

Appendix 1: Preliminary Analysis of Issues

Information

- Poor quality and accessibility of information for immigration applicants and new immigrants (e.g. availability of engineering jobs, the professional regulatory system, qualification requirements for professional positions and licensure, on-the-job responsibilities and expectations, professional training and employment services)
- Misinformation from government and service agencies, friends and relatives

Work Experience, Education and Skills

- Unfamiliar Canadian hiring processes
- Lack of job search and interviewing skills
- Limited English and communication skills
- Some unrecognized academic credentials and international work experience by regulatory bodies and employers
- Over-qualification for technician and technologist positions
- Lack of local work experience and references
- Expensive costs for training, upgrading, and licence registration
- Limited government support for training costs
- Unavailable, limited availability or inappropriate training and bridging courses

International Qualifications Assessment

- Unfamiliar or confusing professional registration requirements and processes
- Confusion between the Initial Assessment conducted by the Canadian Council of Professional Engineers and the registration processes conducted by provincial associations
- Unfamiliar differences in engineering standards between country of origin and Canada
- Unique assessments of qualifications amongst applicants (i.e. each registration application must be assessed independently due to the uniqueness of applicants' combination of academic and experience qualifications)

Appendix 2: Who was Involved

Summary	Total Number
Pilot Project Steering Committee	13
Pilot Project Participants	20
Consultants and Contractors	25
Guest Speakers	4
Volunteer Advisors	10
Volunteer APEGBC Interviewers	22
Volunteer Mentors	2
Companies Interviewed (Success Development Group)	42
Companies Contacted (Landell and Associates Consulting Ltd.)	60 approx
Research Information Contributors	24
Consultation Focus Group Participants	26
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Total Partners, Participants and Contributors	223
Total Consultants and Contractors	25 (in 10 companies)
Total Evaluation Surveys and Interviews (completed as of August 12, 2003)	208(excluding overlapping groups)

Pilot Project Steering Committee, Total = 13	
Ministry of Community, Aboriginal and Women's Services (CAWS), Immigration Branch (4)	Association of Professional Engineers and Geoscientists of BC
Canadian Council of Professional Engineers (CCPE), Educational Affairs	Ministry of Advanced Education (AVED), Public Institutions Branch
AVED, Industry Training	AVED, Policy Services
Citizenship and Immigration Canada (CIC), BC/Yukon Region	CIC, Economic Policy Programs
Human Resource Development Canada (HRDC), Employments Programs	HRDC, BC/Yukon Region

Pilot Project Participants (Work Experience and Training), Total = 20	
Alvaro Adarraga	Jose Macdonel, P.Eng.
Marian Androne	Nenita Oida
Joseph Aoro, EIT	Tomislav (Tom) Pavlovic
Teresita Dechavez	Filip Petrovic
Renato Delos Santos	Jaypurkass (Jay) Perbhoo, EIT
Vladan Drobnjak, EIT	Crisaldo (Cris) Salazar
Oleksandr Gajdamaschko	Dragan Stankovic
Jian (John) Huang	Serguei Tchou-San-Da, Ph.D, EIT
Saleh Hussein	Alexandre Terekhine
Li Ma, MIStructE, EIT	Helen Zhang

Consultants and Contractors, Total = 25 people in 10 companies	
<p>Quadra Planning Consultants Ltd. (September 2002 – September 2003)</p> <ul style="list-style-type: none"> ▪ Michael McPhee Pilot Project Evaluation Co-Manager ▪ Dr. Victoria Macfarlane Pilot Project Evaluation Co-Manager ▪ Dr. Catherine C. Dunlop Evaluator ▪ Angela Weltz (sub-contractor) Research and Analyst ▪ David Coombs (sub-contractor) Technical Advisor 	<p>Association of Professional Engineers and Geoscientists of BC (January 2002 – September 2003)</p> <ul style="list-style-type: none"> ▪ Gillian Pichler, P.Eng. Pilot Project Director ▪ Kim Walker (sub-contractor) Pilot Project Manager ▪ Megan Begley Pilot Project Coordinator ▪ Diana Penco Pilot Project Research Assistant ▪ Janet Guscott Manager, Continuing Professional Development ▪ 9 Registration & Communications staff
<p>Success Development Group (December 2002 – August 2003)</p> <ul style="list-style-type: none"> ▪ Patrick Coady Workplace Relations Strategist, Coach and Trainer ▪ Kathy Lilyholm (sub-contractor) Workplace Relations Strategist and Coach 	<p>Kim Walker Community and Environment (March 2001 – December 2001)</p> <ul style="list-style-type: none"> ▪ Kim Walker Facilitation, Research, Project Development and Management Services
<p>Saremba Consulting Services (May 2003)</p> <ul style="list-style-type: none"> ▪ John Saremba Labour Market Workshop Instructor 	<p>Landell and Associates Consulting Ltd. (May 2002 – August 2002)</p> <ul style="list-style-type: none"> ▪ Mary Landell Work Experience/Training Project Director ▪ Keith Land (sub-contractor) Work Experience/Training Project Manager ▪ Wim Vanderpoll (sub-contractor) Training and Skills Development Trainer ▪ Padraig Tunney Training and Skills Development Trainer ▪ Jennifer Shecter Training and Skills Development Trainer ▪ Maria Raczkiewicz Controller ▪ Anahita Kadkhoda (sub-contractor) Training and Skills Development Trainer ▪ Dr. Marylee Stepheson (sub-contractor) Work Experience/Training Evaluator ▪ Dora Chen Administration
<p>Autodraft Inc. (February 2003 – March 2003)</p> <ul style="list-style-type: none"> ▪ Jim Yee, AScT., Dip.T., B.A. (Econ) AutoCAD Course Instructor 	
<p>Tap Ventures Inc. (January - February 2003)</p> <ul style="list-style-type: none"> ▪ Madeleine Butschler Website Design Workshop Instructor 	
<p>UBC Centre for Intercultural Communication (November 2002)</p> <ul style="list-style-type: none"> ▪ Laurie Aikman, PhD Inter-Cultural Communication Workshop Instructor 	
<p>Open Door Consulting (December 2001)</p> <ul style="list-style-type: none"> ▪ Inessa Galperin Employment Consultant/Workshop Instructor 	

Guest Speakers , Total = 4	
Martin McGregor, ASCT, ID, Director, Professional Standards and Registrar Applied Science Technologists & Technicians of BC.	Jack Lee, P.Eng. Vice President Dayton & Knight Ltd.
Pam Hunt, Assistant Department Head of Vocational ESL programs Vancouver Community College.	Harriet Lemer, Vice-President Einblau & Associates Ltd.

Volunteer (Engineering and Technology Industry) Advisors Total = 10	
Neal Carley, P.Eng., Principal Carley Environmental Inc.	Arun Kumar Dalal P.Eng, Principal Dalal Associates Engineering
Jerzy Z. Zamajtis, Ph.D Senior Structural Engineer Associated Engineering (B.C.) Ltd.	Yogi Yogandrakumar, PhD., P.Eng., Associate – Geotechnical Engineering Group Golder Associates
Sol Friedman, EIT Program Manager BC Hydro	Prakash Joshi, Limited Licensee AMEC Earth & Environmental Ltd.
Clarence Wong, M.Sc., P.Eng. Vice President & Manager, Structural Department Pomeroy Engineering Ltd.	Bantoo Minhas, P.Eng., Vice President Society of Punjabi Engineers & Technologists of BC
Bonny Billups WoodTek Technical Services	Bill Billups ASCT., Technical Advisor Canadian Wood Council WoodWORK! Project

Volunteer APEGBC Interviewers Total = 22	

Volunteer Mentors (for Pilot Project Participants) Total = 2	
Delcan	City of Coquitlam

Companies Interviewed by Success Development Group**Total = 42 (not including overlaps with other lists)**

Associated Engineering (B.C.) Ltd.

BC Gas

City of Maple Ridge

City of Richmond

City of Vancouver

CWMM Consulting Engineer

Dubas Engineering

Earth Tech

Fraser River Port Authority

Haakon Industries

Haebler Group

Ian Weir Jones

Intertech Construction

Landmark Truss & Lumber

Norwest Corporation

Port of Vancouver

Reid Jones Christoffersen

Scott Construction

Seabulk Systems

SNC Lavalin

UMA

Westmar Consulting

AMEC

Ballard Power

BC Hydro

BCIT

City of Coquitlam

City of Port Coquitlam

City of Surrey

Dayton & Knight Ltd.

Delcan

District of West Vancouver

Dominion Fairmile

FM Global

Gage-Babcock & Associates

Jade West Engineering

Jones Kwong Kishi

Klohn Crippen

Levelton Engineering

Nexen Chemicals

Vanbots

William Kenyon Vancouver Inc.

Yoneda & Associates

Companies Contacted by Landell and Associates Consulting Ltd.	
Total = 60 approx.	
ABB	Municipalities
AMEC	▪ Abbotsford
Aplin & Martin	▪ Burnaby
Ballard Power	▪ Langley
BC Biotechnology Alliance	▪ Maple Ridge
BC Gas	▪ Mission
BC Hydro	▪ New Westminster
Biomed International	▪ North Vancouver
Citiwest	▪ Richmond
Cochrane/PBK	▪ Surrey
CWMM	▪ Vancouver
Fluor Daniel Inc.	Acres International
Fransen	Associated Engineering (B.C.) Ltd.
Greater Vancouver Regional District	BCIT
Hamilton Associates	Binnie
Honda	CH2M Hill
Kerr Wood Liedal	Delta MTI Biomedical
Kvaerner	Golder
La Farge	ICBC
McElhanney	Keen Engineering
ND Lee	Klohn Clippen
Nepcan	Metro-McNair Clinical Labs
Noram	Ministry of Transportation
Peter Kiewit	Morrow Engineering
Sandwell Inc.	NLK
SNC Lavalin	Read Jones Christoffersen
Stothert	Richview Environmental
Telus	Veco
UMA	WCB
Westcoast	Westmar

Information Contributors to Background Research (Technical Skills Training) Total = 2	
Derek Routledge, CET, Plant Design Consultant Autodraft, Inc. (in Calgary)	Clair Botkin, President Autodraft, Inc. (in Calgary)

Information Contributors to Background Research (ESL and Communication) Total = 9	
Marta A. Goodwin, Dean of the School of Academic and Preparatory Studies, English as a Second Language, ASL and Deaf Studies, Deaf and Hard of Hearing Program Assessment Centre Vancouver Community College	John Kostoff, Faculty Advisor Assessment Centre Vancouver Community College
Susan Vellutini, A/Supervisor Assessment Centre Vancouver Community College	Lesley Grant, Instructor English Language and Culture Program, Continuing Studies Simon Fraser University (Harbour Centre)
Susan Stevensen, Senior Lecturer School of Engineering Science Simon Fraser University	Dianne Tiefensee, Director English Language and Culture Program, Continuing Studies Simon Fraser University (Harbour Centre)
Wes Schroder, CLB Assessor Western ESL Services	Rob Boldt, Manager Performance Management, Settlement and Multiculturalism Branch Ministry of Community, Aboriginal and Women's Services
Valerie Johnson, CLB Assessor Intercultural Association of Greater Victoria	

Information Contributors to Background Research (Employment and Immigrant Services) Total = 10	
Pat Steiner, ESL Program Coordinator Pacific Immigrant Resource Society	Duncan Stephen, Program Coordinator Vancouver Employment Access Centre
Deborah Twocock, Program Director Dress for Success (Vancouver)	Kathy Gregg, Registered Rehabilitation Professional
Peggy Edwards, Executive Director Skills for Change (in Toronto)	Lionel Laroche, Ph.D., P.Eng., Executive Vice-President, Cross-cultural and Relocation Services Hazell & Associates (in Toronto)
Diana Dennis, Manager Business, Employment & Training Services Div. Calgary Catholic Immigration Society	Khadijah Shivji, Case Manager, Learn\$ave Project New Westminster Community Development Society
Shauna Paull, Coordinator, Immigrating Women in Science IWIS	Karen Carr, R.R.P., Career Consultant Future Focus Career Solutions

Information Contributors to Background Research (Research Projects) Total = 2	
Arlene Wortsman, Director, Labour Canadian Labour and Business Centre (in Ottawa)	Kate Geddie Department of Geography, UBC

Consultation Focus Group Participants Total = 26 (excluding individual interviews)	
Ron Goodine, Charlotte Katzen Jewish Family Service Agency	Ken Ng, Mesfin Mulugeta, Peter Liang SUCCESS
Hana Sepahi, Kelly Pollack, Mustafa Ahmed MOSAIC	Laurie Sing, Lily Lim, Ellie Khaksar ISS
Trudy Dirk, Wendy Robinson Kamloops Immigrant Society	Charan Gill PICS
Dorothy Keenan, Inessa Galperin Future Works	Brian Johnson, P.Eng. Stantec Consulting Ltd.
Sid Siddiqui, P.Eng. Earth Tech Canada Inc.	Steven Fleck, P.Eng. AMEC Simons Forest Industry
Alex Sy, P.eng. Klohn Crippen	Tim Jervis, P.Eng. Greater Vancouver Regional District
Randa Khalil, P.Eng. Delta Hudson Engineering, Ltd.	Igor Povalyaev, P.Eng. Air Canada
Sergey Shipillo, P.Eng. G.E. Transportation Systems.	Jerzy Ladislaw Zemajtis (see advisors, above)
David Gordon Price AMEC	13 Internationally Trained Engineers (individual interviews)

Total Partners, Participants and Contributors = 200 + APEGBC interviewers (~30?)

Total Consultants and Contractors = 25

Evaluation Surveys and Interviews (completed as of August 12, 2003)	
Total = 208 (excluding pilot participants, project staff & steering committee)	
Pilot Participants (overlap with list above) 15 interviewed	Pilot Participant Exit Surveys (overlap with list above) 8 surveyed
Internationally Trained Engineers (currently working in Canada) 6 interviewed, 58 surveyed	Internationally Trained Engineers (working but unregistered) 6 interviewed
Professional Registration Associations and Regulatory Bodies 10 interviewed	Engineering Employers 7 interviewed, 121 surveyed
Service support organizations (some overlap with list above) 7 interviewed	Pilot Project Staff/Steering Committee (overlap with list above) 6 interviewed

Appendix 3: Demographic Profile of Participants

<p>Country of Origin</p> <p>4 x Philippines 1 x Kenya 3 x China 1 x Mauritius 4 x Yugoslavia 1 x Mexico 2 x Russia 1 x Romania 1 x Colombia 1 x Ukraine 1 x Jordan</p>	<p>Arrival in Canada</p> <p>3 x 2001 4 x 1998 7 x 2000 1 x 1997 4 x 1999 1 x 1996</p>		
<p>Mother Tongue</p> <p>4 x Tagalogue 2 x English 3 x Russian 1 x Arabic 3 x Serbian ? 1 x Chinese 2 x Spanish 1 x Croatian 2 x Mandarin 1 x Romanian</p>	<p>Number of Languages Spoken</p> <p>12 x 2 Languages 7 x 3 Languages 1 x 4 Languages</p>		
<p>Date of Birth</p> <p>1 x 1931-1940 9 x 1961-1970 8 x 1951-1960 2 x 1971-1980</p>	<p>Gender</p> <p>17 x Male 3 x Female</p>		
<p>Disciplines</p> <p>9 x Civil 1 x Biomedical 2 x Electrical 1 x Chemical 2 x Mechanical 1 x Marine 2 x Structural 1 x Mining 1 x Software</p>	<p>Degrees (All degrees are from outside of North America)</p> <p>14 x Bachelor's Only 3 x Bachelor's and Master's 1 x Bachelor's and PhD 2 x Unknown</p>		
<p>Recognition of Credentials</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>13 x Degree Foreign-Listed, Not Accredited</p> <p>These candidates would normally be assigned 4 confirmatory examinations, or, if they had more than ten years of experience, would sit a Looking-to-Exempt Interview to assess whether the examinations could be waived.</p> <p>3 x Academically Qualified</p> <p>Enrolled as engineers-in-training (at beginning of the Pilot Project)</p> </td> <td style="width: 50%; vertical-align: top;"> <p>2 x Not Listed or Accredited</p> <p>These candidates would normally be assigned 6 confirmatory examinations, or, if they had more than ten years of experience, would sit a Looking-to-Exempt Interview to assess whether the examinations could be waived.</p> <p>2 x Unknown</p> </td> </tr> </table>		<p>13 x Degree Foreign-Listed, Not Accredited</p> <p>These candidates would normally be assigned 4 confirmatory examinations, or, if they had more than ten years of experience, would sit a Looking-to-Exempt Interview to assess whether the examinations could be waived.</p> <p>3 x Academically Qualified</p> <p>Enrolled as engineers-in-training (at beginning of the Pilot Project)</p>	<p>2 x Not Listed or Accredited</p> <p>These candidates would normally be assigned 6 confirmatory examinations, or, if they had more than ten years of experience, would sit a Looking-to-Exempt Interview to assess whether the examinations could be waived.</p> <p>2 x Unknown</p>
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Appendix 4: Contract Responsibilities

APEGBC

APEGBC was responsible for managing and administering all aspects of the Pilot Project, excluding the Pilot Evaluation and the Work Experience and Training component, from January 2002 to the end of the project. Responsibilities included:

- Producing and analyzing research;
- Updating and distributing project information to stakeholders through information seminars, workshops, newsletters, and websites;
- Maintaining records, summarizing information, and participating in project evaluation activities;
- Managing but not funding the Professional Work Experience and Training Model;
- Reviewing APEGBC policies and procedures;
- Reviewing APEGBC information (web-based, guides, correspondence with applicants); and
- Developing, revising, and finalizing information materials for distribution.

In November 2002, APEGBC took on the additional responsibility for the work experience and training activities.

Kim Walker Community and Environment

Kim Walker Community and Environment was responsible for specific facilitation, research, project development, and advisory services from March to December 2001. In addition, general project management services were provided from August to December 2001. Major services included:

- Preparation of draft terms of reference and project description materials for the Steering Committee, and facilitation of the inaugural Steering Committee meeting;
- Development of public materials including Questions and Answers, newsletters, and the Framework for Action project outline;
- Development and facilitation of stakeholder focus groups, and preparation of consultation summary reports;
- Research and preparation of a report on wage subsidy options;
- Preparation and facilitation of meetings and workshops for outside agencies, pilot participants, the pilot management team, and APEGBC staff, including an information exchange workshop for internationally trained engineers;
- Development of terms of reference for curriculum development and implementation, and development of selection criteria for service delivery agents;

- Development of selection criteria and selection process for employers and clients for the work experience model, and preparation of the request for proposal for work placement services;
- Preparation of terms of reference for content analysis of APEGBC materials;
- Preparation of work plans and project schedules; and
- Development of a project evaluation plan.

From January 2002 to September 2003, Kim Walker was sub-contracted by APEGBC as the Project Manager. Responsibilities included managing the deliverables under the APEGBC contract with the Ministry, excluding contract administration, internal staff activities and APEGBC-specific products.

Landell and Associates Consulting Ltd.

Landell and Associates Consulting Ltd. was responsible for the development and delivery of work placements, training and mentorships for twenty pre-identified internationally trained engineers. Landell was also responsible for ongoing evaluation, research and reporting activities as they related to the Work Experience and Training Model. These responsibilities included:

- Inventory of relevant curricula and training courses, and identification of existing training and education resources;
- Verification of training needs in consultation with the Pilot Steering Committee members, employers and participant engineers;
- Curriculum and work experience development;
- Develop or adaptation, and delivery, of training and education materials in identified subject areas;
- Development of work experience service delivery procedures, and delivery of services;
- Development of a work performance and professional development assessment tool for employer use;
- Identification of prospective employers and appropriate job positions;
- Arrangement of job interviews with engineer participants, and negotiation of a work experience contract with professional development support, supervision, assessment and employer-employee support provisions;
- Delivery of orientation sessions for participants and employers;
- Delivery of other training courses for employers and participants;
- Ongoing support to the employer and engineer participant; and
- Design and delivery of an evaluation plan for work experience and training.

The Ministry initially contracted Landell and Associates Consulting Ltd. from April 2002 to April 2003. However, services were provided until July 2002.

Success Development Group

Success Development Group was contracted from December 2002 to August 2003 to conduct the work experience component of the Pilot Project. Responsibilities included:

- Review and assessment of Pilot Project participants' needs and potential opportunities;
- Personalized coaching to build confidence and on-going support to participants;
- Remedial job search skills training, as needed;
- Work experience placement involving direct contact with companies, introduction of participants and the Pilot Project, identification of available positions and opportunities, facilitation of information and job interviews, and preparation of participants for interviews and job placements;
- Placement of participants into work experience jobs acceptable to APEGBC, regular contact/coaching with participants and their employers, and follow up with employers regarding work performance;
- Reporting and participation in Pilot Project as a member of the management team; and
- Participation in evaluation activities.

Quadra Planning Consultants Ltd.

Quadra Planning Consultants Ltd. was hired directly by the Ministry to conduct an overall project evaluation. Quadra was responsible for evaluating the Pilot Project with respect to project outcomes and impacts, development and delivery processes, and effectiveness of the partnership approach. Quadra participated in the Pilot Management Team meetings but maintained independence from the daily management of the Pilot Project. Responsibilities under Quadra's contract included:

- Finalization of an evaluation methodology;
- Review of background literature and project documents;
- Primary data collection via key informant interviews, an ITE engineer survey and an employer survey;
- Feedback to the Pilot Project Management team on pertinent findings and insights during the course of the Pilot;
- Comparison with other professions; and
- Evaluation of the Pilot Project with respect to project outcomes and impacts, development and delivery processes, and effectiveness of the partnership approach.

Other Consulting Services

A variety of specific training and workshop contracts were carried out under sub-contract to APEGBC. These included:

- Saremba Consulting Services – labour market research workshop for participants
- Autodraft Inc. – autocad level 1 course for participants
- TAP Ventures Inc. – website design and management training workshops for APEGBC staff
- UBC Centre for Intercultural Communication – intercultural communication workshops for APEGBC staff
- Open Door Consulting – Resume critique and job search workshops

Appendix 5: Activities and Deliverables

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
WORK EXPERIENCE & TRAINING						
1. Participant Selection						
Develop selection criteria, application & selection process	1		1			
Solicit applications & select ITE participants	1		1		1	Selection process adjusted to first come first serve criteria
Orientation to Pilot Project	1		1			
2. Training Needs Assessments						
Self assessments	1		1			
Consultants' assessments	1		1			
ESL assessments	1		1		1	Replaced CLB with VCC assessments
APEGBC P.Eng. assessments	1		1			
3. ITE Training						
APEGBC Law and Ethics Seminar		1	1			
Intercultural training	1		1			Integrated with job preparation workshops
Skills and career development training	1		1			
Communication and English skills	1			1	1	Individually pursued with training allowance
Business and entrepreneurial skills	1			1		
Professional practice/industry training	1			1	1	Individually pursued with training allowance
Exam Preparation Workshop		1		1		Idea remained undeveloped
Bursaries & Training Referrals	1		1			
Enroll participants in courses/track training taken		1		1	1	Participants enrolled themselves. Some liaison occurred (eg ESL)
Liaise with institutes on entrance requirements		1	1		1	Liaised with VCC only

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
AutoCAD level 1 course		1	1			
Labour market information research workshop		1	1			
4. Work Experience						
a) ITE Support						
ITE group meetings	1		1			
One-on-one coaching to participants	1		1			
Employer research and direct marketing	1		1			
Job search preparation (resumes, letters etc)	1		1			1 active participant didn't complete
ITE job search logs	1			1		Despite best efforts, logs were not completed
Job identification and interview/meeting preparation	1		1			
Feedback with employers	1			1	1	Some interaction with employers
ITEs hired	1			1	1	Job placements did not turn out as planned. 50% of ITE's hired in engineering or engineering support positions
Ongoing support in job	1			1	1	Job placements did not turn out as planned
b) Employer Training and Support						
Orientation Workshop	1			1		
Information material on Pilot Project	1		1			
Inter cultural training	1			1		
Ongoing support with employer and employee	1			1	1	Some support to 1 employer
5. Mentoring & Networking						
Coordinate mentorships (2 models)	1			1		Not completed under first contract

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Identify potential mentors	1			1		
Solicit and match mentors	1			1		Begun under second contract
a) Develop Guidelines & Procedures						
Literature review of other programs	1		1			research done but not reported
Mentor guidelines & procedures	1			1		Cancelled in lieu of final report
b) Coordinate through APEG branches/divisions						
Organize mentorships & orientation sessions	1			1		Cancelled due to other APEG priorities
c) Coordinate with MOSAIC/ISS on immigrant network	1		1			Informal 2-way information sharing
6. Industry/Employer Marketing & Consultation						
a) Marketing to Industry						
Employer communications plan	1		1			
3 information seminars & meetings	1			1		planned for APEG branches/divisions
Mail-out/direct marketing campaign	1		1			
Display & promotion at APEGBC conference	1		1			
3 articles in Innovation Magazine	1		1		1	2 articles submitted; 1 planned for business magazine or newspaper
b) Employer Advisory Group						
Terms of reference & job descriptions	1			1		started too late to fully develop
Employer recognition program	1			1		
2 advisory committee meetings	1			1	1	started late. 2 meetings instead of 4
c) Employer Consultation/ Assistance						
Tours		1		1		not enough time to organize
Guest Speakers		1	1			
Listserve network group?		1		1		not enough time to organize
7. APEGBC Applications						

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Participant applications	1		1		1	This participation criteria was opened up to include ASTTBC applications 1 application not submitted, 5 incomplete, 1 under review 13 applications completed
Application reviews	1			1		
Eligibility status	1			1		
OTHER TRAINING ACTIVITIES						
8. Curriculum Development						
Terms of Reference for Curriculum Development	1		1			Training and experience contracts were combined
APEGBC Seminar Development		1		1		Ideas and priorities are identified
Develop commonly needed courses	1			1	1	Didn't have resources to develop
9. APEGBC Training						
Intercultural training	1		1			
Web design & plain language training		1	1			
POLICIES & PROCEDURES REVIEW						
10. Assessment of APEGBC Policies & Procedures						
a) APEG Registration Process Review						
P.Eng/EIT application & process	1		1			Several policy/procedure issues and priorities for action were identified
Eligibility self assessments (see information services)						
Registration application fee payment	1			1		Fee payment arrangements made for Pilot participants, but no new policy
Looking to Exempt Interviews	1		1		1	Policy to reduce access threshold to interviews will be revisited
b) Special Category for Immigrants						

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Assess existing categories (EIT, P.Eng)	1		1			
Assess new "provisional member" category	1		1			
Market new category, if approved	1			1		Not yet approved. Vote sheduled for Sept 03
c) Other Policies and Procedures						
Fee payments for new registrants		1	1			
Other		1	1			Full range of policies/procedures reviewed and prioritized
d) International Credentials						
Identify main countries of origin	1		1			
Compare with CCPE list of accepted institutions	1		1			
Assess credentials for high priority institutions	1			1		CCPE did not get involved in Pilot
e) Prior Learning & Assessment Review						
Assess potential application of PLAR tool	1			1		
11. CCPE Initial Assessment Process Review						
Participate in Executive and Steering Committees	1		1			Ongoing APEGBC commitment
INFORMATION SERVICES						
12. Improve APEGBC Membership Application						
Develop Road Map on foreign qualifications process	1		1		1	Improved application guidebook
Computerized Eligibility Self Assessment Tool	1			1		Will be complete in Fall 2003
Content Analysis - APEGBC Website & Appl'n Package	1		1			draft guide; staff assessed materials
APEGBC web page for immigrant applicants	1		1		1	Registration information webpage was rewritten
13. Information Available Overseas						

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Review information available overseas	1			1		CIC didn't partner on the project
Develop information materials	1		1		1	website available from overseas
Develop marketing & communication plan	1			1		CIC didn't partner on the project
14. Community Organization Resource Directory						
Community Organization Resource Directory	1			1		Pilot website partly fulfills this function
Research on Service Gaps/Overlaps	1			1		
15. Other Information Services						
Review CCPE's information package	1			1		CIC immigration policy eliminated CCPE's Initial Assessment
Content Analysis "Guide to Analyzing Communications"	1			1	1	2 Drafts written (content analysis & plain language) final report replaced this product
"Job Search Tips for Immigrants"	1		1			Exists in website resources
Immigrant engineer profiles	1			1		Low priority, not enough time to complete
RESEARCH						
16. Pilot Project Development						
Evaluation framework and terms of reference	1		1			
Work experience and training terms of reference	1		1			
Employer support options for work experience placements	1		1			
Employer consultations	1		1			
Immigrant service organization consultations	1		1			
Immigrant engineer consultations	1		1			
17. Local Labour Market Profile						
Summary of lower mainland employers	1		1			APEGBC database search

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Employer experience profiles	1		1			Interviews by Success Development Group
Skill shortages, current/future trends	1		1			Interviews by Success Development Group
Labour market database & research tool		1		1		Contractor unavailable; replaced by workshop for participants
18. Immigrant Engineer Profiles						
Selected employers x foreign language/institution	1		1			
Stages of progression in becoming P.Eng	1		1			Acquired from Pilot participants
Demographics (languages, type, expertise, etc)	1		1			Acquired from Pilot participants
List of key success factors	1		1			
Identify most common immigrant engineers to BC	1		1			CIC Statistics gathered by MCAWS
19. Canadian Control Group Profiles						
Compare immigrant/Cdn registration processes		1		1		Staff resources too late in project
20. Upgrading & Bridging Courses						
List of course options	1			1		Decided it was too complex
21. Other						
Self Assessment R&D	1			1		
Assess self assessment tool for engineers	1			1		
English proficiency criteria and measures		1	1			
ESL and communication courses, resources		1	1			
COMMUNICATION						
22. Communication Strategy						
MCAWS Strategy	1			1		Draft not approved
MCAWS Pilot Project Website		1	1		1	Draft not approved. Website developed in APEGBC's site

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
MCAWS Frequently Asked Questions		1	1		1	Draft not approved. FAQs developed in APEGBC's site
Announcements	1			1		Didn't get approval
23. Community Presentations & Training						
Secretaries & Registrars Meeting, 2001		1	1			
Recognizing Learning Conference, 2001		1	1			
Invited participation in other venues, as requested	1		1			Numerous guest panel presentations
Information seminar for all stakeholders, 2003	1		1		1	focussed on service providers & ITEs
24. Newsletters and Information for Stakeholders						
Distribution list		1	1			
6 newsletters	1		1			
Information Packages	1		1			Backgrounder, introduction letters
25. Network for Immigrant Engineers						
Engineers Workshop, 2001	1		1			Information Exchange Workshop
Organize network with participants and working engineers		1		1		Organization attempted, lack of interest by Pilot participants
Listserv		1	1			Only 3 participants were interested
26. Internal Communications						
Steering Committee meetings	1			1	1	Meetings were cancelled after 3 and replaced with information update emails
Communications Working Group		1		1		Lack of available staff from govt 'partners'
Work Experience & Training Working Group		1		1		Met once. Idea was dropped due to lack of available staff from govt 'partners'

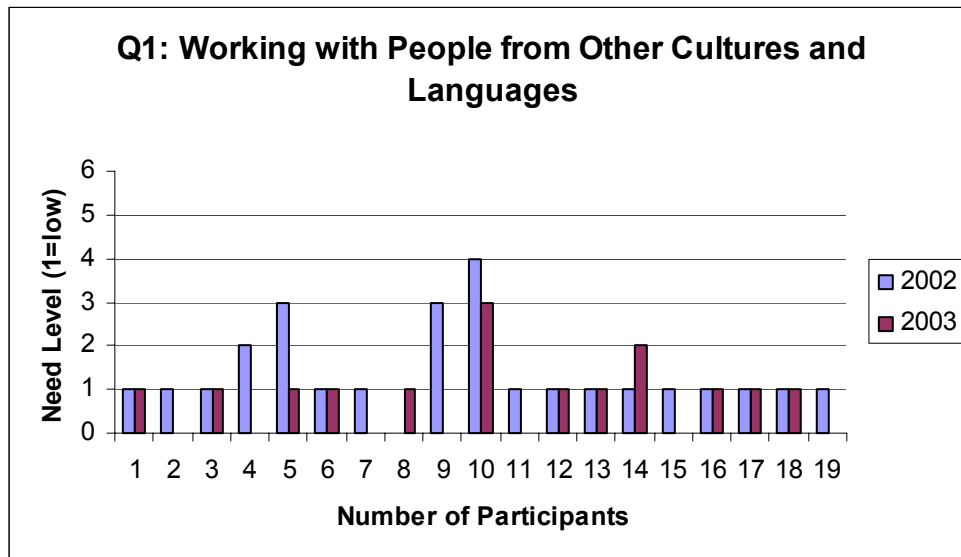
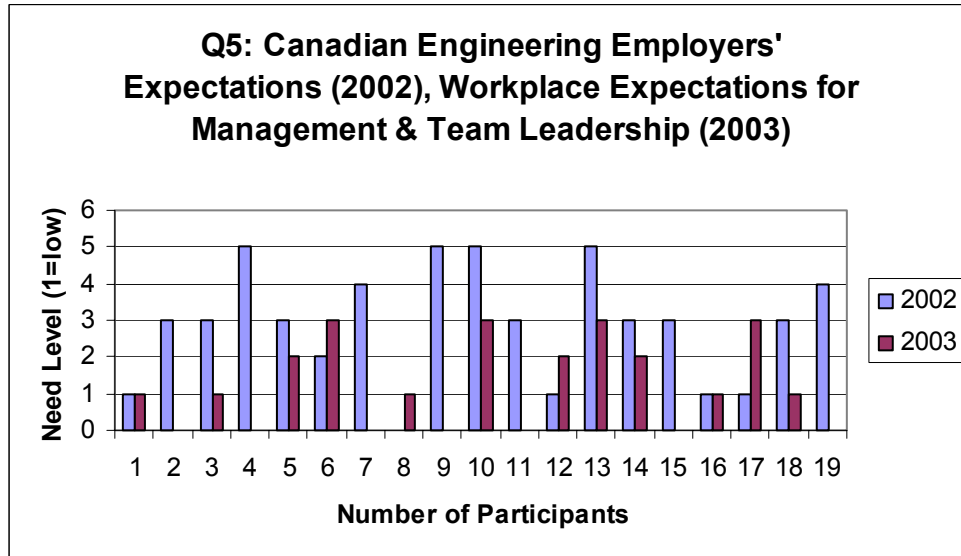
Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Policies & Procedures Working Group		1		1		Lack of available staff from govt 'partners'
Project management reports	1		1			
Pilot Project managers team meetings	1		1			
Other contracted reports	1		1			
Initial Meeting with APEGBC Directors	1		1			
PROJECT EVALUATION						
27. Evaluation Tools and Support						
Evaluation Framework advice/support to MAETF	1			1	1	Advanced Education originally offered evaluation expertise. Evaluation function was contracted out instead.
Performance/professional dvlpt assessment form	1			1		Contracted under Landell for employers' use. Incomplete task.
Participant progress evaluation indicators		1	1			
Contribute information to evaluators	1		1			
Monthly documentation of activities (Jan-Jun 03)		1	1			
Financial Audit	1					anticipated fall 2003
28. Evaluations						
Work Experience and Training Evaluation	1		1			Conducted by Landell and Associates Consulting Ltd. and Success Development Group
Overall Evaluation of Pilot	1		1			Conducted by Quadra Planning Consultants Ltd.
CCPE "FROM CONSIDERATION TO INTEGRATION" PROJECT						
29. Steering Committee						

Activities & Deliverables	Planned	Emerged	Completed	Cancelled/ Incomplete	Adjusted	Comments
Meetings, advice, information sharing		1	1			ongoing post pilot
30. Executive Committee						
Decisions, guidance		1	1			ongoing post pilot
31. Other Support						
Contributed contacts for National Post article		1	1			
Contributed contacts for immigrant service interviews	1		1			
Hosted round table meeting with established ITEs	1		1			
TOTALS	108	32	86	53	24	

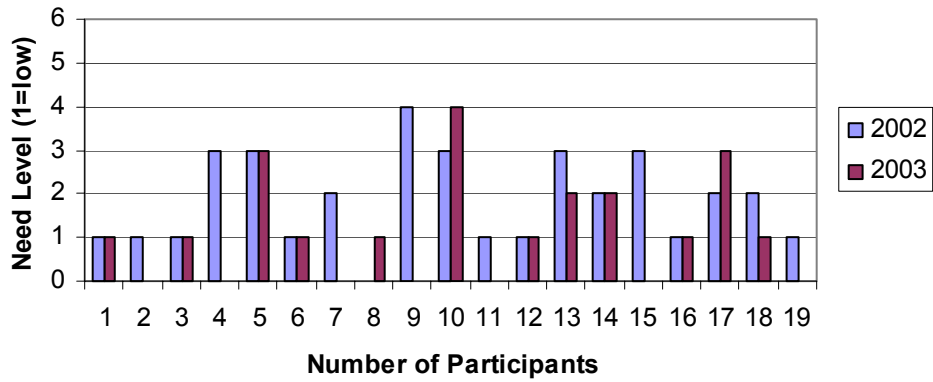
Appendix 6: Tasks and Timelines

Activities & Deliverables	March - December 2001												2002												January - August 2003											
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A						
21. Other																																				
Self Assessment R&D																																				
Assess self assessment tool for engineers																																				
English proficiency criteria and measures																																				
ESL and communication courses, resources																																				
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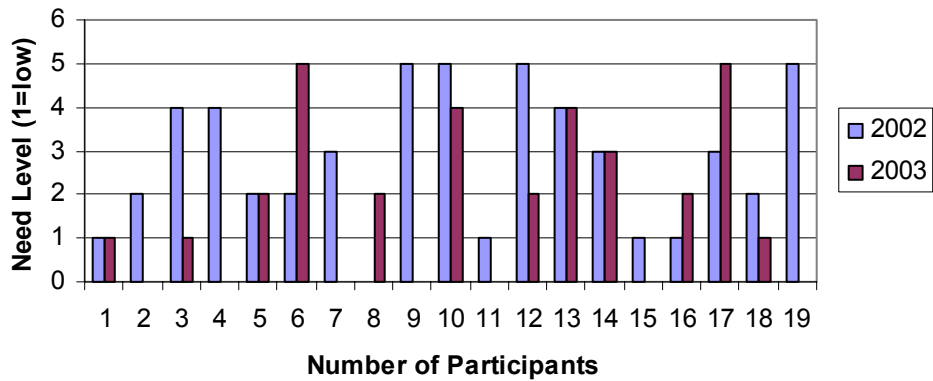
Appendix 7: Participants' Self Assessments - Selected Questions



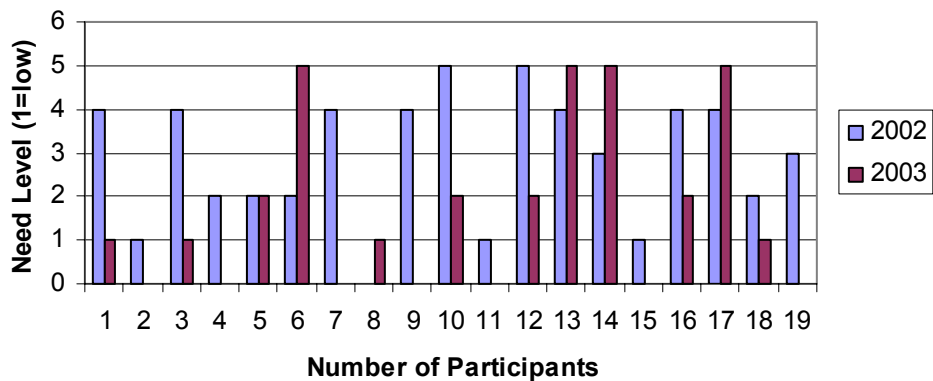
Q7: Learning to Adapt to the New Workplace Culture and Expectations



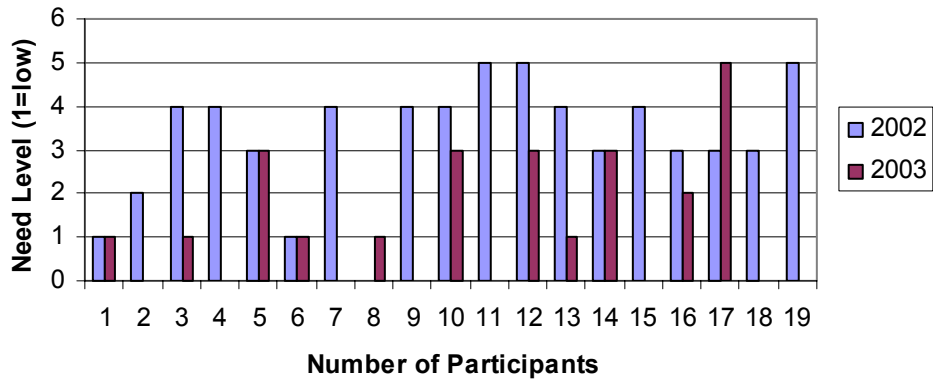
Q8: How to be Effective in a Canadian Engineering Work Environment



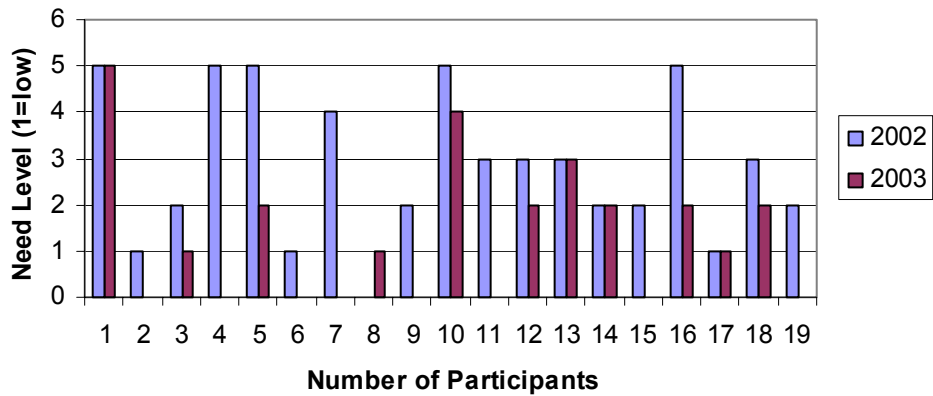
Q9: Provincial Employment Standards (Engineering Field)



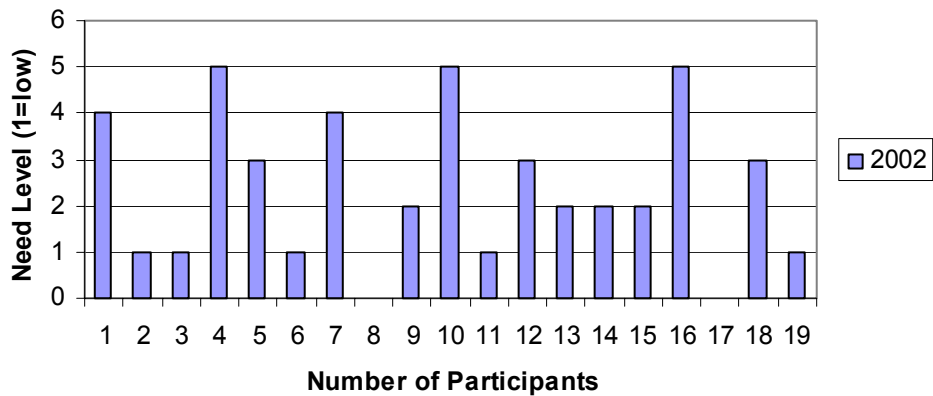
Q15: Interpersonal Networking to Widen Contacts & Build Good Business Relationships

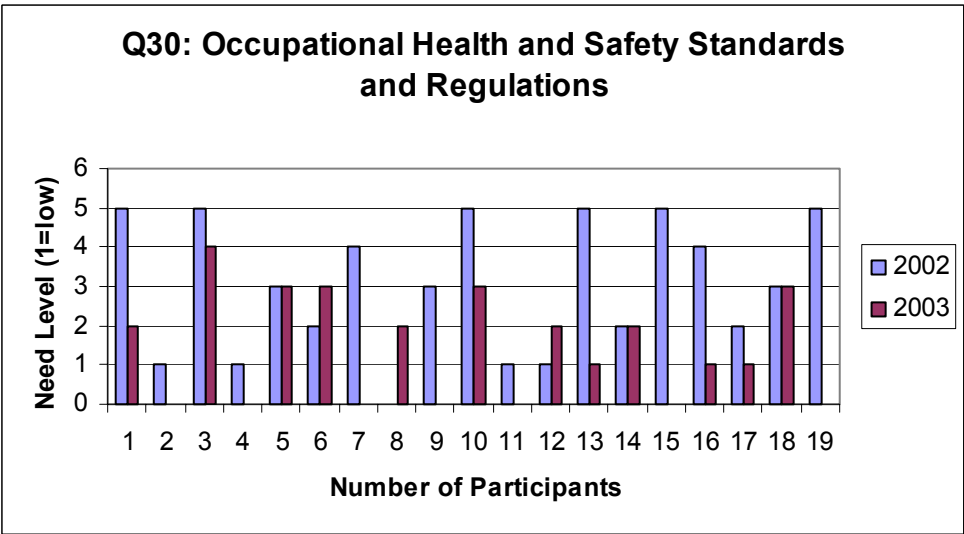
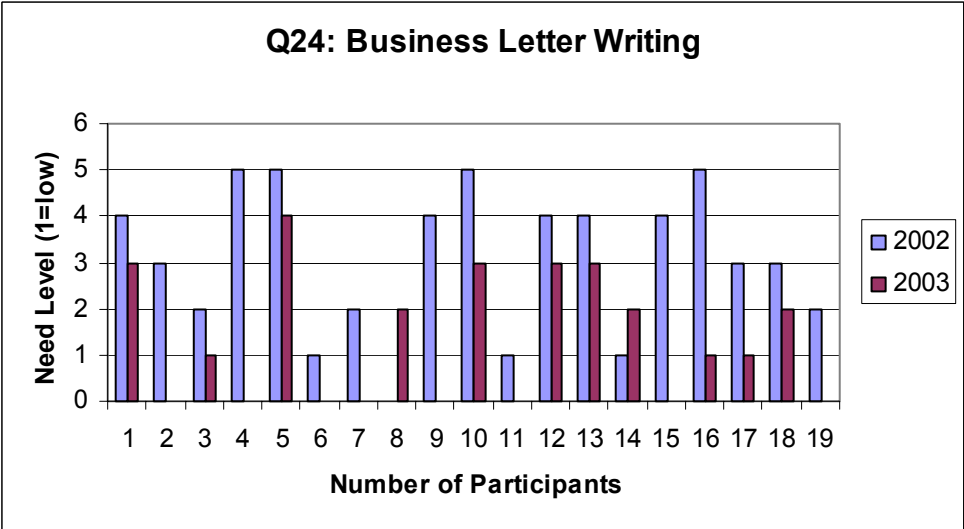
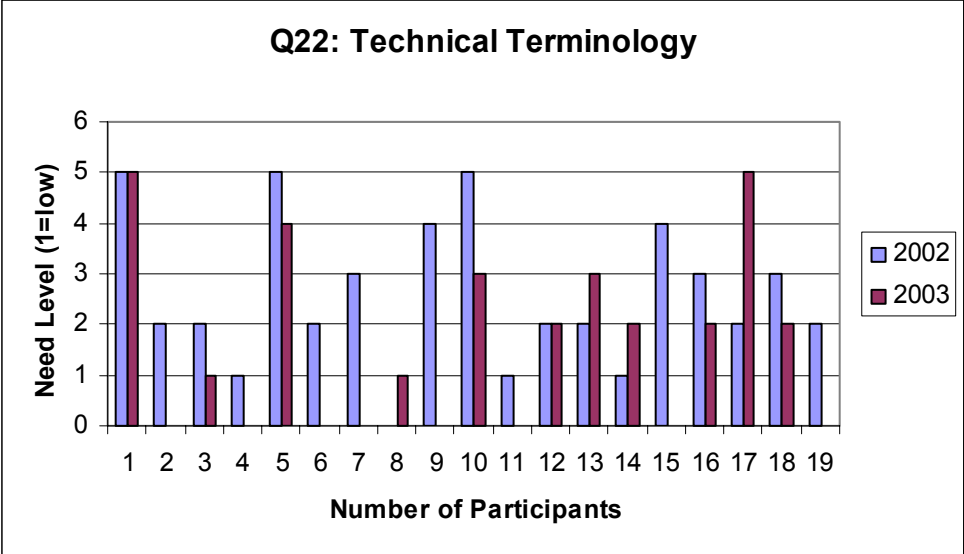


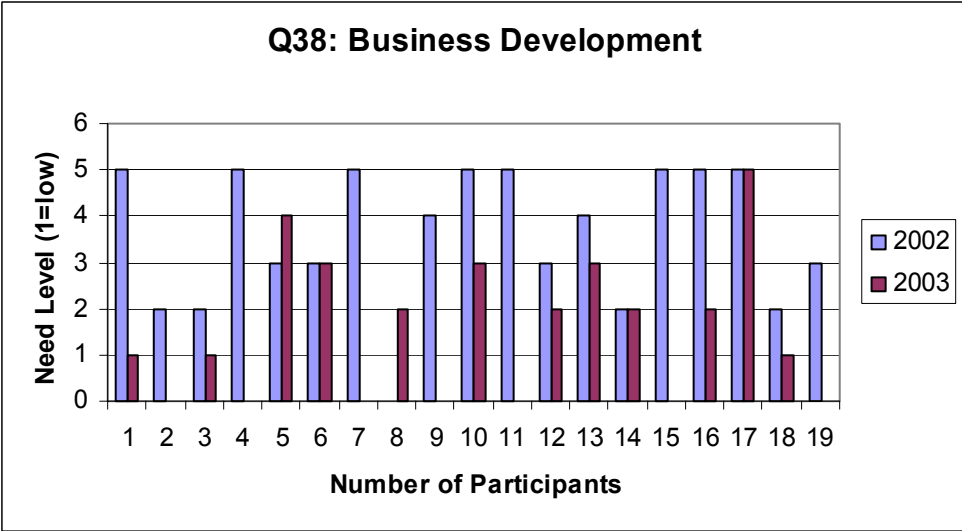
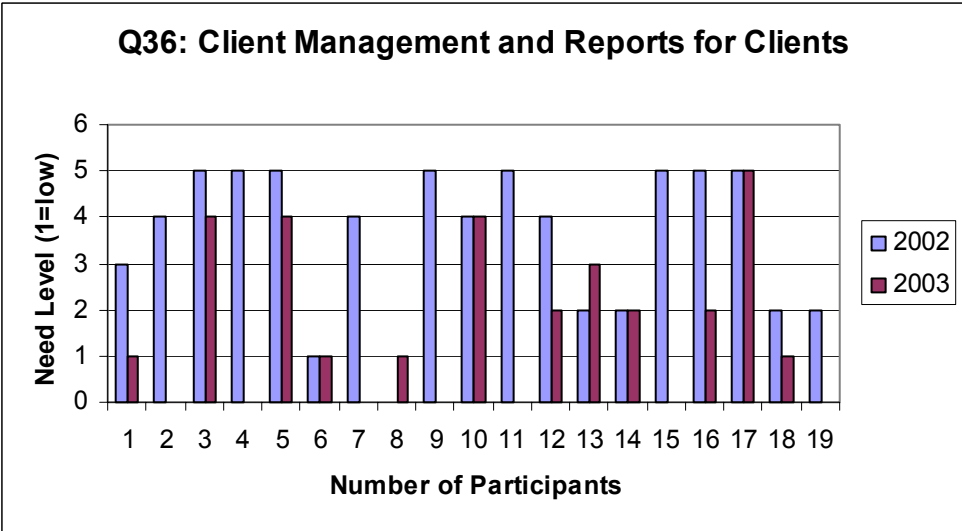
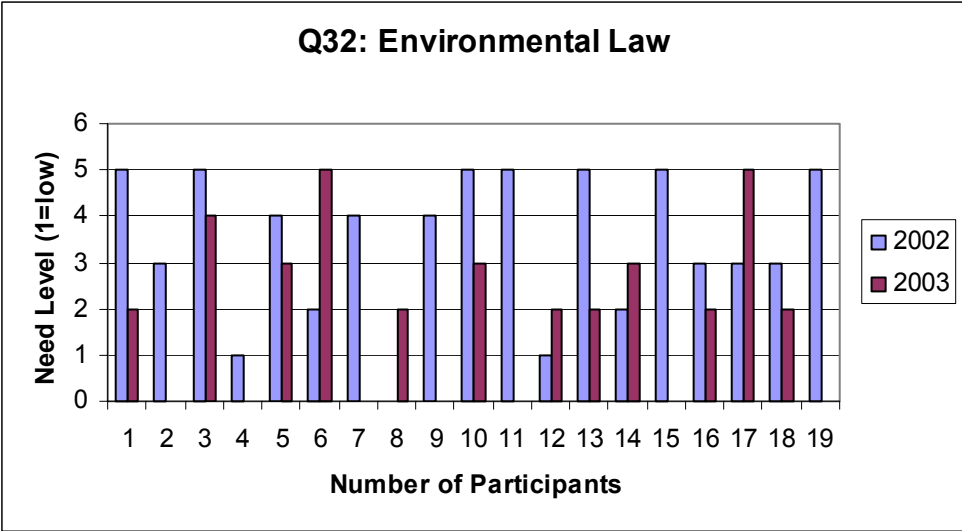
Q18: Verbal English Skills



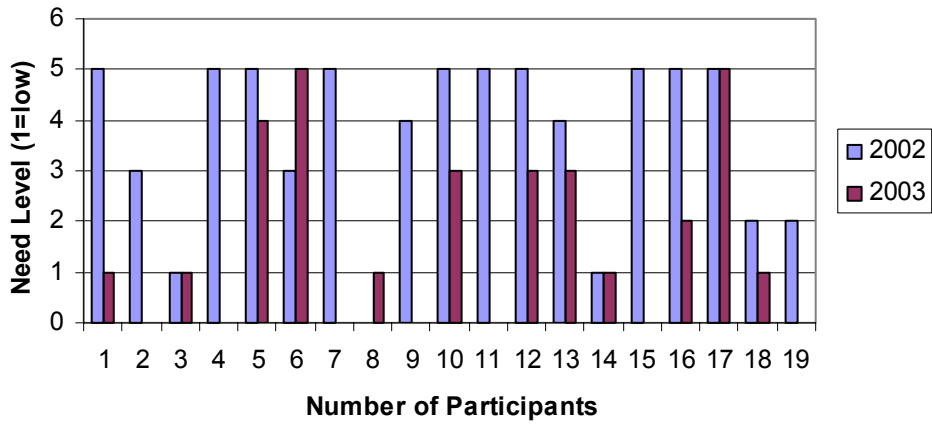
Q21: Listening Skills



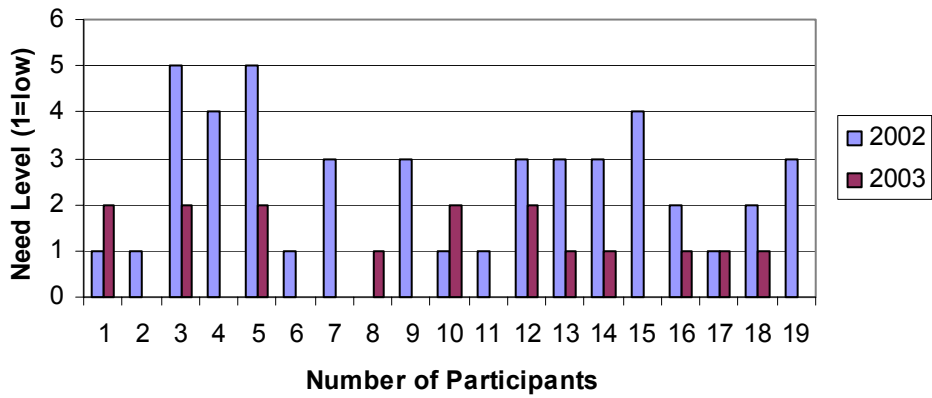




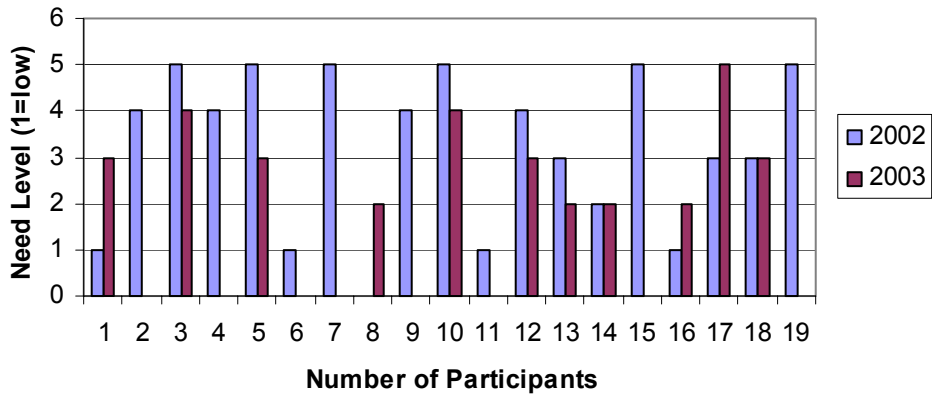
Q40: Project Management

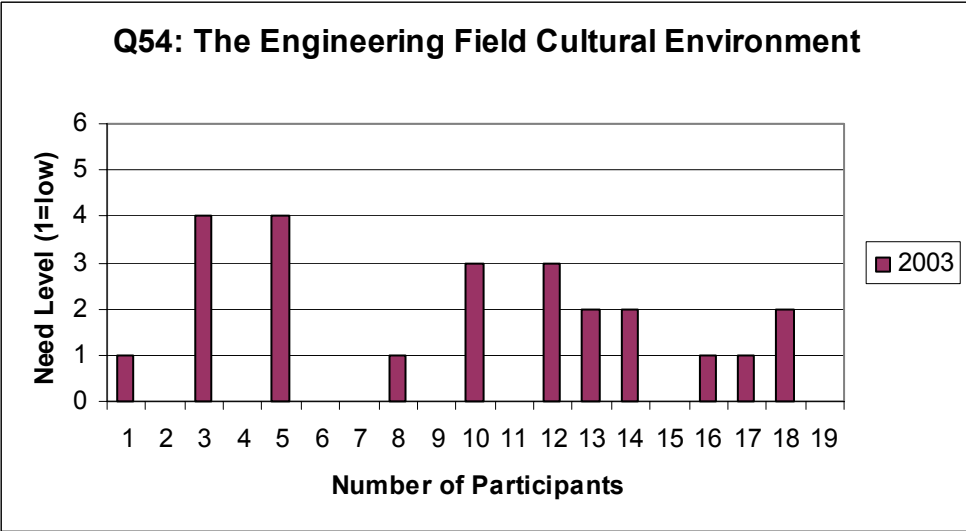
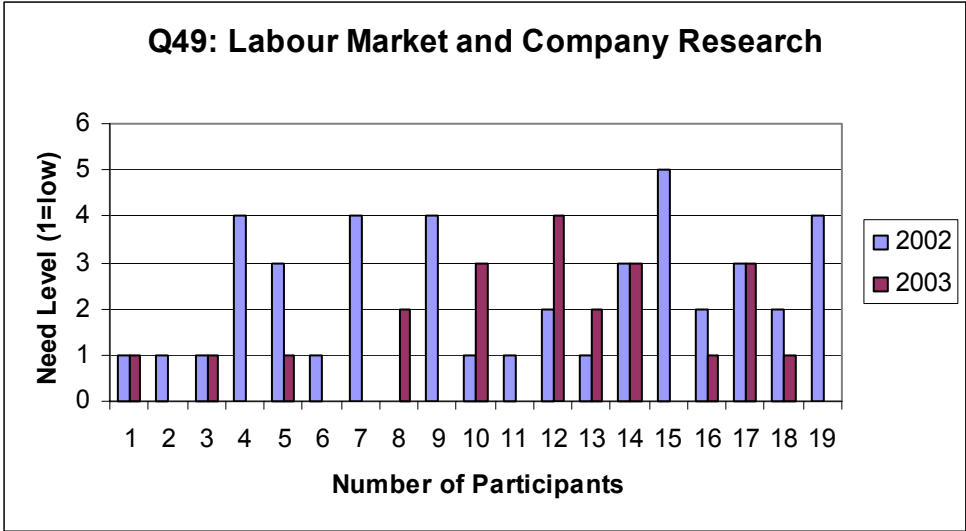


Q47: Portfolio



Q48: Networking





Summary of High and Low Self-Identified Training Needs of Pilot Participants		
	2002 Pre-Pilot Assessment (18 respondents)	2003 Post-Pilot Assessment (12 respondents)
Orientation to Work Experience & Training		
Q1: Working with People from Other Cultures and Languages	High need = 1 Low need = 15	High need = 0 Low need = 11
Q5: Canadian Engineering Employers Expectations (Workplace for Management and Team Leadership)	High need = 6 Low need = 5	High need = 0 Low need = 8
Q7: Learning to Adapt to the New Workplace Culture and Expectations	High need = 1 Low need = 12	High need = 1 Low need = 9
Q8: How to be Effective in a Canadian Engineering Work Environment	High need = 7 Low need = 8	High need = 4 Low need = 7
Q9: Provincial Employment Standards (Engineering Field)	High need = 9 Low need = 7	High need = 4 Low need = 8
Q15: Interpersonal Networking to Widen Contacts & Build Good Business Relationships	High need = 10 Low need = 3	High need = 1 Low need = 5
Communication and English		
Q18: Verbal English skills	High need = 6 Low need = 7	High need = 2 Low need = 8
Q21: Listening Skills	High need = 5 Low need = 9	
Q22: Technical Terminology	High need = 5 Low need = 10	High need = 3 Low need = 6
Q24: Business Letter Writing	High need = 9 Low need = 6	High need = 1 Low need = 6
Professional Practice		
Q30: Occupational Health and Safety Standards and Regulations	High need = 8 Low need = 7	High need = 1 Low need = 7
Q32: Environmental Law	High need = 10 Low need = 4	High need = 3 Low need = 6
Business and Entrepreneurial		
Q36: Client Management and Reports for Clients	High need = 12 Low need = 5	High need = 4 Low need = 7
Q38: Business Development	High need = 10 Low need = 4	High need = 2 Low need = 7

Q40: Project Management	High need = 12 Low need = 4	High need = 3 Low need = 6
Career Development		
Q42: Self-Assessment of Transferable Skills and Attributes	High need = 4 Low need = 10	High need = 0 Low need = 8
Q47: Portfolio	High need = 4 Low need = 8	High need = 0 Low need = 11
Q48: Networking	High need = 10 Low need = 5	High need = 3 Low need = 4
Q49: Labour Market and Company Research	High need = 5 Low need = 3	High need = 1 Low need = 7
Q54: The Engineering Field Cultural Environment		High need = 2 Low need = 7

Appendix 8: Customized Training, Workshops and Special Presentations

2001	
July 16, 2001	Information Exchange Workshop. A workshop with employed and unemployed internationally trained engineers to share information on finding work as an engineer. Kim Walker Community and Environment.
December 6-7, 2001	APEGBC Law & Ethics Seminar. ¹ This regularly offered continuing professional development seminar was offered to participating immigrant engineers free of charge during the Pilot Project. APEGBC.
Dec 13, 17, 18, 2001	Resume Critique and Job Search Introduction Workshops. Hidden job market, resumes, labour market research, information interviews. Individual feedback on resumes by an employment counsellor and three volunteer engineers. Open Door Consulting.
2002	
June 15, 2002	Work Experience and Training (Cultural) - Video Valuing Diversity. Landell and Associates Consulting Ltd. Career Development - Job search overview, resumes, e-resumes, hidden job market, interview questions and interview strategies, profile cards, employment plans. Landell and Associates Consulting Ltd.
June 22, 2002	Career Development - resumes, profile and business cards, references, labour market research, contact calls, interview strategies. Landell and Associates Consulting Ltd.
June 26, 2002	Work Experience and Training (Cultural) Cultural challenge, engineering challenge, life roles. Landell and Associates Consulting Ltd.
June 29, 2002	Work Experience and Training (Cultural) Transition models, steps to employment, cultural differences in communication, body language, communications styles. Landell and Associates Consulting Ltd.
July 6, 2002	Career Development - Phone skills, references, salary negotiation, cover letters. Landell and Associates Consulting Ltd.
July 10, 2002	Career Development and Work Experience and Training (Cultural) - Interview skills and rehearsal and cultural aspects of the interview. Landell and Associates Consulting Ltd.
July 12, 2002	Career Development - Interview video-taping and review sessions. Landell and Associates Consulting Ltd.
July 13, 2002	Career Development - Interview video-taping and review sessions – cont. Landell

¹ The Law & Ethics Seminar offered by APEGBC is part of their regular continuing professional development program. This seminar was offered to participating immigrant engineers free of charge during the Pilot Project.

	and Associates Consulting Ltd.
July 20, 2002	APEGBC Work Experience Log. Megan Begley, APEGBC. Career Development - Continuation of interview reviews. Landell and Associates Consulting Ltd.
September, 2002	APEGBC Law & Ethics Seminar (APEGBC)
2003	
January, 2003	Career Development - Review of resume and cover letter writing, answering ads, setting career development directions, conducting interviews, professional conduct. Success Development Group. Self Directed Reading – Confidence building, positive thinking. Success Development Group.
Feb – March, 2003	AutoCAD 2002 Level 1 – Autodesk Official Training Courseware. Autodraft Inc.
February, 2003	Self Marketing – Portfolio development, job search and ads, interview questions and answers. Success Development Group. Current Market and Hiring Conditions – Findings from interviews with engineering firms. Success Development Group.
February 6, 2003	Introduction to Technologists and Technicians – Careers and opportunities, differences between professional engineers and engineering technologists/technicians, licencing requirements. Martin McGregor, Applied Science Technologists & Technicians of BC. Introduction to the Academic and Professional Self Paced English Course – Overview of VCC course and how to apply. Pam Hunt, Vancouver Community College.
March, 2003	Networking – Self-marketing letters and meetings, proposals relationship building, practice meetings & interviews, drop-in strategies. Success Development Group. Stress Reduction and Optimizing Job Performance - Taking care of oneself. Success Development Group).
April 23, 2003	Getting Work as a Professional Engineer – Overview of what employers are looking for, current economy, hiring practices, how to network. Jack Lee, Dayton & Knight Ltd. Marketing Campaigns – Research and customisation of letters, actual calling, dropping-in, follow-up and practice. Success Development Group.
May 6, 2003	Employability Skills – Overview of communication, rapport building, critical thinking & lifelong learning, positive attitudes, adaptability, reliability, teamwork. Harriet Lemer, Einblau & Associates Ltd.
May 23, 2003	Labour Market Research – Labour market information tools and research strategies. Saremba Consulting Services.

Appendix 9: Policies and Procedures Review Steps

1. Identify the goals/objectives of this exercise
(e.g. streamline, issue management, improve information services etc)
2. Identify evaluation criteria for determining good policies/procedures
(e.g. consistency & fairness, accessibility, efficiency, effectiveness in achieving p&p objectives, addressing significant problems in the 'system' from prospective member perspective, adherence to APEGBC mandate, corporate values & objectives)
3. Review and cluster:
 - a) APEGBC policies & procedures (e.g. registration, information/customer service, other?)
 - b) Issues/complaints (e.g. identified by frontline staff and their working experiences)
4. Identify and list overlap between policy/procedures and issues for internationally trained engineers
5. Prioritize the list into three categories:
 - a) Issues already resolved or decided upon – figure out how to operationalize
 - b) Major issues that are relatively easy to address and will make significant steps toward goals
 - c) Major issues that require a lot of work (ie. research, analysis, buy-in) – figure out what needs to be done and develop an action plan
6. Decide what to focus on and develop a workplan to complete the review/revisions and operationalization.² Include the following information:
 - a) Timelines & responsibilities for review/revisions
 - b) Review by registration staff
 - c) Possible external/user group review
 - d) Assess policies/procedures and revisions against the criteria

² It may be useful to also look at other professional associations' procedures/policies to look for good ideas and precedent of changes.

Appendix 10: APEGBC Policy and Procedure Review – List of Priority Considerations

The following list of policy and procedure issues developed by APEGBC registration staff is presented for educational purposes only to demonstrate the types of issues that were identified and are being considered. This list does not in any way indicate that new APEGBC policies or procedures have or will be made.

First Priority

Policy (formal): A person must be academically qualified and have three years of self-assessed experience before attempting the Professional Practice Examination (PPE).

Recommended Change: Remove the restrictions to allow applicants to write the PPE at any time in their application.

Steps Required to Change Policy:

- Consultation with other Associations/ordre/CCPE
- Recommendation to and approval of Registration Committee
- Recommendation to and approval of Council
- Notification to other Associations/ordre/CCPE
- Amendment of all application documents, letters and website

Responsible: MB to draft report for GP

Immediate to-Do: MB research what other associations do

Status: In progress

Policy (informal): APEGBC does not provide samples of work experience summaries.

Recommended Change: Provide as many samples as possible to illustrate what is acceptable to APEGBC

Steps Required to Change Policy:

- Develop samples
- Post on website
- Add statement to the application guide, letters, etc. that samples are available on web

Responsible: MB draft sample work experience summaries for GP/ER review

Immediate To-Do:

- Give instructions on format including lay-out, headings, font, etc... (i.e. same as website font: single-spaced, 12-point, 1-inch margins)
- Go through the files to find good samples for review by the department in deciding on lay-out, etc...
- Decide through consultation with members of the Applications Committee on the information we want, the questions we want answered, etc...
- Try to give enough guidance so that we don't need to give samples
- If we decide we do need examples, give ten different samples so that they can't copy and paste from one

Status: In progress

Policy (formal): Member category "Non-University Pupil"

Recommended Change: 1. Remove this category from the by-laws; OR 2. Cease to advertise this category of member

Steps Required to Change Policy:

- (1) Develop a recommendation to the Registration Committee; Forward recommendation to Council; Vote by the membership; OR
- (2) Remove all references to NUP from Application Guide, website and form letters

Responsible: If (1) MB draft report; if (2) MB with Registration Coordinators

Immediate to-Do:

- GP include deletion of NUP in Act changes; forward to RR week of May 5, 2003 (completed)
- Stop advertising NUP immediately (completed)
- MB contact UBC Forest Engineering to notify of change and encourage application for MAPS and then student.

Status: In progress

Second Priority

Policy (formal): Transcripts must be received directly from the institute of graduation. If this is not possible, the applicant must write to the Registration Committee outlining their difficulty and requesting that the Committee accept certified copies.

Recommended Change:

- Communicate better to applicants that those who truly can't get their transcripts (eg Iraq) can write to the Registration Committee. These individuals will be interviewed or entered into the exam program.
- Develop and post a database of contact information for requesting transcripts at international universities.
- Develop search tips to help applicants locate the contact information for requesting transcripts at international universities.

Responsible: MB

Steps Required to Change Policy:

- Post the information regarding the Registration Committee on the website (complete)
- Add a sentence to the application guide and confirmation letter regarding the Registration Committee option
- ER add this to the registration information sessions
- The Registration Coordinator responsible for receiving transcripts will send a bulk form e-mail to applicants after receiving their transcript asking them to provide information for the database
- Post the database on the website with disclaimers
- Add a sentence to the application guide pointing internationally trained engineers to the database on the web
- MB develop search tips for posting with the database on the website

Immediate To-Do:

- ER addresses this at RIS
- MB draft bulk e-mail and get recommendation 2 going
- MB develop recommendation 3

Status: In progress

Policy (formal): Application forms and proof of citizenship cannot be submitted by fax.

Recommended Change: Allow application forms to be faxed.

Steps Required to Change Policy:

- MB draft request for legal advice for GP
- GP ask BHT for advice
- If approved, change application guide, application form and website

Responsible: MB to draft report for GP

Immediate To-Do: Awaiting legal opinion

Status: Approved

Policy (informal): Applicants with Masters Degrees must submit a syllabus with their application.

Recommended Change: Do not require syllabi from applicants with Masters Degrees.

Steps Required to Change Policy:

- Survey the Board of Examiners to see if they really need the syllabus
- Change the application guide, website and form letters

Responsible: GP

Immediate To-Do:

- ER e-mail Board of Examiners asking them if they want to continue to require the course descriptions (complete)
- MB research what other associations do

Policy (formal): The Looking-to-Exempt (LTE) policy states that only applicants with ten or more years of experience are eligible to apply for exemption from technical academic exams.

Recommended Change: Change the LTE policy to allow applicants with four or more years of experience to be eligible for consideration under this policy.

Steps Required to Change Policy:

- Verify acceptability to other Associations/order/CCPE
- Recommend to Registration Committee
- Recommend to Council
- Change application documentation

Responsible: GP

Immediate To-Do: MB find out what other associations do (ON = 5; National = 10).

Policy (informal): Internationally trained engineers who are academically qualified but who have less than ten years of experience do not get a review of their experience until they feel they have obtained one year of local experience.

Recommended Change: Assign an experience review and an assignment to ITEs who are academically qualified and have more than four years of experience but not yet one year of local experience.

Steps Required to Change Policy:

- Recommend to Registration Committee
- Change application documentation

Responsible: MB to draft for GP

Immediate To-Do:

Status: Provisional Member category, if approved, will take care of this.

Policy (formal): New registrants are not allowed to pay reduced fees in their first year of registration/enrolment.

Recommended Change: Allow new registrants to pay reduced fees in their first year of registration/enrolment, under approved conditions.

Steps Required to Change Policy:

- Estimate the impact on the budget
- Approve impact on budget
- Recommendation to Registration Committee
- Recommendation to Council

Responsible: GP

Immediate to-Do:

Status: Approved

Policy (formal): Applicants must pay the application fee in full before their application is considered.

Recommended Change: Permit applicants to pay their application fee in instalments under approved conditions.

Steps Required to Change Policy:

- Estimate the impact on the budget
- Approve impact on budget
- Recommendation to Registration Committee
- Recommendation to Council

Responsible: GP

Immediate To-Do: MB to draft e-mail for GP to go to CCPE and other associations asking what they do.

Status: In progress

Policy (informal): Applicants can't take advantage of the Placement Service.

Recommended Change: Permit applicants to take advantage of the Placement Service.

Steps Required to Change Policy:

- Add a new section to web
- Make sure editors understand policy on restricted words
- Change application documentation

Responsible: GP

Immediate to-Do:

Status: Declined

Procedure: It takes too long to get a decision on a file.

Recommended Change:

Steps Required to Change Procedure:

Responsible:

Immediate To-Do:

- MB draft a report for GP asking the Registration Committee to reduce the number of required reviews to 2 as is the case for geoscience and will be for EITs. 1 dissention will mean that an interview is held.
- ER craft e-mail to be sent for recruitment of more reviewers.

Status: In progress

Appendix 11: Communication Activities - Presentations, Meetings & Networks

2001	
September 19, 2001	Secretaries and Registrars of Professional Organizations of BC Monthly Meeting. Vancouver, BC. Presentation by Kim Walker and Tom Jensen.
October 3, 2001	Interview with Kate Geddie, Masters Student re: Thesis on Internationally Trained Engineers – Kim Walker
October 16, 2001	Looking Ahead Meeting. Panel presentation by Gillian Pichler, P.Eng.
October 25, 2001	Presentation of Pilot to Laurier Institution by Gillian Pichler, P.Eng.
October 29, 2001	“Pilot Project for Internationally Trained Engineers”, Recognizing Learning. A Joint National Conference for Prior Learning Assessment and Qualification Recognition. Halifax, N.S. October 28 – 31, 2001. Presentation by Kim Walker, Phyllis Godfrey, Deborah Wolfe.
2002	
January 31, 2002	Interview with Kate Geddie, Masters Student re: Thesis on Internationally Trained Engineers – Gillian Pichler, P.Eng.
March 6, 2002	PLAR Roundtable – Library Square, Vancouver – Gillian Pichler, P.Eng.
May 6, 2002	Orientation Session & Reception for Pilot - 20 internationally trained engineers, Kim Walker, Ministry representatives (Tom Jensen, Kerry Pridmore, Arnie Lavoie) and representatives from Landell Associates (Mary Landell, Keith Land), Megan Begley, Gillian Pichler, P.Eng.
June, 2002	NETWERCC Forum. New Westminster. Panel presentation by Gillian Pichler, P.Eng.
May to July 2002	Meetings for Chinese Canadian Workforce Strategy project by SUCCESS, Gillian Pichler, P.Eng. and Megan Begley
October 1-4, 2002	CCPE Meeting in Halifax to discuss current pilots in Canada in preparation for development of National ‘From Consideration to Integration’ Project – Gillian Pichler, P.Eng.
November, 2002 – March, 2003	Discussions with Vancouver Community College regarding information on the Self Paced for Professionals ESL course – Kim Walker
2003	
January 31, 2003	Meeting with Shauna Paull, Immigrating Women in Science Project.- Kim Walker, Megan Begley, Patrick Coady
February 29, 2003	Gillian Pichler, P.Eng., John Bremner, P.Eng. and Dick Fletcher, P.Eng. met with Richard Lee, MLA and members of SUCCESS
February & March, 2003	Meeting with Sharron Cosgrove, CCPE Project Manager; representation in

	Steering and Executive Meetings - Kim Walker, Gillian Pichler, Megan Begley
March 12, 2003	Meeting with Ed Wong, BC Business Council - Megan Begley
March 24, 2003	Meeting with Arlene Wortsman, Canadian Labour and Business Centre to exchange information on respective projects – Megan Begley
April 29, 2003	SUCCESS and Chamber of Commerce. Panel Presentation by Gillian Pichler, P.Eng.
May 8, 2003	“Panel Session on Immigrants”, Addressing Skills Shortages: 2003. Business – Education Partnership Series. Business Council of BC. Panel Presentation by Gillian Pichler, P.Eng.
May 27, 2003	Meeting with Susan Stevenson, Department of Engineering. SFU. – Kim Walker
May 27, 2003	Contributions to article in National Post – Megan Begley, Gillian Pichler, P.Eng.
June 4, 2003	NETWERCC Forum. New Westminster. Panel presentation by Kim Walker
June 20, 2003	Pilot Project Breakfast Seminar. Presentations to Immigrant Service Providers and Internationally Trained Engineers by Gillian Pichler, P.Eng., Collin Mercer, Kim Walker, Tom Jenson
Various, 2003	APEGBC president, Dick Fletcher, P.Eng. has introduced the Pilot in several meetings with government agencies and others.
Various	Informal phone discussions with stakeholders.

Appendix 12: Market Research Interview Methodology

The following summary of market research and analysis is an excerpt from Success Development Group's final report to APEGBC:

Our plan of contacting companies, introducing ourselves and trying to book meetings went pretty much according to plan. We fell a little bit behind schedule initially as the mailing of introductory letters from Gillian Pichler of APEGBC was more time consuming than originally thought. For referral meetings, municipalities and for Group C [the third group of participants to conduct their job searches] we dispensed with introductory letters and just called target companies and contacts directly. This worked well as we had already had a number of meetings and could indicate as such.

Before mailing a letter or initiating contact with a participant supplied contact, we would phone the company and ensure we had the appropriate name of an engineer who not only understood the business of the company but was also involved in making hiring decisions. We were only interested in talking to senior engineers. As it turns out, about half the names of engineers supplied by the participants were inappropriate contacts that we subsequently corrected.

There was usually some hesitancy in meeting with us until we made it clear we were just gathering information on the marketplace, company hiring preferences and what engineers thought about engineering in general. We needed to gather this information and the idea of finding jobs for participants was something that might come as a by-product of our meetings. Our primary objective was to meet and get to know 'decision makers' in the engineering community and to be able to call on them at a later date if necessary. Our secondary goal was to gather important information about specific companies, engineering trends and insights that would be useful to the pilot participants.

To start off, both Kathy and I met with companies together, until such time as Kathy understood the process and was able to initiate contact, set-up and conduct meetings on her own. Before attending a meeting we would research the company and ensure we knew what it is that they did and we were able to impart that knowledge and ask pertinent questions. We had a list of general questions that we brought with us to each meeting and we kept extensive notes.

For each person met we sent a thank-you email and indicated that we would like to keep in touch.

Conducting this marketplace analysis, building our network of contacts and getting a snapshot of engineering in BC in the spring of 2003 ended-up being extremely informative. An immense amount of information was gathered and it was very helpful when coaching the participants. We had very little difficulty booking meetings until April and May. This is when most companies became very busy with projects and people did not return phone calls or ended up rescheduling meetings.

We contacted over 150 companies/municipalities and ended-up meeting with 62 and with two companies twice. The list of those met is as follows:

- *BCIT, John English, Trevor Williams: February 14 2003*
- *Jones Kwong Kishi, Jim Mutrie: February 14 2003*
- *Klohn Crippen, Dan Campbell: February 17 2003*
- *Dayton & Knight, Jack Lee: February 18 2003*
- *Rescan Environmental Services, Pierre Pelletier: February 19 2003*
- *William Kenyon Vancouver Inc., Bryan Wicks: February 19 2003*
- *Piteau Associates, David Tiplady: February 20 2003*
- *Bush, Bohlman & Partners, Andrew Metten: February 20 2003*
- *Acres International, Martin Sheriff: February 21 2003*
- *Glotman Simpson Consulting, Geoff Glotman: February 21 2003*
- *WSB Consulting Engineers, Gerry Weiler: February 21 2003*
- *Hipp Engineering, Ken Wall and Peter Hipp: February 26 2003*
- *MCW Consultants, Mike Boyle: February 27 2003*
- *AMEC, Ken Wiecke: February 27 2003*
- *Yoneda & Associates, Jim Beveridge: February 27 2003*
- *Landmark Truss & Lumber, David Lyall: February 28 2003*
- *Haakon Industries, Paul Anderson: February 28 2003*
- *Earth Tech, Peter Ferguson: February 28 2003*
- *Westmar Consultants, Stanley Cowdell: March 3 2003*
- *Westmar Constultants, Fred Bjork/Shawn Baines/Paul Hoo*
- *Rick Backeberg: March 20 2003*
- *Earth Tech, Peter Ferguson: March 3 2003*
- *Reid Jones Christoffersen, Douglas Clark: March 4 2003*
- *Norwest, Richard Dawson and Sean Ennis: March 4 2003*
- *Seabulk Systems, Carlos Johansen: March 6 2003*
- *Weir-Jones Group, Ian Weir-Jones: March 6 2003*
- *CWMM Consulting Engineers, John Peddle: March 7 2003*
- *Gage-Babcock & Associates, Randall Kovacs: March 11 2003*
- *Fraser River Port Authority, Joseph Bros: March 11 2003*
- *SNC Lavalin, Scott Anderson: March 12 2003*
- *SNC Lavalin, Tony Wachmann: April 23 2003*
- *Ballard, Gary Lepp: March 12 2003*
- *Port of Vancouver, Tim Glasheen: March 13 2003*

- *BC Gas, Rob Owen: March 13 2003*
- *Jade West Engineering, John Makepeace: March 14 2003*
- *FM Global, Scott Stickling and Arun Bhandari: March 14 2003*
- *City of Surrey, Paul Ham: March 18 2003*
- *Levelton Engineering, Phil Seabrook: March 18 2003*
- *Bogdonov & Pao, John Pao: March 19 2003*
- *City of Coquitlam, Ken Wright: March 20 2003*
- *Buckland & Taylor, Darryl Matson: March 25 2003*
- *District of West Vancouver, Colin Wright: March 25 2003*
- *City of Richmond, Jeff Day: March 26 2003*
- *BC Hydro, Ramona Barron and Paul Toom: March 26 2003*
- *Scott Construction Group, John Scott: March 26 2003*
- *City of Port Coquitlam, Igor Zahynacz: March 27 2003*
- *Pomeroy Engineering, John Wallace: March 28 2003*
- *UMA Engineering, Pete Smith: March 28 2003*
- *Ted Newell Engineering Ltd, Ted Newall: April 1 2003*
- *The Haebler Group, Roland Haebler: April 3 2003*
- *Vanbots Construction Ltd, Compton Cho: April 3 2003*
- *Lefarge Concrete, Scott Morken: April 4 2003*
- *Dominion Fairmile Construction, Bob Reimer: April 4 2003*
- *Associated Engineering, Kerry Rudd: April 8 2003*
- *Flur, Carey Hunker/Patrick Lo/Vasee Navaratnum/Brad Mathews and Grant Lockwood: April 23 2003*
- *City of Vancouver, Jody Andrews: April 29 2003*
- *Datwin Construction, Oliver Webbe: April 29 2003 (via phone)*
- *Procon Mining & Tunneling, Jim Dales: May 5 2003*
- *Quinsam Coal Corp., Kresho Galovich: May 5 2003*
- *Intertech Construction Group, Doug Macfarlane: May 6 2003*
- *Chevron Canada, Robert Stephenson: May 6 2003*
- *Borden Chemicals, Joe Chapman: May 9 2003*
- *UBC, Dr. Alan Russell: May 14 2003*
- *HERO Industries, David Glenwright: May 20 2003*
- *Nexen Chemicals – David Gosse and Diane Richards: May 21 2003*

Appendix 13: What Companies Look For

There were a number of skills, documents and character traits that employers continually mentioned as important when they are looking to hire an EIT or junior engineer. These clearly apply to more senior engineers and ITEs as well. These points include having:

Superior Interpersonal Skills Engineering today is about relationship building. This is a very large shift and one that has not come easily to the profession. Engineers must be able to lead a team of professionals, address a group of clients, establish rapport [sic] and loyalty and do this while also being technically proficient. This was the most commonly mentioned and sought after trait mentioned by employers. 'Soft skills' are the most important skills in engineering today.

Excellent References This is a challenge for ITEs as they have references from different countries. The fact that an ITE has taken the time to put together a list of references and given instructions on how to initiate contact goes a long way.

A Positive Attitude Employers will only hire those applicants that can demonstrate through their actions that they are positive and have a can-do attitude. Smiling and getting along easily with the perspective [sic] interviewer is critical. Only those ITEs that can convey excitement and enthusiasm about engineering will be hired.

Ambition Again, demonstrated by the ITEs' actions. If the perspective [sic] employee has done his or her homework, networked, called, dropped-in and/or mailed an introductory letter, taken local upgrade courses in English, 'soft skills' and engineering then they are showing that they are ambitious.

Lateral Thinking With technicians, technologists and software doing a lot of what engineers used to do traditionally, it means that employers are looking for the most intelligent engineers they can find; the ones who are innovative, think laterally and can show that during a meeting or interview.

Technical and When was the last time that the engineer looking for work did

Math Skills	some math as it relates to engineering. If an ITE has not had related work in Canada what are they doing to keep these skills up? Are they taking courses from UBC, VCC or BCIT that the employer can understand? Getting a Masters of Engineering can help.
Examples of Work	ITEs must be able to show perspective [sic] employer examples of their experience, background and training. They must be able to talk about them in detail and will be questioned to ensure that they are not misrepresenting their actual experience or abilities. A professional portfolio with pictures, drawings, papers and diplomas goes a long way to conveying the information employers need to make hiring decisions.
Communication Skills	Most engineering employers are not very impressed with the communication skills of recent UBC graduates let alone ITEs. Written and spoken English and the ability to convey technical information are critical. All ITEs who have English as a second language need to upgrade their business and technical English.
Willingness to Travel	This does not just mean to travel as part of work but to be willing to move to where work is. Companies are frustrated with Canadian graduates because they tend to want to stay in the lower mainland. ITEs must be flexible in many ways if they want to secure employment.
Hands-on Experience	The positions available to ITEs are generally those jobs that are considered entry level and therefore require hands on proficiency. If an ITE has been in senior management for a number of years it makes it more difficult for that person to be hired over a local graduate who has greater English language capability. ITEs who also have seismic experience and an interest in the business side of engineering are usually favored [sic].
Organized	In a meeting or interview if the person has his or her documents and examples of work in order, questions written out in advance and clearly shows by their actions that they are organized then it is perceived that they will also be organized when working as an engineer. This is considered an important

part of being a productive engineer.

Strong Work Ethic This is easily talked about but employers will gauge it for themselves by asking questions about their current employment, job search knowledge of industry and specific companies including the competition; what courses they are taking to upgrade skills; where they are networking and what their long term goals are. Those ITEs that can demonstrate their work ethic will be looked at more seriously.

Source: Success Development Group, August 2003.

Appendix 14: General Job Categories and Types of Positions

General Job Categories	Description	Comments
Inside Engineer (Production Engineer)	Does not see clients/interact with contractors.	Least important position. The first to be let go in a slow down.
Outside engineer	Good people skills. Can communicate unsupervised.	Try to retain an outside engineer at all costs. More versatile, can bring in business.
Types of Engineers by Function	Activities	Comments
Consulting Engineer Municipal Engineer Research & Development Engineer Engineer working for Developer/Contractor Manufacturing Engineer	Written and verbal English requirement is much higher in consulting than in construction	Most ITEs apply to consulting firms. Only available positions for entry level person such as an ITE is an engineer-in-training, technologist or designer position
Types of Engineering Positions	Activities	Comments
Technician	Under supervision typical activities include testing, trouble-shooting, inspection, calibration, design drafting, quality control, maintenance, modelling, data compilation, estimating, sales, surveying and field supervision	Salaries est. from \$31,000 - \$54,000
Technologist	Independently or under supervision typical activities include design, production, marketing, testing, quality control, estimating, surveying, inspection, diagnostic evaluation, supervision, management, technical sales and teaching	Communication skills are important, enthusiasm, must be satisfied with staying in this position Salaries est. from \$33,000 - \$54,000
Engineer-in-Training (EIT) (1-5 yrs)	Analysis Design Field Services	As much responsibility and challenge as you can handle, enthusiastic, intelligent, good communication skills and technical knowledge Salaries around \$40,000
Project Engineer (5-8 yrs)	Same as an EIT More time in client communication	More responsibility Salaries from \$50,000 - \$55,000

Senior Project Engineer (8-12 yrs)	Same as EIT and Project Engineer Much more time in client communication Proposals	More responsibility Salaries from \$70,000 - \$80,000
Partner (12 –20 yrs)	Same as EIT and Project Engineer Much more time in client communication Proposals	Overall responsibility Salaries of \$100,000 or more
Types of Construction Positions	Activities	Comments
Forman	Manages small group of trades on site.	Salaries up to \$35,000
Project Coordinator	Assists the Project Manager with construction management at site. Some have BCIT Construction Management	Salaries up to \$50,000
Project Manager (PM)	Senior management at construction site. Excellent people skills. Project experience minimum 5 yrs.	Salaries from \$40,000 - \$120,000
Superintendent	In charge of construction site. Manages and controls. Works with PM and Coordinators.	Salaries from \$60,000 - \$150,000
Sources: Success Development Group, August 2003; ASTTBC & TechWORKS! websites		

Appendix 15: Examples of Business and Professional ESL Courses

Focus/Typology	Examples
Communication and Culture (ESL)	<p>SFU, Continuing Studies, Accent Canada <i>English Language and Culture Program</i></p> <p>An interactive program for intermediate to advanced ESL learners assists in learning language and communication within Canadian and North American culture. Participants learn how to understand Canadian values and attitudes as part of interpreting messages. Participants also learn how to converse and write using the language and communication conventions that are recognized by native speakers through context, gestures and expressions.</p> <p><i>Customized In-House Programs for the Canadian Workplace</i></p> <p>Customized programs are available to companies to assist non-native English speaking employees in their transition to working in a new environment.</p> <p><i>Tri-English Business Stream</i></p> <p>Part-time courses are available for advanced learners on the following subjects: Canadian small talk, North American business culture and communication, English grammar and syntax, oral skills, and public speaking.</p> <p><i>Other Programs</i></p> <p>Other programs offered through Continuing Education include business writing, academic reading and writing, oral skills.</p> <p>www.sfu.ca/cstudies/accentcanada/index.htm</p> <p>UBC Centre for Intercultural Communication, International Relocation Program</p> <p><i>Adapting to Canada</i></p> <p>Seminars for immigrants are aimed at helping them adapt to a new environment. Topics include: Canadian business practices and management styles, communicating with co-workers, interacting in social and work situations, the education system, accessing community resources and services, and increasing confidence levels.</p> <p>http://cic.cstudies.ubc.ca</p>
Individualized ESL program	<p>Vancouver Community College, Professional and Career English Department</p> <p><i>Academic and Professional English - Self Paced</i></p> <p>ESL program designed for advanced English learners with university</p>

Focus/Typology	Examples
	<p>education who wish to function at a professional working level. The custom-designed program offers independent and classroom-based studies to meet specific skill needs in the areas of listening, speaking, reading, writing, grammar and vocabulary. Flexible schedules are developed for learners who need to juggle work and home responsibilities with their studies.</p> <p>http://eslprograms.vcc.ca/PACE/self-paced_esl.html</p>
ESL and Work Internship	<p>Vancouver English Centre</p> <p><i>Business Internship Program</i></p> <p>The internship program is designed to help non-native speakers function in an English-speaking work environment. The program includes business language studies and a work experience term in the Vancouver area (normally a volunteer internship). Coursework includes communication for job search (e.g. interview, telephone, resume, and negotiation), North American business culture, and business writing and communication skills. The work experience component helps learners understand how business is conducted in Canada and efforts are made to match the internship with individual career interests.</p> <p>http://www.vec.ca/English/3/internship.cfm</p>
Technical Communication (ESL)	<p>BCIT, Pre-Entry Communication</p> <p>A variety of pre-entry communication and test preparatory courses are available to meet the grade 12 language requirement for entry into a BCIT full-time program. These courses are pre-requisites for others.</p> <p><i>Technical and Business English for ESL Speakers (COMM 0071)</i></p> <p>An introductory course with a focus on reading, writing, speaking and listening. Emphasis is on phrases and topics in relation to business, technology and trades. Pre-requisite: COMM 0009 assessment test</p> <p><i>Writing, Speaking, Listening, and Reading Skills for Technical Communication (COMM 0003)</i></p> <p>Emphasis is on grammar skills and language structures. Pre-requisite: COMM 0071 OR 0009</p> <p><i>Technical Communication Skills for Second Language Students (COMM 0004)</i></p> <p>Emphasis is on paragraph writing for technical communication, preparation and interpretation of graphics, and oral presentations. Pre-requisite: COMM 0003 OR 0009</p> <p><i>Technical English and Learning Skills for Second Language Students (COMM 0005)</i></p> <p>This course is for those who have good writing and speaking skills. Emphasis is on acquiring the level of proficiency required for full-time programs in writing, reading, speaking, listening and study skills. Pre-requisite: COMM</p>

Focus/Typology **Examples**

0004 OR 0009

Oral Fluency for Business and Technical Communication (COMM 0030)

Emphasis is on business and science/technology language, as well as less formal situations. Listening and speaking communication skills are the focus with subjects including group discussions and meetings, impromptu oral presentations, interviewing, pronunciation and note-taking. Pre-requisite: *English Language Training Support Course (COMM 0045)*

Guidance is given on improving individual oral, reading and writing skills for studies and work. Pre-requisite: COMM 0005

http://www.communication.bcit.ca/pre-entry/courses_offered.shtml

Technical Communication for Engineering Students (not ESL specific)

SFU, Faculty of Applied Science, Engineering Science

A variety of courses are included in the engineering program requirements. Prerequisites include language proficiency acceptable for entry into university. Course text: Stevenson, Susan and Steve Whitmore. 2002. Strategies for Engineering Communication. John Wiley & Sons, Inc. New York.³

Writing Process, Persuasion and Presentations (ENSC 101-1)

An introduction to the principles of effective communication. Emphasis is on the writing process, persuasive writing, research papers, and oral presentations. The course also explores current social and ethical issues in engineering.

Form and Style in Professional Genres (ENSC 102-1)

Style and format of technical writing, such as laboratory reports and project documentation, is the focus of this course. This course also examines resumes, cover letters, interview skills and formal reports, listening skills and group dynamics in the context of the team projects.

Project Documentation and Team Dynamics (ENSC 305-1)

This course provides practical experience in designing development projects. Topics include project management, team writing, project documentation (e.g. proposals, specifications, reports and users manuals), group dynamics and dispute resolution.

<http://www.ensc.sfu.ca/courses.html>

³ This text covers a wide variety of communication topics relevant to engineers, including: listening, team dynamics, workplace communication, team writing, persuasion, oral presentations, writing style and grammar, proposals, resumes, letters, memos, email correspondence and reports.

Focus/Typology**Examples****UBC, Faculty of Applied Science**

Technical Communication (APSC 201)

An introductory course for university students on all aspects of technical communication, including report preparation, business correspondence, and oral presentation. Prerequisites include language proficiency acceptable for entry into university and English 112. Course text: Stevenson, Susan and Steve Whitmore. 2002. Strategies for Engineering Communication. John Wiley & Sons, Inc. New York.

http://www.apsc.ubc.ca/student_info/Engineering/course_info/apsc201/201info.html

University of Victoria, Faculty of Engineering

Technical Writing (ENGR 240)

This second year course covers researching and referencing scientific and technical literature and technical/scientific writing. Writing formats include memoranda, letters, abstracts, reports, papers, theses, manuals, brochures, and specifications. A first year general English writing course is a pre-requisite.

<http://web.uvic.ca/calendar2003/CDs/ENGR/240.html>

**General
Business
Communication
(ESL)****Immigrant Services Society of British Columbia (ISS), Adult and Continuing Education Program**

Business English

Writing and speaking skills are the focus of this course (e.g. business memos and letters, public speaking, presentations and telephone use).

<http://www.issbc.org/ace/courses.html#BE>

Vancouver English Centre

Business English Courses

A variety of courses are available which cover the following topics: Marketing, International Economy, Grammar for Business Purposes, New Economy in BC, and Public Speaking.

<http://www.vec.ca/English/3/business-english.cfm>

Appendix 16: Training and Work Experience Programs for Internationally Trained Engineers

The following program information was obtained through conference presentations at the Recognizing Learning Conference in Halifax, October 2001 and personal communication.

Skills for Change, Mentoring for Employment

- Serving engineers, accountants and biotechnology professionals. A 65-70% success rate was reported in 2001 for clients obtaining employment within 3 months of completing their mentorship program.

Skills for Change, Sector Terminology, Information and Counselling

- Assists newcomers in developing realistic goals and plans to enter their professions in Canada. Information is given on licensure, regulations and labour market trends. Participants learn engineering terminology, portfolio development, and skills required to practice their profession. Participants are also assisted in their job search through counselling and employer outreach. Eligibility includes intermediate English language proficiency (CLB 6).

Saskatoon Open Door Society and Saskatchewan Intercultural Association, Mentorship Project

- A work readiness program to assist foreign trained professionals in obtaining work in their area of expertise. It included 6-8 weeks of professional development training and 8-12 weeks in a work placement. The program reported a 50% success rate in placing people within their areas of expertise.

Calgary Catholic Immigration Society, Engineering & Technology Upgrading Program

- A skills training program in areas such as communication, job finding skills and computer applications (e.g. autoCAD). Clients are placed in a three month unpaid work experience (some are paid) and a six month paid job placement. This program has been running since 1994. An 83% success rate was reported in 2001 for clients obtaining engineering jobs.

Calgary Catholic Immigration Society, Pre-Skill Training for the Bachelor of Applied Petroleum Technology Program

- A skills training program for immigrant engineers to improve communication before entering the Petroleum Technology Program at SAIT. Additional training is given in computer upgrading, life & management and job finding. Eligibility includes university entry level English language proficiency (CLB 8 or TOEFL 560).

Derek Rutledge, CET, AutoCAD Training for Internationally Trained Engineers

- In 1989, Derek Rutledge, CET approached the Alberta government to develop a pilot AutoCAD training and work experience course for skilled immigrants, most of whom had university degrees. Sixteen students received three months of training and follow up support to obtain

employment. About 80% obtained jobs following the training. The pilot was successful and the Alberta government developed an ongoing training program with Southern Alberta Institute of Technology.

Ontario Society of Professional Engineers, Pathways Program

- This program was created a year ago and is currently under review. Training includes communication in the Canadian context, work readiness, leadership communication, alternative dispute resolution counselling and a 12 month relevant technical/engineering work placement. Eligibility includes university entry level English language proficiency (CLB 7, TOEFL 560, TOEFL computer-based 220, or IELTS 6.5). The program is reporting about a 50% success rate in the work placement.

MOSAIC, Alternatives to Engineering (later called Technical Alternatives Program)

- Approximately 10 years ago, this HRDC funded program provided training in computer skills, business and technical English, AutoCAD, job search skills for professionals, cultural orientation and a work experience placement at a local engineering or related company for up to two months. Success rates were reported as 75% working in a related field.

Vitesse Re-Skilling Canada Inc.,

- The Vitesse program retrains science and engineering graduates to become qualified to work in high-tech industries (e.g. software engineering, photonics, bioinformatics, microelectronics, and wireless communications). The program is a partnership between the National Research Council, University of Ottawa, Carleton University and knowledge-sector employers. Program features include: co-operative training, academic advisors and company mentors, recognition of prior learning (academic and professional experience), knowledge upgrade and a work term within a 12-16 month period. The following topic areas are covered: core technical skills, 'soft skills' (workplace practice, communication, interviews, self esteem, teamwork, presentation), and performance and professional development business skills. Eligibility includes English language proficiency.

Appendix 17: More Insights and Lessons Learned

Issues and Assumptions...

Lack of professional engineering status is not as big a barrier as often assumed. Cross-cultural misunderstanding and poor non-technical skills are bigger employment barriers than engineering credentials.

- It's the combination of skills - technical, non-technical 'soft' and business - that ITEs need to work as engineers in Canada.
- Employers generally don't care if you are not a professional engineer because as a new employee you won't be approving projects right away. However, they do want the assurance that you are a credible experienced professional who can do a good job for them. Being a P.Eng. goes a long way in giving them that assurance but it is not the only way.
- Immigrant engineers may not benefit by immediately apply for registration with APEGBC until they have a better sense of where they fit into the engineering team.

Recognition of international qualifications is both an employment and a licencing issue. However, an ITE may be qualified to become a member of APEGBC but may not be considered highly employable and vice versa.

- Becoming a professional engineer requires having a certain level of practical work experience. However it is possible to conduct engineering work under the supervision of a professional engineer.
- One way to distinguish between qualification requirements for employment and professional registration is to think of an engineering career as a progressive series of steps. Step 1 is education. Step 2 is work experience. Step 3 is professional status. Although there are linkages between these steps, it is not necessary to have a P.Eng. in order to obtain an engineering job, unless it is a senior position that requires a professional level of responsibility.

Engineering firms in British Columbia are not experiencing labour shortages in the same way that engineering and high-tech firms are in Ottawa or other parts of the country.

- The dialogue on labour market shortages needs to become more precise to account for differences between labour market conditions and ITE employment issues at the regional level and between short-term and medium-term labour market needs.

There's a big difference between experience and local experience.

- Internationally trained engineers, employment counsellors and immigrant service counsellors do not have enough information to fully understand the significance of APEGBC's requirement for Canadian work experience. Application of engineering skills and knowledge is bound by geography, society and culture.

- ITEs need to recognize that they are going through a career transition. They need to be made aware of what will be expected of them to perform in a Canadian work environment. They also need to know that they are unlikely to start working at the same level they left prior to settling in Canada.
- People need to be made to take risks – this SFU communication course is riskier “like conversational French” vs “academic French”

Internationally trained engineers do not need to have perfect English to function productively in an engineering position.

- However, they do need to have much better communication skills in a variety of areas.

The Action Research Approach...

An action research approach requires good understanding of the process and involves people as active participants.

- The Pilot project participants were mostly passive participants. A high level of collaboration with the internationally trained engineers did not occur. A few came together early in the project to help form a networking opportunity with Canadian engineers and get involved in organizing guest speakers. However, the majority of the participants were not interested. Their reaction was that they needed to focus on getting a job. Obviously, the concept of networking and learning about the system didn't seem to have a link to getting a job.
- Action research initiatives need to include a process for empowering internationally trained engineers. The project activities were not applied enough for the ITEs to see linkages to their benefit and feel as though they were part of the process.

A lot of effort was expended on maintaining contact, developing trust and encouraging participants to hang in there.

- This was partly due to limitations in the way in which the project was structured and partly due to individual participants' expectations and abilities.
- The interruption in Pilot activities between consulting contracts disrupted relationship building and trust with the participants. The management structure which delegated support to the participants also created an arms-length relationship between the participants and the project managers.
- It would appear that most were either not accustomed to working in groups or they saw no value in it for the purposes of obtaining jobs.
- It would have been valuable to have had more involvement and participation of the group early in the process. Many did not understand or accept the work experience and training model.

The Impact of Cultural Differences...

Canadian engineers have a very strong culture of their own which needs to be acknowledged and understood.

- Some refer to engineering culture as an 'old boys club'. However, much has changed over the last ten years. For example, the profession has progressed on issues of women's equity in the profession. ITEs are not likely to share the same sense of camaraderie gained through shared values, history and traditions but this does not mean that they are not welcome.

Fitting into the Canadian work culture is a key element for success – and one of the biggest challenges for many internationally trained engineers.

- Cross-cultural differences and their effect on conveying crucial information are often unrecognized by ITEs and employers. A particular behaviour that an ITE believes is the right thing to do may be completely inappropriate in the Canadian context. Employers often only give negative feedback with little or no explanation. As a result, internationally trained engineers misunderstand what employers are looking for; and employers misunderstand many of the skills and attributes that ITEs do have.

The engineering profession will be increasingly challenged to both understand different perspectives on engineering practice and to be understood in a culturally diverse environment.

- Many internationally trained engineers have difficulty judging similarities and differences between their previous engineering experiences and the Canadian engineering system.
- Facilitate learning opportunities through information exchange forums, seminars or other interactive venues.

Several Pilot participants interpreted interviewer/employer reactions to their behaviours or experience as discrimination.

- Good communication skills, combined with cross-cultural understanding, trust and willingness to suspend disbelief will help to breaking through misperceptions and misunderstandings that lead to discrimination.

Skills, Attitudes and Expectations among Participants...

The participants had very different expectations of the Pilot Project than the trainers and work experience consultants.

- Most participants seemed to expect they would be handed a job through the Pilot Project.⁴ From some of the participants' perspectives, they were chosen to be part of a work experience program and, as a result did not see the value

⁴ The Pilot Project was explained several times to individuals, in groups and in writing. An orientation meeting was organized when consultants were first contracted to deliver the work experience and training model. Participants were given a handout of myths and realities on the project and its intentions. They were also required to sign an agreement that they understood the terms and conditions.

in learning good job search techniques. From the managers' perspectives, the participants would still need to know how to compete for a position. Simply giving them a job would not have solved their problem in the long run.

- The dissonance between their expectations and the reality caused a considerable hindrance in their progression. Underlying reasons why this occurred are many:
- They've been unsuccessful in the past in applying for jobs through the normal route and were convinced that they would never be able to compete. Expectations and standards for employment were either too high or they would always be in a disadvantaged position.
- Most could not discern between good job search skills and poor job search skills, or the relevance of developing good skills.
- Some believed that they were chosen for a special program and their path to a good job pre-determined.
- Most believed they just needed an opportunity to demonstrate their abilities in a job, without realizing that in Canada one must first demonstrate and convince an employer before getting the job.
- A few participants seemed to insist that Canada must live up to their expectations and their dreams, and that it was the government's responsibility to deliver on a promise. These participants were particularly angry and bitter because they were getting nowhere with their assertions. Their anger further hindered their ability to accept the situation and move on.

Overall, the Pilot Project participants demonstrated high levels of determination. However, not all were emotionally prepared for the amount of effort it takes to re-establish a career in a new place.

- The Pilot Project did not have the professional counselling or motivational coaching capabilities to adequately deal with emotional difficulties that some participants were going through. Yet, attending to emotional wellbeing could potentially have been one of the most useful services we could have provided.
- The Pilot participants' attitudes and coping skills greatly affected their abilities to deal with frustrations, and stay focused and motivated in pursuing their career goals. Many were simply tired of trying so hard and getting nowhere. Respectful and caring relations helped to keep the participants going. Confidence building was incorporated into coaching efforts in January 2003 which began to show some positive results.

Motivation and confidence strongly influence success and failure.

- The confidence and ability of some participants to communicate resulted in seeking advice and feedback from employers, and maintaining a positive attitude. A handful of the Pilot participants had good soft skills to begin with or developed them over the course of the project. These participants applied

new knowledge gained from the Pilot through different career development techniques.

Lack of cultural literacy significantly affected participants' abilities to develop new skills and adjust attitudes.

- Many behaviours and attitudes are culturally defined. Examples of on-the-job misunderstandings included:
- Social Status: Lack of respect for supervisors who were perceived to be 'less than equal' because of their education or training.
- Collaboration: Unwillingness to take advice or direction from a colleague instead of a supervisor.
- Meaning within Messages: Interpretations of Canadian communication styles as purposefully deceitful. Interpretations of offers of employment (with a probation period in a technician position) as just a step away from an automatic promotion into an engineering position. Feelings of being punished for what ITE says or just for being different.
- Career Advancement: Lack of understanding of the merit system of promotion (e.g. why other employees in junior positions are managing to stay in their jobs and others are being hired as technicians, when ITEs are being laid off).
- In contrast, at least four participants who are working in technician level positions view their jobs as opportunities to earn a steady income, learn about the workings and operations of their organization, meet people in their field and get established with some Canadian experience. They showed interested in building new experiences and relationships and didn't seem to take too much offence at Canadian behaviours.

Whether by osmosis, persuasion or application of personal strengths at least half of the Pilot Project participants significantly improved their self-marketing skills.

- Five participants who have used the power of making personal contacts have obtained jobs through these channels. Two participants began to network and make connections with classmates in BCIT courses.
- Those who have not developed their understanding of Canadian culture have also not developed an appreciation of the value of networking. Nevertheless, they do present themselves with courtesy and varying levels of professional manner to employers.

The majority of participants held strong opinions regarding APEGBC and its role in supporting their interests and needs.

- On one hand, participants wanted to belong to an association because of their strong sense of identity as engineers. As self-identified engineers, they felt that it is or should be within APEGBC's mandate to represent their interests.

- On the other hand, some participants also strongly believed that APEGBC could not be trusted to support ITEs concerns because they felt that APEGBC supports an exclusive membership and restricts access to the profession.

Opinions of employers varied greatly among participants. Participants who expressed anger with the Canadian system sincerely believe that employers discriminated against immigrants.

- A couple of people seriously felt they may be discriminated against because of race. Many of the participants acknowledged what they would refer to as discrimination against people with “accents” and “foreigners” not educated within BC.
- Some participants were more understanding and accepting of this discrimination than others. For example, there was a great variation of opinion on the importance of communication abilities and skills in an engineering job.

ITE Information and Training Needs...

Training must not only be relevant, it must be perceived to be relevant.

- Clearly, from the self assessments completed by the Pilot participants, there were several topics that they did not see as relevant to reaching their career goals.
- As people who are educated in an applied technical field, internationally trained engineers do not easily accept the need for training in areas such as communication, intercultural understanding, career development and other non-technical skills where they do not intuitively understand their relevance or application to engineering.

Canadians take communication technologies for granted; yet many of the Pilot participants did not have the basic tools.

- A few technical limitations to communicating with participants were encountered because some of the participants’ email and voice messaging systems were unreliable. Most participants used yahoo or hotmail email accounts which were often full. As a result, many did not receive meeting notices or files related to the Pilot Project. A few had changed their email addresses and didn’t notify us. At least one participant did not have a message machine which made it impossible to leave phone messages during working hours.

Don’t expect websites to fill all information service needs.

- Information on the regulated professions and job prospects needs to be very specific and targeted to the intended audience. Putting information on a website or portal is the shotgun approach to marketing information.
- Much of the information currently available to immigrant applicants via internet is too vague and too indirect. Critical information is often buried under three or more webpage layers. Many of the several resources are not

helpful sites. The experience of trying to find information on the internet is like being bounced endlessly from one telephone voice mail box to another.

Work Experience and Training Services for ITEs...

Getting an engineering or technical job is one challenge. Keeping that job is quite another.

- Job retention was an issue in this Pilot Project, as it has also been in the Ontario Pathways Program.⁵ Several participants had successive jobs over short time-periods that were partly attributed to a slow economy and partly attributed to 'lack of fit' with the company.
- Ability to fit into the workplace is also related to understanding how to conduct oneself in a different culture (e.g. employer/employee relationships, working in teams, communicating technical information to others, time management) as well as being versatile enough to perform many functions (e.g. business development, client management).

A program that is delivered in isolation from the markets it serves can quickly become stale, outdated, unresponsive, and out of touch.

- The demographics of immigrants moving to Canada and British Columbia have changed significantly over the past twenty years. On the surface, the economic conditions of skilled immigrants appear similar to those of other economically disenfranchised groups. However, there are some fundamental differences that are not recognized or addressed through conventional settlement and employment programs.
- Avoid institutionalization of programs by concentrating on people and results, rather than rules and procedures.
- Foster and showcase leadership among employers and individuals. Success breeds success, one story at a time.

Canadian and internationally trained engineers already work together in practice. Viewing ITEs as potential assets is more productive than viewing them as potential liabilities.

- The relative contributions of technologists, technicians and engineers to the engineering team need to be explained to ITEs. Whether perceived or real, hiring an ITE into a position that they consider to be of lesser value can have a significant affect on their sense of dignity and attitudes on the job.

Work experience and training for ITEs is professional development.

- Continuing professional development is a valued activity in the engineering profession. Any future work experience and training services for ITEs should be viewed as a form of continuing professional development and a

⁵ The Pathways Program used a strict set of eligibility criteria including mandatory professional membership, higher English testing scores, and recent engineering work experience.

contribution toward building a high quality engineering labour market in B.C.

Good service requires the right people with the right combination of skills in the areas of cross-cultural understanding, working in a professional environment and labour market development.

- While there are many highly skilled and knowledgeable people in British Columbia within different areas of expertise, there are few experts to draw from who have the right combination of skills and knowledge.
- The most useful skills, knowledge and attributes emerging from the Pilot Project experience were: market research, networking, professional modelling, morale building, communicating, collaborating, mentoring and coaching.
- Some important skills that were either missing or not adequately utilized in the Pilot Project were: knowledge of the practice of professional engineering, adult education, cross-cultural training and personal counselling. These skills would have helped immensely with assets and needs assessments, interpreting work culture and communication differences, designing curriculum, addressing emotional needs, and developing critical employability skills.

Employers and the Engineering Work Environment...

Employers have a clear understanding of the qualifications they want for engineering and related positions.

- However, there are two significant areas where many employers could use some assistance when assessing an internationally trained engineer. These are: a) translation of non-accredited academic credentials and international work experience into the Canadian engineering context, and b) interpretation of and bridging cultural differences in the conduct of engineering work.

Many employers rely on the professional registration system to determine academic qualifications for engineering positions.

- Employers are not necessarily looking for candidates to fill a P.Eng. or EIT position. ITEs are often placed into technical positions. This practice has the effect of setting engineer-level standards for technologist and technician positions. APEGBC has developed two tools to assist ITEs and employers toward recognizing qualifications.⁶ However, the professional engineering registration system is still an inappropriate tool for the purpose of determining whether a given individual is employable. Other employability assessment tools are needed to assist employers in hiring internationally trained engineers.

⁶ The proposed "Provisional Member" category will recognize all qualifications short of the Canadian work experience. The Self-Assessment Tool will assist in identifying what requirements will likely be needed to obtain registration status with APEGBC.

- Many engineer employers use the fact that an ITE is not a registered professional as an excuse to not hire someone. More appropriate feedback from engineering employers will help ITEs in the long run in knowing what they need to do to become qualified for a job. Employers need to learn how to give feedback to job applicants in an efficient manner, without fear of reprisal for their honesty.

The time and effort required to train most engineers-in-training and internationally trained engineers is a significant investment for engineering companies.

- Direct and indirect training support for ITEs hired by employers would: a) fill some gaps in current education and training programs, b) enable professional, business, and communication training to be adapted and applied within specific working contexts and c) contribute toward a lifelong learning approach.⁷

Public investment in mentoring would likely produce better results than 'purchasing' jobs with wage subsidies.

- Peer mentoring and networking will help to build bridges and relationships between skilled immigrants and their local counterparts. Mentors would be valuable to employers as trainers and references for prospective employees.
- Engineers generally do not have the time to learn how core technical skills transfer from many different countries into the Canadian context. However, many do have experientially-based information on qualifications from some countries. As mentors, they can provide some valuable insights into job matches and training needs.
- As individuals, professional engineers and technologists are concerned and very willing to assist internationally trained engineers. As employers, they can not afford to risk the quality of their output by investing in people who they feel are not job-ready.
- Established internationally trained engineers can offer insights into 'how things are different'. Canadian trained engineers can offer insights into 'how things are'.

Volunteer work, which has also been widely advocated by ITEs and employment counsellors, is inappropriate in the engineering context.

- Engineers strive to place a high value on the work they do. Fair compensation for engineering work is in their Code of Ethics. Engineering work is also a regulated profession with serious liability implications.

APEGBC Information Services...

Legal writing style is difficult to understand.

- Information for new member applicants needs to be presented in a simple, straightforward manner. Much of the text used for the website and other

⁷ Direct support refers to training material, courses and programs. Indirect support refers to training funds, scholarships and bursaries.

written materials had been extracted from legal or technical documents (e.g. strategic plans, regulations). Although it is important for legally-based information to be understood as official information, it does not need to sound officious. The same message can be conveyed in a more appropriate tone and style for the intended audience.

Frontline staff members are excellent resources in identifying needed information.

- Registration coordinators talk regularly with ITE applicants. They have a pretty clear idea of which information and procedures are not well understood by internationally trained engineers, human resource personnel, community service workers and others wanting information on professional registration.

Greater care in communicating avoids future problems.

- Good information is needed at first contact, whether it is in the form of a phone enquiry, a registration application package or via the website.
- It can initially take a long time, often after frustrated efforts, for an internationally trained engineer to approach APEGBC with a question or concern. More careful explanation and guidance on registration policies and procedures reduces frustration and misperceptions; and facilitates quicker processing of applications.

Start with the basics; do not assume everyone understands the system. Explaining the rationale behind the rules reduces frustration, anger and resentment.

- There are many words that immigrant engineers do not understand (e.g. "transcript" and "syllabus"). These terms should be either defined or described in simple language.
- People generally accept application procedures better when the Canadian regulatory system and reasons for certain application requirements are explained.
- ITEs are less angry and resentful when they know that Canadians go through the same basic process and adhere to the same standards. Although the new APEGBC guidebook and website are now easier to read, pertinent information is still missing regarding why certain policies and procedures exist.

Face-to-face interaction still works best.

- ITEs rely heavily on information available from the internet but would like to talk with someone in person. Face to face interaction, particularly with the same person who is familiar with their file, improves an ITE's understanding of the APEGBC registration process and requirements.

Information delivery needs to be consistent to be effective.

- Newcomers get a lot of misinformation from friends, family and other newcomers. Every effort should be made by staff to be consistent with each other and with written material.

Staff should be well versed in effective communication techniques.

- Basic communication and design principles go a long way toward improving documents, forms, guidebooks and websites. Better communication skills also heighten sensitivity to the need for communicating clearly.

APEGBC Staff Development...

APEGBC staff benefited immensely from the introductory training they received in cross-cultural understanding, website design and plain language techniques.

- Although the training sessions only skimmed through the topics, staff members were able to apply the information through two special projects: the policy and procedure review and the registration website and guidebook redesign. The fact that training was given to several people within the organization also helped make the topics relevant to their work.

Training workshops are more effective than guidebooks.

- The guides that were drafted for the Pilot Project to help staff assess and improve their information material were not completed because APEGBC staff did not think a guide would be useful to them. In contrast, the more interactive group discussions and customized lessons in a workshop setting were much more relevant and tangible.

The Registration Department staff evolved into a very cohesive group through the process of overhauling the APEGBC registration web pages.

- The effect of this project empowered staff and created a very supportive environment to improve their information services for skilled immigrants.

APEGBC Policy and Procedure Review...

The policy and procedure review for professional registration has been one of the most tangible benefits of this Pilot Project to date.

- APEGBC has made some significant changes to help ITE applicants and new members. The Association has the general support and cooperation of its entire registration staff in making policy and procedure changes. The Association also has a good sense of additional changes they can make to ensure a more equitable, manageable and transparent registration system.

Four key factors contribute to improvements in policies and procedures: 1) leadership, 2) frontline staff empowerment and involvement, 3) analytical skills and 4) dedicated time.

- The APEGBC review made some significant progress as a result of the first two factors. However, the Pilot Project efforts did not progress further because of limited staff skills and time. Additional external services with organizational and policy development expertise would have been helpful in supplementing limited skills and resources.

APEGBC has a well established system of using member volunteers to conduct impartial application reviews. This peer review system has much strength but needs to be improved with respect to adjudicating internationally trained applicants.

- The volunteer review system is a good way of obtaining realistic opinions from practitioners on the realities of applicants' abilities to function as professionals in the working environment. Choosing three interviewers from a pool of 250-300 volunteers appears to provide a fair approach to evaluating qualifications. However, this system can result in inconsistent and highly subjective decisions. Without a foundation in intercultural understanding and communication skills, volunteers can fail to obtain an accurate picture of applicants' qualifications.

Application to APEGBC...

Applications require serious commitment of money, time and effort with no advanced assurance that an ITE will meet the professional standards.

- Without knowing the economic benefits of P.Eng. status and the certainty of outcome, most of the Pilot participants took a long time committing themselves to the application process. The APEGBC Self-Assessment Tool will help ITEs know what they can expect and reduce some of their uncertainties.
- Many are unsure of whether they should belong to ASTTBC or APEGBC. At least three participants were assisted in resolving their dilemma.
- ITEs often have difficulty completing their applications, but most do not approach APEGBC for assistance or clarification. From May 2002 to the following January, APEGBC had offered to assist participants if they were having difficulty obtaining transcripts or other official documents. None of the participants accepted the offer and few reasons were given for their delays. A couple of people were either having difficulty or didn't know how to obtain their university transcripts. Once this problem was identified, the Pilot Management Team was quickly able to identify who to contact and the transcripts were on their way.

Inter-Agency Communication...

Through opportunities for open dialogue, we've learned that each organization/sector has a valuable role that contributes toward establishing skilled immigrants in their chosen careers.

- Community service organizations and APEGBC have increased understanding of their respective roles which has resulted in some very positive relations. However, there are some real limitations with future information exchanges and collaborative efforts.
- For APEGBC, there are significant limitations of time and staff, as well as mandate, for community outreach and inter-agency liaison activities. Communication and cooperative efforts will need to be better organized to maintain ongoing dialogue.
- Some important industry players were not involved in the Pilot Project. Industry and trade associations offer professional development and

networking opportunities in different areas of interest. They are also good sources of information on industry issues and trends.

Trainers and community service workers have good insights into immigrants' cultural backgrounds, challenges and strengths.

- These frontline people work directly with ITEs through immigrant settlement services, ESL instruction and employment counselling. Community service organizations are in a good position to serve as information 'agents' for professional regulators such as APEGBC to increase understanding of professions and trades among skilled immigrants. However, few trainers and service workers adequately understand professional work environments, professional work requirements and the legal context of regulated professions. This was evident from various individual dialogues as well as from Pilot participants' experiences. Most participants had taken ESL and career development courses prior to the Pilot but did not feel adequately prepared for working in the engineering field. The results of their resumes and job search efforts attested to their lack of adequate training and preparation.