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Sustainable Careers

A three part series on the future of environmental, health and safety professionals

By Richard MacLean

Part 1: Preserving your career options while protecting the environment

At the 2002 Annual Conference of the Academy of Certified Hazardous Materials Managers (ACHMM), there was "standing room only" at one of the sessions — the forum on professional development. Seeing this attentive audience reminded me just how serious "career sustainability" has become to environmental professionals. I was at the conference to present a paper on a related subject: the research underway at the Wharton School at the University of Pennsylvania and at Boston University School of Management. Managed by the Center for Environmental Innovation (CEI), the two research teams are examining (1) the "health" or career status of environmental, health and safety (EHS) professionals and (2) current staffing and organizational trends.[1]

CEI research to date indicates that EHS professionals are undergoing a difficult transition period. Corporations and government agencies are facing a loss of their most experienced professionals due to retirement. For example, the U. S. Environmental Protection Agency (EPA) reports that 47 percent of their workforce will be eligible for retirement by 2005.[2] That may seem like good news for new entrants, but companies continue to aggressively downsize EHS departments or "down skill" EHS jobs to lower paying positions. It is anyone's guess what shape EPA or state agencies will take in the future. For someone planning a lifetime career in the environmental profession, these are uncertain times.

My father retired from the company he joined after his discharge from the army after World War II. My co-op jobs at Northeastern University and my first job after graduation with Shell Oil Company shattered any illusion that I would follow his model of career longevity with one company. I watched string after string of layoffs and reorganizations in companies that previously had never been touched with radical change. Through the school of hard knocks, I learned three critical rules for a sustainable career.

Rule 1 — Run Your Own Corporation

I do not mean this literally. I am suggesting that one needs to develop a certain mindset. Let's face it: you are on your own, working for yourself. You just happen to have a primary client called "Ajax Company" or the "State Department of Environmental Conservation." If you expect to have a single, stable client for the rest of your career, you are betting against the odds. Even within government agencies where job security seems to come with seniority, you still face constant administration changes and the ever present "boss from hell." Yes, you may keep the job, but is it really worth the stress and resultant health impacts?

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Having your "own company" mindset forces you to take greater responsibility for managing your own career and place less reliance on the organization's

whims for using you to its advantage. I have seen far too many professionals relinquish their career responsibilities to the unchallenged control of an organization. It is time to create your own business plan.

Running your own corporation also puts into perspective the wisdom of giving a 150 percent effort to an organization that, in reality, can change overnight. I have heard hundreds of macho stories from individuals who work 60 plus hours each week and/or travel extensively, effectively ruining their family life and their health. Do not expect a reward at some distant time for these Herculean efforts, because in today's environment the manager making the promise may not be around to deliver on it. For that matter, there may not even be a company around at that point in the future. I know of many bitter and resentful people who made scores of personal sacrifices for the good of the organization, only to have nothing to show for it other than missing memories of their children growing up.

Stop making sacrifices for someone else's company, unless your company receives a clear and relatively short-term return (two years or less). Put the 150 percent effort into your company and your family. Would one corporation make such sacrifices for another corporation unless they were guaranteed a very high probability of return? No way. If they did, the board of directors would be considered negligent. If you are required to make these sacrifices, with no clear short-term reward in sight other than to keep the "present client," read on.

Rule 2 — Develop and Promote Your Corporation

Be in constant training for the next client assignment, no matter how secure you feel about the current one. Take advantage of every career development opportunity. Get and maintain professional certifications. Join national professional organizations and their local chapters; get out there and be active. Develop contacts on the outside. Present papers at conferences, write journal articles and fine-tune the skills you will need to advertise your corporation. Maintain an up-to-date marketing portfolio (i.e., an updated resume).

It also helps to have a good client list; in other words, work for organizations with good reputations. This not only enhances your marketing portfolio, but also expands your network of key relationships as described under Rule 3. If you expect to work closely with your client's corporate leadership, read business publications in addition to technical journals. I recently asked an audience how many of them routinely read the *Harvard Business Review*, the *Wall Street Journal* or *Fortune*. I was amazed; no one in the room.

It will take effort to promote your own company. If you give 150 percent to someone else's corporation, you are neglecting your own company's strategic plan.

Rule 3 — Put More Energy Into the Client Communication Department

Technical skills help, but they will not keep the current client or secure the next one. Many, if not most, EHS professionals are engineers or scientists who, by their very nature and training, can easily fall into the trap of becoming totally focused on accomplishing the task at hand. Don't. You may think that hard work allows you to hold onto that current client, but it probably has a lot more to do with how well you fit into the organization and how well you are liked.

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In real estate, it is location, location, location. In business and government, it is relationships, relationships, relationships. Put more energy into developing a robust contact network and your relationship with the management of your current client. This includes finding mentors and obtaining honest feedback. Knowing how to play a good round of golf or tennis can do wonders in terms of increasing the face time with management. Always be on the lookout for the client that has the best fit with your own corporate culture. Not only is the most satisfying work done for clients who have the same value set as your own, but they are also the ones most likely to recognize and reward your efforts.

Daniel Goleman, in his seminal work on "emotional intelligence," said as much: how smart you are and how hard you work are not the leading determinants of success. It is emotional intelligence in terms of self-awareness, altruism, personal motivation, empathy and the ability to love and be loved by friends, partners and family members.[3] I'm sure that you know individuals who accomplish few tangible results but seem to excel at pleasing management and surviving even during the most severe cutbacks.

I am not suggesting that you become one of these individuals who are generally held in low regard by those that get the "real work" done. There is a balance, however, and how to affect that balance needs some careful consideration. Violently "rocking the boat" and upsetting everyone may get the job done, but it may also destroy your own company's ability to survive. It really helps to be kind, considerate and empathetic going up the organization, not just with management, but everyone. If you are working those 60 plus hour workweeks getting the job done, you may be incorrectly applying your own company's resources.

Bottom Line

If you are going to survive and prosper in the new generation workforce, you may need to undergo a fundamental reassessment of your current relationship with your employer. These are fluid times, and the only constant is yourself, or what I call your personal corporation. Keeping your nose to the grindstone, or as the Australian's say "heads down, bums up," may be great for the organization that is paying you today, but it does not allow you much time to build your own sustainable future. Re-assess your priorities. Hard work is important, but do not lose sight of the criticality of client and contact relationships and for whom you are ultimately working — yourself and your corporate shareholders (i.e., your family).

Part 2: Future career prospects for environmental professionals

Environmental, health and safety (EHS) professionals are worried about their future in a profession that, by all accounts, is in less demand and simultaneously morphing into "something new." Catch phrases, such as triple bottom line, sustainable development and social responsibility, are the jargon du jour, but what do they really mean in terms of your personal development needs and career path?

The concern expressed by *Environmental Protection* readers is consistent with research being managed by the Center for Environmental Innovation (CEI) and conducted by the Wharton School at the University of Pennsylvania and the Boston University School of Management.[1] It is also consistent with recent research by the National Association of Environmental Managers (NAEM), which found an "expected decline in the total EHS population by 2012...of between two and 10 percent." Corporate headquarters jobs [read higher paying jobs] "are expected to decrease in most industries."[2]

Arguably, this projected decline may be the future that EHS managers are hoping for, namely, a gradual decline and no precipitous drop. Few managers like to admit that their long-term career prospects might be headed for oblivion. The NAEM study predicted that some sectors will be affected more than others. Refining and oil and gas sectors fare well; high tech industries, such as defense and telecom, fare the worst. I suspect that the sector economic conditions at the time of the survey heavily influenced this perception. Another telling example of the mood uncovered by the study: Edvard Munch's most famous work, *The Scream*, was selected as the lead-in illustration for the conclusions.

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The Dynamics in Play

EHS professionals appear to be losing the security and prominence they had in the 1980s, in part, because they are not positioning themselves for the dynamics in play. What dynamics are EHS professionals currently considering? Again, the NAEM study is informative.

Nine factors were identified as likely to impact the EHS profession: the two most important are stakeholder non-governmental organization (NGO) influence and changes in corporate governance; product stewardship and actual global climate change ranked last. Again, I suspect that these choices may be heavily influenced by current events. Both extremes are telling and may reflect a habitually short-sited view of our own profession and the forces that will shape it.

Here is my view of what will take place in the future.

Skilled technical jobs move offshore — China, India, the Philippines and Mexico, among others, are dramatically increasing their number of natural science and engineering college graduates. They are paid a fraction of U.S.-based white collar workers. Over the next 20 years, we will witness the equivalent of the blue-collar job exodus that has plagued U.S. manufacturing workers over the past 30 years.

If you have not read the recent cover story article, "Is Your Job Next?," in *Business Week*, you should.[3] Highly skilled technical jobs that do not need to be physically located on site will migrate to service centers located around the world.

Communications technology continues to improve — There is a rule of thumb for the power of computer chips: they double every 1.5 years.[4] This ratio provides an insight into what we can expect from communications technologies, specifically as they relate to video teleconferencing and the infrastructure that allows a dispersed group of individuals to meet and talk "face to face."

The impact will be profound, since it allows the best, lowest cost resources from around the world to work in real time. I regularly serve international clients, largely because of the magic of the Internet. The current ease of electronic communication is just a prelude to the possibilities of direct client and stakeholder interaction.

Cheaper and better global communications techniques will also bring EHS issues to the public's attention faster. Boycotts and coordinated attacks against corporations seeking operating and expansion permits will accelerate. The demand for greater disclosure and, in particular, data that can be independently verified, will increase. The age of transparency will arrive.

Traditional regulations have gone about as far as they can — The basic framework for EHS regulations will stabilize (some say they already have). Development and especially enforcement of regulatory systems similar to those of developed countries will dominate the agenda in developing companies. The shift will be toward broad guidelines and business incentives, such as emissions trading, some of which will be implemented on a global basis. Greenhouse gases are a case in point. This focus on international agreements and incentives will extend to other resource issues, such as fresh water, topsoil protection, marine habitats and other food supply issues.

One or more triggering events galvanize public opinion — One might claim that DDT's impact on the eggshells of the bald eagles, our national symbol, triggered the EHS events over the past 30 years. Rachel Carson, author of *Silent Spring*, captured the public's attention of a past generation through her book that focused on the negative impacts of chemicals on the environment; who knows what events might produce a similar future response. It is not a question of if, but of when. For many, this doomsday paranoia is unjustified since they believe that no matter what the issue, technology will come to the rescue. Don't bet on it.

My opinion — and I am not alone — is that some significant future EHS issue or series of events will flare up and will not be as easily reversible as DDT, asbestos and polychlorinated biphenyls (PCBs). We currently live in a soup of new synthetic chemicals, many of which are biologically active. Dr. Irving Selikoff, considered the father of asbestos health research, stated that the "blessing" in the grotesque Thalidomide-related birth defects situation was that they were immediate, horrific and thus, recognized and stopped quickly.

Some lower-order animals may be seeing the impact of human activity in a similar way today, but we humans seem to be just fine with that; who cares about some ugly amphibian? But what if the fuzzy, cute primates start to die precipitously or the next generation of children in some countries develops abnormal health conditions?

The nature of environmental issues is changing from a regulatory to a resource focus.

The smoking gun DNA mutation may never surface, or then again it may make headlines later this year, cheered on by plaintiff attorneys. Corporations, however, are already responding to emission and resource issues, such as freshwater supplies and global warming. The nature of environmental issues is changing from a regulatory to a resource focus. Similarly, the nature of health and safety issues is shifting from blunt trauma and acute exposure to biological impacts at the DNA level.

EHS concerns migrate into project and process engineering — EHS professionals over the past 30 years have developed the regulatory and pollution control hardware infrastructure where little existed previously. This work was the bread and butter of EHS professionals that led to their prominence and security in the 1980s. This framework has now been codified and is nothing more than just another design specification for process and product engineers.

More and more technology innovations that, in the past, were touted for their pollution control attributes will be nothing more than routine design criteria for products and services. Was the x-ray technology advancement that eliminated silver film developed by a pollution-prevention effort led by EHS professionals? I don't think so. Pollution prevention and loss control will migrate from a regulatory focus to a product and process innovation focus.

Career Implications

What will these trends mean to the career prospects of EHS professionals? First, one needs to define success. To some professionals, it means money and power. But, many EHS professionals recognize that success is more about job satisfaction. It is hard to have job satisfaction, however, if you are unemployed, without clients and/or completely ignored. So, for the purpose of this examination, career success means a degree of job security with continuing professional, personal and financial growth.

Second, timing is important. If your career is just a few years away from retirement, these long-term trends may have no substantive impact. Hold on as best you can in these turbulent times. If you have 10 or more years left of active employment, now may be a good time to take these trends into consideration.

Third, if you are planning to remain on a technical career path, you had better position yourself as an irrefutable world class expert, because the person competing with you in the job marketplace may be a PhD located in Bombay, India, with numerous publications and better English verbal and written skills than most Americans. If your duties require you to be physically located at a manufacturing site, you have some insulation, but recognize that your financial compensation and career path will not be remarkable. The same limited career options apply to traditional EHS technical professionals working inside regulatory agencies, NGOs and especially consulting companies.

Not surprisingly, supply and demand will drive these dynamics: expect the demand to possibly drop and the supply to increase based on an increasingly global marketplace. It is not sufficient to get good performance reviews from your current boss; you need to build a platform of excellence as described in part one of this series.

Expect outsourcing to significantly increase. Technical service groups inside U.S.-based companies that can now justify their existence by competing head-to-head with local consulting firms will have to compete in the future with consulting firms that may be using overseas technical centers. Customer interface will remain local, of course, and not surprisingly, relationship skills will command premium salaries, not technical skills. Thus, the EHS technical expert who can also identify the business significance, sell the services and explain the results will be in far greater demand. In consulting, the rainmaker who can bring in the business will be well paid and in demand.

Fourth, if you want to advance your income, security and influence substantially, do not look to the traditional, higher level EHS roles of the past. It may sound crass, but if your current title contains the words environment, health or safety, maneuver to purge EHS from your title if you want to be taken seriously by business executives (and thus eligible for significant promotion). There were a lot of strategic planning managers in the 1980s that made a similar title purge when planning was viewed by business management as a bureaucratic process that added little strategy or value to the business.

Significant issues now and in the future will be those concerning human and natural capital (a.k.a. resources). If management views you as having unique skills in dealing with resource issues, you will be in demand and will command a higher salary than if you are perceived to be the person taking care of the regulatory compliance details. Again, the professional who works with stakeholders to gain approval for a new facility will command a higher stature than the individuals who actually complete the permits.

Highly skilled technical jobs that do not need to be physically located on site will migrate to service centers located around the world.

An illuminating example of this shift from traditional to new EHS roles is the major thrust by General Electric (GE) in water treatment. In just 18 months GE aggressively positioned itself as number two in the industry.[5] GE, not renowned for its environmental leadership in traditional EHS programs, clearly understands the business opportunities in resolving emerging water shortages. Similar business positioning strategies by companies, such as British Petroleum (BP), which now also uses the name Beyond Petroleum, are underway because of global warming.

Issues, such as global climate change and water resources, are producing grad-

ual but fundamental changes in how business is responding to resource issues. This has broad implications: the best jobs will be those associated with the migration of EHS issues into core business activities. The EHS managers ranked actual global climate change in the NAEM survey as the factor least likely to impact EHS professionals. Yes, the earth will not warm much over the next 10 years, but the premium jobs for which EHS managers are ideally suited will be the new ones created to address global warming and other resource-related shifts.

If you view your EHS career as a continuum of traditional roles and responsibilities, you are doomed.

For EHS attorneys, these trends may mean that those skilled in international resource treaties may command a premium over those specializing in interpreting mature regulations. For regulatory staffs, it may mean that those skilled in incentive-based agreements, partnerships and other innovative interventions will have the greatest growth potential. For health and safety professionals, it may mean that those who optimize productivity and customer and community relationships will be viewed as offering the greatest business value.

These trends will be gradual, extending over decades. If, however, an unmistakable triggering event occurs, EHS careers could transform overnight for those properly positioned. If the public better understands humans' interdependence with nature, the consequences could be far broader than the past era of command and control regulations. For example, careers in the sciences, such as ecology, toxicology, epidemiology and so on, would be catapulted to the forefront.

Conclusions

George Carpenter, director, corporate sustainable development, Procter & Gamble, said it best: "EHS is a maturing field with processes and management systems that are well understood. In many cases, EHS measurements have been systematized to the degree that it is part of the daily work integrated into routine plant operations like many other aspects of business."[6] Note that George does not even have the word "environment" in his title.

All of the dynamics identified in this article are well underway. The bottom line is that if you view your EHS career as a continuum of traditional roles and responsibilities, you are doomed to be constantly looking over you shoulder for the next cutback and griping about the poor pay and lack of recognition. Those who prepare for these emerging dynamics will be in far greater control of their own destiny. Indeed, if one or more triggering events occur, they may see themselves thrust into prominence.

How do you go about positioning yourself for these changes? I'll provide guidance in part three of this series.

These are the worst of times for EHS professionals, but they are also the best of times for those who are willing to change.

Part 3: Positioning oneself in a changing job environment

In ancient times (i.e., about a decade ago), most professionals did not aggressively manage their careers. The operative word is aggressively. The company, university or government organization formed a safe cocoon in which management had a major sway over an individual's career development. Bosses from hell, business conditions and news of greener pastures elsewhere would, on occasion, provide sufficient motivation to change either jobs or careers.

Many, if not most, continue today along this same path of opportunistic least resistance, but there is growing recognition that career management should not be a happenstance endeavor. As *Fortune* magazine recently stated, "The mass layoffs and shorter job tenures that followed the Internet bubble mean that executives now have to juggle two careers: their current position and the ongoing search for the next one."[1]

The need for career management is not limited to managers and executives; it's now affecting John and Jane Q. Public. A May 2003 cover article in *Time* magazine reported that, "[Companies] will outsource more work — to cheaper labor markets." And the cheaper markets are overseas. "Computer programmers are the textile workers of the future…Technology not only allows fewer people to do the jobs of many; it allows their skills to be taught fairly quickly, anywhere in the world."[2]

Historically, environmental, health and safety (EHS) professionals have done an excellent job of improving their technical skills, but this is only one tactic of career management. Grabbing a higher paying job, a more impressive title or an assignment that will broaden your experiences are other tactics, but the strategic question is, "Am I heading on the right, long term career path?" Career management involves keeping a sharp eye on the "end game," not just the next move. How will these moves and contingency plans play out to your benefit (or detriment) over the long haul?

Identifying the Right Moves

Very competent people have taken radically different career paths (or invested a lot of money) under the assumption that current conditions would not radically change over the long haul. Bad assumption. For example, a recent *Wall Street Journal* front-page story described the dismal state of steel industry workers. Those entering the steel industry in the 1960s thought it was "inconceivable that the industry would wither and implode under the pressure of its own debt and foreign competition."[3]

Right about now, you are probably concluding that MacLean thinks this is all hopeless, since it is impossible to predict the future. Quite the contrary. While the future is always chaotic, there are many career-positioning moves that will remain extremely good strategies, no matter what the future holds. For EHS professionals, the danger is to be blinded by cherished beliefs (see Table 1, Working in Denial).

What are these moves? The tactics vary depending on your career stage: entry, mid or end. Clearly, the most flexibility exists at the beginning of one's career, so let's start there. To facilitate this examination, let's consider two case studies, both of which are intimately familiar to me; my son and daughter who are just beginning their professional careers.

Richard works for the Arizona State Police as a forensic scientist and Jeanette is beginning post-doctoral work, specializing in pediatric dentistry after graduat-

ing this May with a doctorate in dental surgery. There is no doubt that they both have positioned themselves for successful careers *all the way through to retirement.* They have the opportunity to not only advance to the pinnacle of these professions but also, depending on their ambition level, become quite wealthy along the way.

The relevance of these case studies to EHS and lessons learned will soon become apparent, so please don't discount this as just the ramblings of a proud daddy. They figured this stuff out on their own; I had little to do with it, which brings us to Note 1. *A new generation of savvy career managers is emerging because of all the current job stressors. If you do not keep abreast of these dynamics, you face stiff competition on a scale never experienced before.*

Both made conscious decisions when entering college that they would not seek the degrees typically obtained by those seeking these career paths, namely pre-med or biology for dentistry and criminal justice for forensics. They majored in chemistry because this (a) allowed flexibility if they chose to change career goals; (b) made them stand out from the competition; and/or (c) was considered more rigorous and thus, better able to demonstrate competency to future employers or graduate schools.

Table 1. Working in Denial

- EHS technical people will always be superior to those in foreign countries because the environmental, health and safety movements started in America; we have more experience.
- Only Americans can understand and interpret U.S. regulations.
- EHS services can never be completely outsourced.
- My industry sector/company/job security will remain stable over the rest of my career.
- They will always need EHS specialists; it can never be fully integrated.
- Management's concern over risk/liability/image/governance will protect my job.
- U.S.-based companies, not foreign competition, will drive EHS strategies because U.S. companies are more influential and powerful.
- Regulations will always dominate EHS dynamics.
- Technology can only go so far; they need EHS specialists "on the ground" to take care of these issues.

I get frequent inquires from students wondering which major is best for entry into the EHS field. Note 2 is what I tell them. *Do not specialize early, and do not get a degree that labels you as an EHS specialist. Go for the hard sciences and engineering.* Having a minor in environmental studies or sustainable development is a positive, of course, but do not make it your exclusive focus.

Jeanette recognized that getting into dental school would be phenomenally difficult. Good grades would not suffice. She was aided by numerous extracurricular activities, including volunteer work in local dental offices, which brings us to Note 3. *Understand the overall dynamics of your particular field so that pre-emptive action can be taken to successfully position yourself over a period of years.* And Note 4. *Employers are looking for something extra; technical competence as demonstrated by grades is not sufficient.*

Richard started work after graduation at the County Medical Examiners office. It was low-paying, grim work but it allowed him to gain experience at crime scenes, meet the people in the profession and take the qualifying exams. This was a brief stint; he never "got stuck" in the job. This brings us to Note 5. *Sometimes you need to take a less than desirable position to better position yourself for the future, but do not stay too long and become trapped or labeled by that position.*

Richard was interested in forensics long before the recent wave of high profile criminal cases and television shows such as *CSI, New Detectives* and *Forensic Files.* There is currently a flood of students, majoring in forensics, who want this "cool" career. (There are direct parallels to environmental studies over the past decade.) He would have faced entirely different odds if he were searching for a job today. What no one may be telling these students is that open positions are relatively rare, and people who get into the system usually stay until they retire. Also, no one may be telling these eager students of the strenuous background screening, including polygraph tests that probe things such as drug use.

The barriers for entry are really quite stringent and Richard was greatly assisted by a timely grant to the state laboratory from the FBI that brought him on as an intern, which was then followed by a retirement within the lab. This brings us to Note 6. *Thoroughly research the supply and demand plus the entry and exit dynamics of your career path.* Talk to people currently in the position you ultimately desire. And to Note 7. *Recognize that success is often dependent on being in the right place at the right time.*

Problem solvers who consistently improve every day will always have work and be in high demand.

Note 6 — entry and exit dynamics — is extremely critical and has parallels to predicting the stock market. The most successful professionals are those who anticipate "where the puck will be" as Wayne Gretzky says. Individuals who enter four years of college based on what is hot at the moment can be very disappointed upon graduation. Anticipating trends cuts to the heart of career management; this was covered extensively in part two of this series.

Who are These "EHS Professionals"?

Jeanette faces a different set of entry dynamics. The medical and dental professions in the United States have barriers to entry based on the available slots at the universities, the extremely high cost of education [Do I ever know this dynamic!] and strict licensing controlled by powerful professional associations that can rival the Teamsters Union for their influence in Washington. EHS professionals have few such dynamics in their favor. Indeed, anyone can claim to be an EHS professional. My colleague, Robert Pojasek, runs an excellent four-day "The Environmental MBA" course that helps transform individuals inside organizations to take over these responsibilities.[4]

There are notable exceptions. Occupational health physicians need to be licensed. EHS attorneys need law degrees that you don't get in four days. Not surprisingly, both have more optimistic job prospects than the typical EHS professional. It also is instructive to examine the background of the individuals who typically occupy the top slots in our gov-

ernment for the U.S. Security Exchange Commission, the U.S. Department of Treasury, the U.S. Department of Justice and the Surgeon General's Office. Compare this to the U.S. Environmental Protection Agency, where the top spot has a recent history of going to individuals whose environmental credentials appear to be a history of politically correct photo ops with Mother Nature. Unfair? Sure, but do the comparison and you will see the disparity.

All this brings us to Note 8. *As long as there are no stringent qualifications and licensing requirements for EHS professionals, the supply side will continue to be completely wide open.* The EHS profession is too splintered and has no single, cohesive association such as the American Bar Association or the American Medical Association to affect change. Non-career EHS professionals who have no interest in changing these supply-side dynamics often occupy the top slots. If anything, they would ensure that no restrictions continue indefinitely (while at the same time demand greater professional control over their personal physician).

The wide-open nature of the EHS profession impacts both salaries and job security. I'm a firm believer in capitalism and unrestricted supplies, but not at the expense of professional competency. Would you want just anyone representing your interests in a jury trial or operating on your brain tumor? I feel that the health, safety and environment of workers, the community and the environment also deserve skilled professionals.

What about the demand side? As described in part two, there can be specific areas where the demand could surge. Consulting services for small and mid-size companies may be one such growth area for EHS entrepreneurs, especially in the U.S.-based construction industry. Again, timing and positioning are everything. If there is a surge, the supply side could very quickly respond to fill the demand. On the bright side, there will always be pollution and natural resource pressures, just as there will always be crime and people getting sick. Within all three of these professions, the issues and the technologies to deal with them will shift continuously. My generation needed amalgam fillings; today's generation needs composites.

This brings us to Note 9. *It is risky to specialize, especially in areas that are technology intensive. On the other hand, these areas can offer the greatest promotion and monitory rewards.* The trick is to anticipate and keep these issues and technologies at the leading edge. Nonetheless, there are sure bets. Few dentists do post-doc specialties. By specializing in pediatric dentistry, Jeanette sets herself in a better position, even if the supply/demand picture changes for dentists in general.

There are parallels in EHS. Getting a law degree will, without a doubt, better position someone to withstand life's career ups and downs in the EHS regulatory and public policy area. Obtaining a PhD for someone wishing to enter academia may be a wise move. On the other hand, obtaining an MBA may or may not be as valuable as a high visibility work assignment in a respected corporation, a nongovernmental organization (NGO), university or government organization.

Does Experience Count?

As noted in part two of the series, opening up the supply side to "foreign competition" will have a major long-term effect on EHS professionals, especially in the technical areas. You had better be unquestionably world class and at the cutting edge of technology. Technology shifts also have profound implications on the value of experience. Who would you hire, a 55-year-old computer programmer with 30 years of experience previously earning $100,000 or a 26-year-old programmer with five years of experience and earning $40,000? In intense technology areas, "stale" experience can become a liability!

Technology shifts have profound implications on the value of experience.

Keeping an eye on the "end game" is essential in this regard. Experienced dentists typically build a client base and achieve a level of financial security where they can open their own practice and bring on junior dentists. Experience is a positive. The same holds true for forensics. The real value of a forensic scientist is in the credibility of his or her court testimony. Forensic specialists who have built reputations over the years can retire with full government pensions and sometimes operate as consultants providing expert testimony. It's a lucrative practice, but they can only do this based on decades of *experience in the field.*

For EHS professionals, decades of experience do not always work in their favor. Because of the nebulous view of what constitutes "an EHS professional," the highest-paying, top slots often go to non-career professionals. This is a source of enormous frustration among career professionals who are passed over for top positions that are filled by people who cannot even spell EHS. Note 10. *Improved technologies and management systems have had the net effect of allowing lower-level (read: less expensive) employees to do EHS work.*

Career professionals over fifty are particularly vulnerable, unless they have achieved a level of financial security and competency that permits them to say those magic words to their employer, "You can take this job and shove it!" This is the exception rather than the rule. My consulting colleagues are able to thrive on their own because of their widely recognized competency. Experience helps under these circumstances, but because of supply/demand pressures, only the very best can survive. Thoughts of "I'll be an EHS consultant," may sound like an end game to a career EHS professional, but it is totally unrealistic for most.

The bottom line is that experience can both add to or detract from your planned end game. Ask yourself the question, "Are people 55 sought out and considered more valuable than someone 45 on my career path?" Technology experience is valuable *as long as the technology remains valuable.* Experience in one field is valuable *as long as it translates smoothly* to another field you are entering. Lots of experience in one narrow field can "typecast" you, limiting your chances in another. Which brings us to Note 11. *Map out the value of specific job experiences in determining your chances for success at the end of your career.*

Developing a Career Strategy

Your overall strategy will depend on your ambition level and your tolerance for risk and need for job security. Government jobs generally pay less than industry, however, the security and benefits at retirement may be better. Jobs in academia were once relatively secure but now, security comes with tenure, an elusive

goal for many. Even the concept of tenure may evaporate over the next twenty years.

There is no universal formula for career success, and as Note 7 indicates, a sobering portion depends on sheer luck. Part one and two of this series plus the preceding eleven notes may help build your strategy. Putting all these pieces together, I offer the following career strategy assessment that, while specifically for industry, has relevance to all organizations.

The professional EHS expert has to work with all the departments in a company, especially on business expansion (or contraction) activities. They must have access to the big picture and many of the details and problems of operations. They must also field complaints and concerns from stakeholders outside the company. More and more are working on social issues. Environmental impact assessments used to be a technical evaluation but social impacts can be pivotal. These added dimensions will require more ongoing management than traditional EHS issues.

Safety issues can get the EHS professional involved in labor relations and tough negotiation issues. This drives professionals to help find solutions to problems far outside their normal technical realm. Their roles can expand greatly into public relations, communications, investor relations and dealing with the most senior managers in the company and the board of directors. It is this broad exposure to people and issues across companies that attracted me to the profession in the first place.

Savvy EHS professionals are always working to improve written, spoken and computer skills. They move mountains of paperwork, respond to e-mails and correspondence, spend hours on the phone and in meetings and develop skills at managing people and budgets. Most of all, they solve problems and keep the process moving forward. Problem solvers who consistently improve every day will always have work and be in high demand. Which brings us to Note 12. *While the entry barriers are low, the exit barriers are also lowering for top EHS performers.*

This is the exact opposite situation for Richard and Jeanette, who faced strong entry barriers but will face thorny career consequences if they choose a different profession later in life. EHS professionals face stiff competition, but their background and skills make them ideally suited for a myriad of opportunities that may shift them in and out of the EHS profession.

Taking on opportunities outside the traditional EHS area may be a good career move, but for this to happen you must constantly develop your technical and business management skills. Additionally, you will need to have your radarscope permanently on at maximum sensitivity. All this takes effort and courage, but the rewards are potentially there, maybe more so than for many other professionals in industry.

Concluding Remarks

My colleagues and I have extensively discussed current career dynamics facing EHS professionals. Our collective advice for those who wish to make a career in this field is the following: (1) hone your skills at communicating with key decision makers both inside and outside your organization; (2) read the latest technical *and business* literature to keep abreast of emerging business, societal and technical issues; (3) take maximum advantage of professional development opportunities, including assignments outside the EHS field; (4) carefully listen to the concerns and problems that come your way, probing what is really going on; (5) stay focused on finding solutions, not fixing blame or hiding information; and finally, above all else, (6) view the world realistically, as it is, not as you wish it to be.

This kind of EHS professional will be in front of senior managers in short order. In time, these are the very people that should be the CEOs, chief administrators and on boards of directors because they understand how the entire organization works, who all the key management people are, who the key stakeholders outside the organization are and how to get people to work together to solve problems and achieve targets and goals.

Best wishes and good luck. EP

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