**Presentation to Central Island BCITP Net Engineers**

Excerpted from the minutes of BCITP Net Nanaimo Meeting - September 24, 2003

Guest speaker, Randy Wunderlich, P.Eng of Duncan Industrial Engineering Inc., welcomed the group and expressed his pleasure at the opportunity to address the BCITP Net.

Randy provided information to the BCITP Net members that he felt would be of particular interest to those with an Engineering background. The discussion topics were:

- An Introduction to Duncan Industrial Engineering Inc. (DIEI).
- Engineering Skills DIEI looks for
- Comparing BC Engineering with Rest of the World
- Marketing Engineering (Professional) Skills in BC
- Selling Strategies for Service Businesses
- Why would DIEI Hire an Internationally Trained Professional
- How to Break In

Randy briefly noted the first step, for ITP Engineers is with the Association of Professional Engineers and Geoscientists of BC (APEGBC). More information regarding APEGBC can be found on the website: www.apeg.bc.ca

## Introduction to Duncan Industrial Engineering Inc.

Randy gave a brief introduction to Duncan Industrial Engineering Inc. (DIEI)

- Provide professional engineering assistance to the pulp & paper industry
- Their focus is on Western Canada, with 2 offices in BC – Nanaimo, Prince George
- They are a small company with a combined staff of 30 people
- They assist the pulp mill engineering departments on small projects, providing additional expertise to these departments
- Made the business decision to set up close to their clients to be easily accessible
- Work with BC Hydro, Norske, on energy opportunities; Randy provided a technical description
- More information available on their website: www.diei.com

## Engineering Skills DIEI looks for:

- Basic tools needed
    - Microsoft Office proficiency (mandatory)
    - Certified training and experience

*Randy stressed that computer skills are essential in his office. Staff are expected to have enough skill and experience to enable them to work independently and troubleshoot many technical computer difficulties.*

- Designers
    - AutoCad 2002
    - Cadpipe or Rebus Design software
    - Microsoft systems
    - Point Cloud Surveying

- Process Engineers
    - CadSim, Massbal or GEMS Simulation software
    - Technical writing skills

- Mechanical Engineers
    - Pipe Stressing
    - Pressure Vessel Design
    - MS Project Planning
    - Cost Estimating software *(Randy noted this is an area of special challenge for ITP's due to lack of knowledge of vendors, etc)*
    - Contract & Tendering Administration *(Canadian specific)*

Randy stated that a proficiency in Industrial grade AutoCad drawing skills is enough to begin a career in a company at a Designer level. He shared two examples of times his company has hired Internationally Trained Engineers in this role, with successful results. One engineer completed his professional certification and gained employment with a large firm. The other chose to make a full time career as a designer.

## Comparing BC Engineering with Rest of the World

- Professional Engineering in BC is legislated
- Applied Science degree (only available at a few universities) – 4-5 years university followed by 4 year apprenticeship
- Certification as a Professional is not required for many larger companies, however it is preferred by most consulting firms.
  *Examples of larger companies not requiring Professional Certification are pulp & paper mills, sawmills, oil industries. This is especially true if <u>not</u> working in the lower mainland where competition is very stiff. Professional status is often not required in smaller, more remote areas, for example Prince George, Prince Rupert, etc.*
- BC Engineers are liable for their designs
- Quebec is different from the rest of the provinces. Most of the other provinces recognize each other's certification.

In BC, the 4-year apprenticeship is a working apprenticeship. You can work but you cannot certify or apply a seal to documents.

Those in attendance shared the graduation requirements from their countries and it was noted that it was a similar process in many countries. A period of supervised work was common following several years of university.

In BC, an "Engineer In Training" carries the designation EIT after their name.

Randy also shared that in Canada, an Engineering graduate is given a "pinky ring" as a symbol of their Engineering status. More information on this tradition is available on the APEGBC website under "iron ring".

## Marketing Engineering (Professional) Skills in BC

- The Employers
    - Industry - will often hire "un-certified"
    - Government – will sometimes assist with certification and training
    - Consultants – want experienced, certified engineers – someone who can work immediately
    - Self employment

- The Networks
    - Professional Associations
    - Trade Associations
    - Social Associations
    - Professional relationships
    - Satisfied clients

Creating and maintaining a strong network is always important, especially when self-employed.

## Selling Strategies for Service Businesses

Engineering services are Relationship services!

1. Define what your idea or niche service will be
2. Conduct research to find out if clients will buy that service
3. Clarify your service, be specific about what you want to offer, where and how much you will charge
4. Promote your service
5. Sell the service to a client
6. Maintain the relationships (Randy stressed it takes 4-5 visits before anyone will remember you or your service. Keep at it.)

Use the International Self-Counsel Business Series – "Selling Strategies for Service Businesses" as a reference.

To access information regarding wages, see APEGBC website.

## Why Would DIEI hire an Internationally Trained Professional?

- Motivations
    - Shortage of local experienced engineers
    - Bring new engineering tools, technology and ideas
    - Can be a good value if immediately chargeable

- Hurdles
    - Questions regarding actual qualifications and experience
    - Language barriers
    - Difficulty in obtaining P.Eng
    - Liability issues
    - High training requirements to:
        - Learn Canadian design standards, regulations and design tools
        - Must establish local process and site familiarity
        - Required time to establish vendor/client relationships

Randy stated that the "urgency of time" is not as prevalent in government projects as it is in a private office.

At this time Randy discussed the APEG BC's 2003/04 Bylaw Amendments – Oct 10/03 regarding **Provisional Membership to APEGBC**. A vote will be held soon to determine if they will implement this process. Further information can be found at www.apeg.bc.ca

## How to Break In

- Get professional assistance with Job Search techniques, Multicultural Society can provide this
- Upgrade skills to those of general use in Canada (computer based engineering packages)
- Keep networking, join associations
- Accept "starter" job at lower level if possible
- Work on "technical" English at school or with a tutor
- Volunteer through an association, always looking for volunteers to help
- Attend conferences, presentations
- Start own business and market it
- Work on obtaining "provisional certification" with APEGBC

Randy finished his presentation by telling the group:
"Good luck, we do need you!!"

Central Island BCITP Net would like to thank Mr. Wunderlich for this informative presentation.