

APEGM

**ASSOCIATION OF
PROFESSIONAL ENGINEERS AND
GEOLOGISTS
OF THE PROVINCE OF MANITOBA**

Stakeholder Questionnaire Final Report

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APEGM STAKEHOLDER INTERVIEW FINAL REPORT

INTRODUCTION

The issue of continuing competence facing APEGM is one many professional groups in North America are debating. It came to a head in Manitoba at the October 1998 AGM when a slight majority of delegates voted to put to the membership a resolution regarding continuing competence and ethics. The membership overwhelmingly voted down this proposal and APEGM Council established a task force to oversee the matter.

The APEGM task Force accepted an objective that said it was... *To recommend a process that will demonstrate to the public due diligence on the part of the Association by assuring appropriate competence and ethical behaviour of its members, and that will be accepted by the membership.*

Wordsnorth's involvement in this study began early in 1999 with a series of meetings of APEGM executive, committee members and other members plus several engineers who had opposed the earlier professional development resolution. Wordsnorth was also given several background papers and other pieces of research conducted in other parts of the continent.

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Methodology

Stakeholders identified by the Taskforce received a letter from APEGM President M.G. (Ron) Britton in mid to late September 1999 requesting an interview and explaining the purpose and nature of the questionnaire to be used. A copy of the questionnaire accompanied each letter. Wordsnorth President Ed Martens placed a personal call to each stakeholder to arrange a private interview.

Interviews generally lasted one hour to one hour and a half. Wordsnorth advised stakeholders that their opinions would be conveyed to APEGM on an anonymous basis. All candidates were asked to respond in their capacity as stakeholders and not as individuals.

Stakeholders undertook to answer APEGM's questions in a most serious and thoughtful manner. Several stakeholders discussed APEGM's interview questions with colleagues prior to meeting with us. Many stakeholders made extensive notes from which to respond, and one stakeholder met with us as an executive committee of five.

Most interviews were conducted in the offices of the stakeholder, with two interviews conducted by telephone. Ed Martens attended every interview and Nadine Kampen attended all but two.

The research conducted was of a qualitative nature as compared to quantitative. A process was followed such that it allows the association to have confidence in the findings.

Stakeholder background information

Wordsnorth has interviewed 11 of the stakeholders named by APEGM, for a total of 15 people when one counts the five business people representing one stakeholder. All stakeholders were leaders in the public and private sectors whose organizations or businesses rely on the services of engineers and/or geoscientists. The group included some individuals who are engineers, as well as some people who are professionals in other fields.

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OVERALL IMPRESSION

Stakeholders are generally satisfied with the current situation. They believe that, in the main, engineers are maintaining their competency and that they will and should continue to do so. They believe the public to be adequately protected, both in terms of competency and ethics. By being adequately protected, we understand them to be saying that their confidence levels in these professionals are high, and that they believe the processes now in place to identify incompetence and to address it when found are largely sufficient.

Beyond the matter of competence, they believe that there are areas where APEGM could improve its service to the stakeholders and the general public, and they encourage APEGM to examine and act upon several key issues and concerns.

COMPETENCE (Questions 6 to 13)

How do stakeholders rate engineers and geo-scientists for continuing competency, compared to other professionals?

Stakeholders almost to the person rate them very well on matters of competence and ethics, but put engineers behind accountants and doctors in terms of keeping up their “book-learning” and technological skills. Their perception is that they are doing the same or better than teachers in this area. Lawyers ranked last, and most people had no opinion about how up-to-date architects might be.

Should engineers and geoscientists undertake professional development?

Yes. They should continue to upgrade their knowledge throughout their careers as most have been doing.

What is the best way to achieve continuing competence?

Voluntary professional development is the best way, eight stakeholders out of eleven said (or 11 people out of 15), through attending workshops, seminars, conventions, and reading current literature and newsletters.

Of the three stakeholders who did support mandatory requirements for professional development, their responses were qualified. Two people felt that there should be different requirements to account for diversity in practises. One thought self-reporting on professional development should be mandatory, without any testing. One stakeholder thought testing with a core competency program should be mandatory every five years.

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Why not mandatory?

Stakeholders distinguish between professional development that occurs naturally in the course of job exposure and experience, and professional development that is study-related. As a group, they place great value on work experience and demonstrable skill competency. They believe that field experience and job exposure to relevant types of projects is more important than book learning once formal schooling has ended. That is why they largely believe that mandatory testing would be inadequate and inappropriate in assessing competency. What kind of competency? For which type of project?

For that reason, and because they do see engineers and geoscientists as a competent to highly competent population in general, they are comfortable continuing with the status quo. They do not see any major problems here.

When problems in competency do develop, what then?

Several people remarked that the marketplace is swift in determining if service providers are competent. Also, engineers, geoscientists and consulting firms have to present credentials, which are evaluated in the marketplace. This process offers a checking mechanism, and it is one that should be used appropriately by the purchaser.

Two stakeholders observed that they sometimes encounter a lack of experience among rural engineers. Career exposure to specific types of projects is limited by location, and when the big projects do arrive, corporations and administrations tend to bring in their own engineers and geoscientists and by-pass local services. Opportunities to learn on the job are thereby diminished and competence is reduced due to lack of exposure to newer technologies and processes.

A few stakeholders remarked on the deterioration in the competency of some engineering firms, feeling that they were just using old solutions to new problems, showing no innovation. They dealt with this problem but simply do not use the services of that firm again.

They recommended that APEGM remind its members, again and again, of the importance of remaining current in the field of expertise.

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Do engineers and geoscientists upgrade their knowledge and skills on a voluntary basis?

It is the observation of the stakeholders that many engineers and geoscientists do take advantage of voluntary professional development opportunities, with some exceptions (noted above).

Employees often find a course they want to take, bring it to the attention of their superiors, and then enrol on a course of study. Employers in large companies and organizations seem predisposed to financially support these initiatives.

Stakeholders agreed that it was more problematic financially for small business owners and consultants to attend courses and workshops because they are paying for the courses themselves and no one gives them time off work to study. Cost plus lost revenue is a significant deterrent for some people.

Is mandatory professional development appropriate sometimes?

Almost to the person stakeholders felt that mandatory professional development would be called for as part of a disciplinary process. When a complaint has been generated and properly substantiated, stakeholders believe mandatory professional upgrading and possible testing, depending upon circumstances, would be appropriate for this target group.

Is there a need for APEGM to offer an ethics program?

As a whole, the stakeholders view Canadian engineers and geoscientists as professionals who do govern themselves ethically. The stakeholders recognize that there are and will always be individuals who behave unethically and unprofessionally, but they do not see this group as being heavily populated with unethical individuals.

Three stakeholders discussed the issue of ethics with us at some length. One stakeholder noted several circumstances that could easily create ethical dilemmas for engineers and geoscientists in the course of their careers. The stakeholder pointed out that engineers are frequently in a position to detect and decide upon ethical violations, by Canadian values. Certainly it would be helpful for APEGM to lead discussions on ethics from time to time, and to continue to generate industry-appropriate standards of behaviours for these professionals.

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Is professional development seen by stakeholders merely as a way to do due diligence?

Stakeholders do not attribute professional development motives to legal issues of diligence. They see it as a professional responsibility to upgrade, as well as a marketing tool when one firm has professional development credentials that a competitor may not possess. There was general recognition that doing “due diligence” would not protect against lawsuits, nor necessarily hold up as a legal defence. One stakeholder wondered whether mandatory professional development under the umbrella of APEGM might, in the case of complaints against an individual who passed such courses, actually result in future lawsuits against the association where it would otherwise be uninvolved.

APEGM’S RELATIONSHIP WITH STAKEHOLDERS AND THE PUBLIC (Questions 18 and 19)

Throughout all the interviews, Wordsnorth observed that Stakeholders chose their words with great deliberation, and they indicated to us by their manner that they took their responsibilities in answering these questions very much to heart. This was highly evident when Wordsnorth questioned them about issues and concerns facing the profession. They were most earnest in their replies.

They are hopeful that APEGM will address the issues, below, as a means of serving the public and meeting the needs of the stakeholders. The stakeholder comments originate in response to Questions 1 to 5 on the questionnaire.

Demographic changes mean shortages coming up

Many stakeholders are noticing a growing shortage in engineers with appropriate qualifications. The demographics are such that many engineers will soon begin to retire, creating loss not only of numbers, but also of knowledge and experience that may be hard to replace.

Some say that shortage is already here – that it can take months to find the right candidate. They notice that firms are beginning to steal employees from one another, and that the dollar attached to the job is becoming increasingly more important. Without knowing the actual numbers of people leaving the country, some stakeholders are finding that young engineers are choosing career paths that often take them to the United States right out of university.

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Stakeholders are wondering if APEGM does, or can in the future, play a role in determining which university courses are offered in Manitoba. They want to make sure that the engineering and geoscientific community has a say in which courses are being kept, and which ones are falling under the axe of budget cuts. They believe that it is crucial to take a look at this situation in the near future in order to meet the needs of Manitoba stakeholders.

Some stakeholders stated strongly that the university was doing a poor job in preparing graduates for the workforce, particularly in some disciplines.

There was also concern about the physical plant at U of M, with one stakeholder noting that deterioration of the plant and restrictions on salaries will ultimately affect the calibre of graduates. This same stakeholder wants to see some process in place to recognize credentials of immigrant engineers and geoscientists. The stakeholder also drew attention to the fact that there are too few women in engineering in Manitoba, and that there is a need for business courses at the under-graduate level.

The idea of developing business sense among graduates was apparent in the comments of another stakeholder, who says that graduates ten years ago had a better understanding of engineering and geosciences as business – these students were better generalists.

Today's graduates, in contrast, are better technologists – wonderful in the high technology arena – but not as skilled in adhering to budgets and schedules. It is not a criticism, but an observation.

One stakeholder very much wished to see improved consultation with industry, contrasting the university's lack of consultation with the work of Red River College.

Several stakeholders commented that they are seeing some deterioration in the quality of work among some consultants.

Budgets must show true costs

Another key concern of stakeholders was the sense that some owners do not value engineering services and do not budget appropriately for those services. This could very well explain some (but not all) aspects of the deterioration in the quality of work which some stakeholders are witnessing.

They worry about contracts going to lowest dollar without due regard to qualifications.

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They worry that engineers are being forced into situations of producing poorer quality work due to budget restrictions and even budget errors. They are seeing projects where there is no money, or insufficient amounts, for engineering costs. They are seeing these costs passed on to and hidden in contractors' bids, or in the sub-contractors' bids. One stakeholder questioned whether inspections paid for by the contractors themselves can be completely reliable. When this happens, it subjects engineering safeguards to undue economic influence. Who is paying the bill at the end of the project? To whom does the inspector report?

They, with some concern, see technicians doing engineering work. There is a place for technicians, but their work must be supervised. They should not be sent in to make decisions beyond their experience and skill. The worry is that they may not recognize situations that call for evaluations beyond their own.

Stakeholders see a growing gap between what is expected by the owner and what is delivered as the end product.

Engineers need to work directly with owners, not as sub-contractors to architects.

Several stakeholders expressed the opinion that the level of pay for engineers in Manitoba is becoming an issue, where it has not been one in the past.

Public communication needed

Stakeholders would like to hear more from APEGM. By this, they seem to mean, more public announcements, more opinions in the news, more outreach to the public. They do not mean that they want the newsletter more frequently, because they acknowledge that they do not read the newsletter cover to cover, and most do not visit APEGM's web site, nor were they aware of what type of information was offered on that site.

Their sense is that the association could do more to educate the public about what engineers do. They would like the public to know, without themselves as stakeholders having to do the telling, which engineering and geoscientific services they should be using. Some stakeholders find it a burden to have to explain everything to the public, and they feel this is an area where APEGM could be of great assistance to them.

They see a role for APEGM in making sure that the public knows whom to come to if they do have a complaint about services.

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One stakeholder expressed strong views that APEGM needs to show leadership on issues, and to make its views public when engineering and geoscientific issues surface in the news.

Universal rules wanted

One stakeholder spoke to the issue of there being too many jurisdictions and different rules across the country. Some unification in this area would be useful.

CONCLUSIONS

Stakeholders find that engineers and geoscientists are a competent group of individuals, behaving ethically as human beings, and not in great need of any fix-it programs.

They do value on-going professional development, and they see it happening among members of this profession to a great extent. There seems to be room for improvement in rural areas, where opportunities to learn are more limited.

They want voluntary programs to continue, and they support these programs.

They expect consultants to take courses, and they expect prices to reflect the costs associated with maintaining professional competency.

The majority of stakeholders do not support mandatory programs and testing, except as part of a disciplinary program. The minority view is that engineering is behind some professions in the area of professional development, and could step up its program. Maybe core competency programs could be instituted, maybe credit hours per year could be suggested – there are many good ideas here, regardless of whether the program is mandatory or voluntary.

The stakeholders do not believe that these professionals need to be pushed to continue learning. They see this happening naturally, and where it does not occur, the market eliminates poor service providers.

The stakeholders largely feel that the public is adequately protected, since projects where public safety might be at risk are both regulated and supervised, with credentials carefully monitored.

Several stakeholders commended APEGM for the exercise and indicated that on-going dialogue could be of benefit to all.

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