects and return to the real reason why we became engineers.

*Pádraig Harrington, P.Eng.
Project Manager, Kerr Wood Leidal Associates*

Project Finances - Project Insurance 101

The purpose of this article is to identify and briefly explain three different insurance policies arranged for engineering/construction projects. The first two policies, Builder's Risk Insurance and Wrap-Up Liability Insurance, are almost always arranged. However, due to cost, the third Project Specific Professional Liability Insurance is not that common, but does make sense on larger and more complex projects.

Builder's Risk Insurance

Builder's Risk insurance, also referred to as "Course of Construction," is an insurance policy designed to insure buildings or projects against repair or replacement costs while they are under construction. This insurance will usually cover build materials, fixtures and appliances, all of which are intended to become an integral part of the structure under construction.

The amount of coverage purchased or limit should be the full value of the completed project. Although the Builder's Risk policy is designed to provide broad coverage, it does not cover all property connected to the construction project nor does it cover every risk.

This policy is typically arranged by the general contractor or owner and should be arranged before construction activities commence on site. The Builder's Risk policy typically lists the owner/developer and general contractor by name as insured parties. As they are identified by name, they are known as "named insured" and are responsible for various things such as payment of premiums and reporting of claims. It is important to note that the policy usually covers most other parties involved with the project such as subcontractors and consultants. These parties are known as "unnamed insureds". If a party is an insured under the policy, the insurance company will not have the ability to subrogate (recover) their loss in the event of a claim.

Due to the nature of this policy and what it is intended to cover, it would be rare for a claim to present itself where the design team would be at fault or be looked to cover the deductible. While in most instances,

consulting engineers will not be involved with this policy, it is important to understand it exists and to check your contract to see if there are specific requirements or responsibilities for your firm.

Wrap-Up Liability Insurance

Wrap-Up Liability Insurance is a project specific general liability insurance that protects the team involved in a project. The policy covers owners, developers, engineers, architects, project managers, contractors, and subcontractors against third party and general liability exposures associated with their project. Policies normally exclude damage to the project (this is insured under the Builder's Risk policy) except during the completed operations period. This policy will normally contain an exclusion for claims arising out of the professional services your firm is providing. The coverage is intended to respond to physical operations on the project site and related to the project.

As the minimum premiums offered by some insurance companies are quite low, this type of policy is arranged on a large range of projects. In addition, the deductible under this policy is not typically significant and the contract should outline responsibility of the deductible payment. There are numerous advantages to arranging Wrap-Up liability coverage on construction projects instead of relying on each contractor's Commercial General Liability (CGL) policy. The benefits are as follows:

- Uniform limit, coverage and deductible for all parties.
- Specific limit dedicated to the project.
- Assurance that coverage is in place for the entire project including period after completion, referred to as completed operations period, which is typically 24 months.
- Reduced potential for litigation in the event of an incident.
- Since all the teams share one insurance company, there will be a reduction in "Finger Pointing," which typically causes disruption to the project or strained relationship from teams arguing about placing blame and fault.

Project Specific Professional Liability Insurance

While a large percentage of consulting engineering firms carry their own Professional Liability Insurance, there are numerous times where an Owner/Developer will consider obtaining a Project Specific Professional Liability Insurance policy. A Project Specific Professional Liability Insurance policy provides coverage for the entire design team and can be arranged to include project and construction managers. This policy provides all of the same benefits as the Wrap-Up Liability Insurance policy noted above. These policies are typically arranged on large complex projects, particularly infrastructure projects such as bridges, interchanges and tunnels.

One of the key differences between the coverage provided under this policy versus the others is that it is provided on a 'claims-made' basis, meaning that the policy will only respond to claims made or advanced against the consultants. The policy is arranged prior to the start of construction and will cover any claims made due to actual or alleged errors, omissions or negligent acts in the performance of or failure to render professional services on the project. The policy will be in force for the duration of construction and for 1-10 years after completion. This period is referred to as the 'maintenance period' or 'extended reporting period'.

Due to the higher cost of these policies, the deductibles chosen by the Owner/Developer can be much larger than what participating firms would normally carry on their own practice policies. Depending on the size of the project, it is not uncommon to see a deductible of \$250,000-\$1,000,000. Your firm should be careful to review the details of proposed policies in a RFP or proposed contract to ensure that you are able to address this prior to work commencing. Your firm's practice policy can be endorsed to cover the 'difference in deductible' in order to reduce the deductible you will be required to pay to which you would normally carry. It is important when renewing your practice policy that your fees are properly reported and that your insurance broker negotiates your coverage appropriately as some insurance companies will specifically exclude coverage for projects which are separately insured, which could be problematic for you once the Project Specific policy has lapsed/expired.

Summary

The insurance requirements or conditions contained in any contract are very important and should be reviewed as soon as possible and sent to your firm's insurance broker for review. There are many poorly drafted clauses out there which, if not properly addressed, could leave your firm vulnerable to significant exposure and costs. An experienced insurance broker should be able to provide comments and make recommendations to ensure that you are compliant with your contract.

Jeff McLellan

Vice President, Professional Services, BFL CANADA Insurance Services Inc

The Link Between Engineering Design and Financial Analysis

This write-up provides an introduction to the link between the engineering design process and its impacts to the project financial analysis. As we shall see, successful capital project investment decision making relies heavily on detailed analysis at all levels.

Typically, the engineer applies technical knowledge and creativity to develop solutions in response to a commercial or social need. The engineering design and specification play a central role in determining the direct project costs; these costs feed the financial analysis and, ultimately, aid in the determination of the funding strategy for successful project implementation.

The financial evaluation of capital projects involves an assessment of investment returns, risk costs, and financing. In order to assess the merits of an engineering and construction project, one must forecast the project's free cash flow for time periods within the life of the project. Basic components of the cash flow include capital expenditure (inc. design and construction costs), operating and maintenance expenses, revenue from in-service operations, rights to collect (such as taxes and third party payments), working capital requirements, and other project specific and economic inputs. This leads to the creation of project cash flows that are used to form an initial view into the attractiveness of the project to stakeholders. The timing of dollars and cents is a fundamental first step in determining the economic viability of the project.

The forecast of project cash flows assume that costs are known with certainty and do not consider the probability that such forecasts may be unachieved. Although the engineer may prepare a capital cost forecast with the best possible technical and cost information, there is always the risk of cost increases resulting from unforeseen events. What is the cost of such risks? Should the design be scaled-back or enhanced? Is an innovative component specified by the engineer increasing project risk and cost, making the project financially unattractive? These and many other questions are answered during the financial risk analysis process. The analysis is required to assess impacts to project value and returns because risks can alter the attractiveness of a project from its original forecast. Risk analysis can be complex, but a necessary exercise to determine which project party is best suited to manage and mitigate a specific risk. Parties may include the investor, developer, contractor, and government.

Capital projects may be financed in many different ways including corporate loans, raising equity, public-sector debt, and many other means depending on who the owner is and the options available to the owner. Projects may also be financed by way of "Project Finance" which is a method of raising long-term debt against the cash flow generated by a specific project. For the most part, the financing option chosen reduces the cost to the owner, enables successful delivery of the project, and manages risk effectively.

There may be different structures of financing for different project phases. For example, construction may be financed with a short-term construction loan because the risk of incompleteness within budget and schedule is the highest at this stage, but then refinanced following construction completion as the project enters a steady operating state. The structures may reduce the weighted average financing cost to the owner because this cost is reflective of the risk of each project stage.

There are a number of methods used in industry to assess project attractiveness including net present value

(NPV), internal rate of return (IRR), payback period, ratio analysis, and so on. Such measures are used by both the private and public sectors in determining value to shareholders and the tax payer, respectively. Each measure is applied in a very different way and enables the decision maker to answer specific questions. However an advance understanding of these tools is required for them to be applied correctly and a detailed discussion of each is beyond the scope of this write-up.

Summary

In summary, successful project outcomes depend on a detailed analysis of the engineers' design, construction costs, operating and maintenance expenses, revenue, risk costs, risk allocation amongst various parties, financing costs, and other project specific factors - in aggregate, all such factors aid the investment decision-making process. Owners of capital projects should consider all aspects, including the contractual arrangements, before making the final investment decision. With a disciplined systematic approach to project delivery, owners can deliver successful projects.

Nurez Damani, P.Eng., MBA (Finance)
Senior Associate, Financial Advisory, Deloitte

ACEC-BC YPG Regional Group Updates

Lower Mainland Group

The Lower Mainland YPG has had a very successful quarter thus far. We will continue to deliver engaging professional development seminars and networking events, while also reaching out to the student population and our general community in the New Year.

Professional Development Seminars

The Lower Mainland YPG has hosted two seminars this year, the most recent breakfast seminar occurred on November 20th. Darren Frew spoke to a group of young professionals about the challenging world of communication etiquette with the advent of smart phones and social media. His interactive session allowed for some great discussion and input from audience members. The main thing to remember is the rules of communication are constantly evolving - make sure you clearly define your own expectations and the expectations of those you communicate with.

The next breakfast seminar will be held in January. More details will be provided in the New Year!



Networking Events

The ACEC-BC Young Professionals Group recently hosted the First Annual Laser Tag night on December 2nd. The event was a big success, with 18 Young Professionals coming out for a fun filled evening of networking, laser tag, refreshments and appetizers.

In the New Year, there is even more to look forward to including pub nights, archery tag and the annual Curling Night. Additionally, we will be teaming up with the Young Lawyers and Young Accountants groups to host joint events, including the much acclaimed whiskey tasting night at the Shebeen Whisky House. We will also be hosting a networking event in cooperation with the



ACEC-BC Municipal Engineering Committee which will allow young professionals from the consulting industry an opportunity to network with our counterparts from the municipal community.

The ACEC-BC Young Professionals Group was represented at the BCIT and UBC APEGBC/ASTTBC Networking events on November 19th and November 26th respectively. The BCIT event was filled with great students from BCIT's Engineering programs and it was a pleasure to meet future technologists and engineers from the Burnaby school. The UBC Event included a pre-networking presentation from Brent Lyon, P.Eng on selling your brand and uniqueness to potential employers, it was a great presentation followed by networking with a variety of UBC Engineering Students.

In the New Year we anticipate attending several other student events at BCIT, UBC, and SFU including career fairs and socials to encourage new graduates to consider consulting engineering as a career. If you are interested in representing the ACEC-BC YPG at one of these events look for details of our ACEC-BC Ambassador positions by emailing info@acec-bc.ca.

Community Involvement - The Consultants' Contraption

Save the date! Sunday, April 24, 2016
Location: Guildford Town Centre (Surrey)

The Young Professionals Group Consultants' Contraption steering committee has been hard at work planning for the 2016 Consultants' Contraption! The Consultants' Contraption is a charity event aimed to raise awareness and funds for Geering Up UBC Engineering & Science for Kids, a non-profit organization that educates children about science and engineering. During the all-day event, teams of young professionals from various engineering consulting firms will compete to build the best Rube Goldberg Machine and display their creation at a popular public indoor venue.



Invitations to participate have been sent out via email through ACEC-BC. If you attended the Vancouver YPG Breakfast Seminar on November 20th, you also would have seen a presentation on the event and received invitation flyers. Currently, the steering committee is working on finding sponsors, and ways to make this year's Consultants' Contraption a great success.

If you think your firm would be interested in participating or sponsoring the 2016 Consultants' Contraption, see the events page here: [http://www.acec-bc.ca/young-professionals/events/\[acec-bc.ca\]](http://www.acec-bc.ca/young-professionals/events/[acec-bc.ca]).
Register by December 31st.

When else would you be able to build an elaborately over-engineered device, demonstrate your firm's commitment to community involvement, and contribute to a charity that nurtures future engineers?

Volunteering

The ACEC-BC Young Professionals Group cannot succeed without the assistance of all the corporate champions and volunteers we have in our network. We want to thank anyone who has been involved. We have lots of opportunities and events coming up, and are always looking to expand our corporate champion network and grow our volunteer bank.

To better engage our volunteers we are rolling out a new volunteer position - ACEC-BC YPG Ambassador. Through the ACEC-BC YPG Ambassador program, we will train interested volunteers to become ambassadors for ACEC-BC, to help promote what our organization does. A few brave volunteers have taken on this role at recent student outreach and networking events and, as we move into 2016, we hope to encourage more people to become Ambassadors and be confident that they can represent ACEC-BC. We will be holding a webinar in January 2016 and then a training session prior to the volunteer appreciation event on February 3rd, 2016.

If you are interested in becoming an Ambassador please contact Katherine (Katherine.miller@hatchmott.com) as well as keep a look out for more detailed information to come. The Ambassador information sheet is also available here: [http://www.acec-bc.ca/young-professionals/outreach/\[acec-bc.ca\]](http://www.acec-bc.ca/young-professionals/outreach/[acec-bc.ca]).

Okanagan Group

The Okanagan group has many activities planned for the upcoming year, including:

- Jan 28th - Rae Stonehouse - Speaking to Influence
- Feb 11 - Angus English - Career Path Planning for Consultants
- March TBD - Carolyn Labun - Technical Writing for Engineers

We would like to take this opportunity to say a fond farewell to Natasha Orlitzky who has served as Chair of the Okanagan committee for almost three years. We thank Natasha for her hard work and dedication and wish her the best in her future endeavors. We would also like to welcome Tia Haunts as the new Okanagan chair.

Vancouver Island Group

Upcoming Events:

- February 18th, 2016 - Victoria breakfast seminar presentation by Mr. Chris Chalecki, P.Eng., GSC, from Kinetic Construction.

Exciting social events in the New Year will also include the annual Curling Event and Ping Pong Championships. Keep an eye out for details!

If you are interested in becoming a company champion or have any feedback or comments please contact Caroline Silins (csilins@thurber.ca)

ACEC Canada - Young Professional Network

In an effort to connect the Young Professional Groups across the country, the Association of Consulting Engineering Companies - Canada (ACEC) Young Professional Network (YPN) was created a few years ago by Provincial Young Professional (YP) group members.



The mission of the YPN is to bring together representatives from provincial and territorial member organization YP groups to facilitate communication and information sharing between provinces and to provide guidance and recommendations to ACEC regarding issues affecting YPs. The group meets monthly via teleconference, along with an in person meeting at the ACEC Annual Summit and National Convention.

The YPN also maintains a close relationship with the International Federation for Consulting Engineers (FIDIC), the global voice of consulting engineers, through the Young Professionals Forum (YPF). Two Canadian FIDIC YPF representatives regularly attend YPN meetings and share global initiatives with the group. Currently FIDIC YPF is launching its first Young Professionals Award, and YPN as well as ACEC are working to develop a process for the nomination/selection of the Canadian YP to put forward for the award. No decision has been made yet, but preliminary discussions are leaning towards putting the winner of the ACEC Allen D. Williams award forward as the Canadian candidate for the FIDIC YP award. For more information on the ACEC Allen D. Williams award, visit: http://www.acec.ca/events_awards/allen_d_williams_scholarship_award/nominations.html
For more information on the FIDIC YPF Young Professionals Award, go to: <http://fidic.org/node/9114>

ACEC-BC Committee Updates

Municipal Engineering Committee

The ACEC-BC Municipal Engineering Committee (MEC) has hosted a number of successful events so far this year, including the Richmond / Delta and Burnaby / New Westminster mixers in October. In the New Year, we can all look forward to the Langley / White Rock, Okanagan, Surrey and Metro Vancouver Mixers. These events offer a great opportunity to network with decision makers within the municipalities and attend presentations from municipal staff.

The MEC is currently working on the ACEC-BC Municipal Toolkit, which will serve as a guideline for municipalities interested in learning more about the process of Qualifications Based Selection (QBS). ACEC-BC believes that a QBS process based primarily on the qualifications, methodology and experience of the engineering team offers the best value to the client, tax payers, and all British Columbians. For those interested in learning more about QBS, ACEC-BC has prepared a video entitled "Yes 2 QBS", which can be viewed at the following link: [https://youtu.be/Q1yQTUn9HvU\[youtu.be\]](https://youtu.be/Q1yQTUn9HvU[youtu.be]).

In the New Year, the MEC will be hosting a networking event in cooperation with the ACEC-BC Young Professionals Group which will allow young professionals from the consulting industry an opportunity to network with their counterparts from the municipal community.

Business Practice Committee

The ACEC-BC Business Practice Committee has recently been working on the development of the 2016 ACEC-BC Consulting Engineers Fee Guideline. These guidelines recommend standard hourly rates for professional and technical services and are based on review of a number of market factors.

Other recent activities of the Business Practice Committee have included reviewing best practice guidelines for pre-qualification and privilege clauses. The committee is also working on documents related to close-out procedures, budgeting engineering services guidelines and standard consultant-subconsultant agreements.

Transportation Committee

The Transportation Committee has been busy and has many updates with the eRISP system, the transition to C3D, climate change adaptation, and the Annual BCMoTI/ACECBC Transportation Conference.

The Transportation Committee submitted a new version of eRISP that will help reduce the number of project categories, which will be less work for the Ministry in completing adjudications and less work for consultants preparing multiple submissions in categories with similar criteria. In addition, BCMoTI is currently discussing if shortlisted proponents should be reported for RISP assignments, but has agreed to provide information about the winning proponent and the dollar value of a contract after a successful bid.

BCMoTI has also been slowly transitioning from CAiCE to Civil3D and has started developing assemblies and drawing standards. The project is expected to finish in late Spring/Summer 2016, with ACEC-BC offering help and guidance. In addition, BC Roadbuilders have been encouraged to participate and comment on the implementation of Civil3D and the drawing standards.

Regarding climate change adaptation and creating a draft guideline on how climate change will affect projects, the Practical Guideline Committee will meet at the next APEGBC AGM in Kelowna to discuss climate change and plan to have a guideline in place by April 2016.

Lastly, the Annual BCMoTI/ACEC-BC Transportation Conference is coming up in January 28, 2016.

Resource and Energy Committee

Objectives

- Build a strong relationship based on learning and information exchange.
- Proactively keep each other informed of interests and issues.
- Promote the interests of ACEC-BC member firms to Resource and Energy firms and government that use or can influence the use of our services.
- Focus the committee effort on BC Hydro and the Provincial Government; committee will become involved with private firms only if the need arises from our member firms.
- Engage the Provincial Government in a proactive discussion to better utilize consulting engineers on projects.

BC Hydro has been the major focus of the committee. The underlying principle when ACEC-BC is dealing with BC Hydro is to maximize the benefit to ACEC-BC Member firms when working/bidding with BC Hydro. This would include maximizing work contracted, making a fair and non-onerous bidding process, having terms and conditions that are fair (good) for consultants, having a steady stream of services required, providing long range forecasts of service requirements, and maximizing potential profits and revenue of ACEC BC member firms. The Provincial government is the other focus of the committee. Additionally, to build on last year's efforts, additional focus is being placed on mining, as well as LNG and the pipeline industries; two subcommittees have been formed in order to further these causes.

Some upcoming initiatives:

- BC Hydro Mixer 2016 - date TBD
- Continuing to pursue potential breakfast meetings for early 2016
The LNG and pipeline (oil and gas) subcommittee is working on preparing materials for public outreach and mixers.

Featured YP of the Quarter

Philippe St-Germain, EIT

Originally from Gatineau, Quebec, Philippe St-Germain is a Coastal Engineer in the Ports and Marine Group of SNC-Lavalin's Infrastructure Division. He graduated from the University of Ottawa in 2010 with a BSc in Civil Engineering and a BSc in Computing Technology. He then pursued his studies with a MASC in Water Resources which he completed in 2012 with particular focus on Coastal Engineering, which is the study of the ongoing processes - wind, waves, tides, and sediment movement - at the coastline and their influence on infrastructure and navigation. Through his graduate studies at the University of Ottawa, he developed a special interest in the physical interaction of ocean waves and coastal infrastructure, which provided him with the opportunity to be a visiting researcher at the universities in Spain and Japan. Philippe has been working at SNC-Lavalin since then, and over these past 3 years, he has learnt how to apply his theoretical background and analytical skills to the realities of consulting engineering.



“When I started working after my graduate studies, I had a hard time to really understand constraints associated with time and budget. As a graduate student, with relatively more time in my hands, I would spend a lot of efforts focusing on all details of the task I was doing.”

The level of detail required for a project is defined by the project scope and the client's needs, but also by the implications of underlying assumptions. As he gained experience and followed his colleagues' advice, Philippe learned to simplify problems to the important aspects and to be selective, focusing his efforts in areas that required special attention.

Many aspects of Coastal Engineering contain uncertainty due to the complex nature of oceans. When advancing a project to detailed design stages, these uncertainties sometimes need to be assessed. Drawing from his research skills, Philippe initiated research & development (R&D) projects to apply recent advances in science and knowledge to the development and improvement of design tools and approaches. These included the development of a numerical tool capable of computing realistic wave conditions in the Strait of Georgia and Juan de Fuca Strait using spatially interpolated wind observations, and the evaluation and validation of state-of-the-art numerical models for defining the action of waves on coastal structures with the goal of being able to improve shorelines and coastal infrastructure against the effects of sea level rise.

“Having an understanding of the realities and needs of the industry allowed me to really focus the goals of our R&D work to ensure that it is not only useful, but outcomes are applicable under project constraints.”

The results of this R&D work, performed in collaboration with the University of Ottawa, were presented by Philippe at the 34th International Conference on Coastal Engineering in Seoul, Korea. The findings were also applied by Philippe and his colleagues on several projects including the definition of metocean design criteria for the new Seaspans ferry terminal at Duke Point, near Nanaimo, and a new floating wave attenuator at the DND Esquimalt Harbour in Victoria. Philippe was the Project Engineer on the Town of Qualicum Beach Waterfront Master Plan - Phase 1 project and is currently responsible for evaluating the feasibility of a beach fill which will assist the District of Sechelt in addressing coastal flooding concerns.

For the last year, Philippe has been a member of the SNC-Lavalin Vancouver Toastmasters Club. His work involves communicating with individuals with different backgrounds on multidisciplinary projects, but also members of the public and clients. Although he originally joined the club to improve his communication and listening skills, which have been useful in his career development, he now sees his participation in Toastmasters as a way to refine his skills and help others develop theirs. Joining the club has helped him realize how crucial it is to effectively communicate when you want to promote your ideas and play a role in the making of decisions.

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We are looking for one representative from each member firm to act as a liaison between their company and the ACEC-BC Young Professionals' Group. Please email us at ypg@acec-bc.ca to become your firm's ACEC-BC YPG Company Champion.