

What Do People Want from the Coming Global Performance Regulatory World?

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The increasing global integration of world economic activity, particularly activity affecting the shape of the built environment, is one of the great transforming arcs of our age. Less visible and less certain of great impact, but arguably just as important in the long run, is the shift from prescribed to engineered decisions about the built environment, which we typically call performance-based design.

It is natural to look at these two great transformations and ask first how they will affect related industries and regulators. However, it is essential that we remember these are not the only – or even the most important – affected parties in this transformation. At the end of the day, we will judge the success of these changes by their impact on the needs and wants of the billions of ordinary people around the world. This paper will look at what people want – or perhaps more precisely what they would say they want if they better understood the issues and the stakes involved.

Why Do We Have Regulations?

If you adhere to a utilitarian philosophy, like that espoused by John Rawls, then you aspire to a society that seeks the greatest good for the greatest number. If you adhere to a libertarian philosophy, like that espoused by Robert Nozick, then you aspire to a society that protects the ownership rights of people. Either philosophy is generally compatible with a free market, but neither philosophy is fully consistent with the realities of the marketplace we have.

Monopoly or oligopoly selling power, where it exists, will distort the market. Prices will be higher than they otherwise would be, and fewer people will obtain the goods and services they seek. Externalities create bads for all. Health and safety issues are rife with examples where the adverse consequences of one person's or organization's choices fall on others while the benefits accrue to the chooser. In addition, there are enormous differences in the financial position of different players. Life is like a poker game in which a couple players have the ability to buy any pot they cannot win.

For all these reasons and more, there is probably no nation on Earth where the majority believe that the results of a completely unregulated marketplace will be either fair or morally acceptable in some larger sense. This does not mean that all regulations are well-considered or appropriate, only that the general argument for some type of regulation has been persuasively made pretty much everywhere.

People everywhere want the basic necessities of life – food, water, shelter, health. They also want and need the elements of a meaningful life and a life that goes on to future generations. Economists treat all these wants and needs as indistinguishable sources of demand, expressed in money. Health and safety are simply choices on the menu, no more or less important than Governor Schwarzenegger's sixth Hummer.

This all becomes important for policy when ordinary people who play by the rules, work hard, and try to make the right choices are still unable to acquire the basic necessities. Half the people of the world are trying to survive on \$2 a day or less. There is no combination of rational choices they can make with those resources that will give them the core essentials of a decent life as we in the developed countries understand the term. Does that mean that they value life less than we do? Of course not. They simply lack the resources to act on their values.

In regulatory analysis, it is common practice to infer the value of a life saved from the implied values expressed by the choices people make. If enough people are willing to pay \$X for seat belts in their cars and we have data to say that seat belts reduce your risk of dying by Y%, then we can do the math to estimate what those people must believe their lives are worth. But this breaks down when people who would gladly spend that much for safety do not have the money to spend.

This overly long prologue is necessary to my thesis because the information professionals who meet here this week are not representative of the larger world whose interests our regulations are intended to serve. It will be important for all of us to remember that fact – and to keep remembering it – as we discuss the new world we are shaping through globalization and performance-based regulation.

How Should We Regulate?

The philosophy of codes and standards at NFPA is simple in principle though difficult in execution. We want our codes and standards to reflect the best scientific and technical knowledge, put in service to a consensus of values and preferences of all affected parties. To accomplish that dual purpose, we carefully balance representation of interests while trying also to maximize the expertise embodied in our committees and the additional expertise available to them.

Other bodies that write rules – whether national or international in scope, whether private or governmentally based – have the same goal with regard to expertise, but they take different approaches to identifying and involving the values and preferences of affected parties. ISO and IEC assume that the principal dimension for representation is national identity, and even then, they do not seek a definition of balance, nor do they often achieve one. Other model document writing bodies implicitly or explicitly define the range of affected parties more narrowly but seek consensus within that narrower range.

The Performance Revolution

The performance revolution, if executed properly, is a quantum leap forward in the use of and access to expertise for all these groups. Put simply, we seek to create a world in which the design professionals and industries have complete flexibility to achieve the goals and objectives set down in codes, while those goals and objectives still represent the same consensus of values of affected parties they always have represented.

As with so many things, the devil is in the details. The process of translating goals and objectives into a form suitable for performance-based analysis and design is not a pure exercise in technical skill. We cannot say with precision or confidence exactly what level of safety, under what conditions, with what likelihood of failure, is being sought by a committee whose charge is only to write prescriptive rules. Committees do not need to explicitly address and specify levels of safety, assumed conditions, and failure likelihoods in order to produce prescriptive rules, and most committees do not conduct their discussions or make their decision in such explicit terms. The legislative history, if you will, resembles Swiss cheese.

Anyone who has sat on such a committee will attest that they proceed as people do when making choices outside the organizing framework of some systematic procedure of analysis. They offer generalizations from experience, but they do not try to systematically integrate such generalizations to produce a quantitative conclusion. They offer solutions to avoid future repetitions of specific historic events, but they do not address quantitatively the likelihood of such repetition in the absence of new action. They do a very intelligent, honorable, even remarkable job on behalf of their constituencies and the larger world. But excepting committees whose documents have long been designed as calculation rules, most committees do not produce anything that can be treated as a complete engineering analysis in disguise.

So the translators have some work to do.

In any committee, people with more of the relevant expertise will have an advantage – and probably some greater influence – than their fellow committee members with less expertise. Differences in expertise can be offset by other characteristics, from verbal skill or charisma to a particularly clear and easily articulated point of view. But in a performance environment, the differential advantages of expertise become more pronounced. It is hard to influence the writing of the new rules if you don't understand the effect that alternative choices for new rules will have. It is hard to advance your interests or your point of view if you can't discern the implications of new rules for those interests.

So far, no problem. However, it is also true that the relevant expertise is disproportionately attached to practicing design professionals whose principal source of employment is the decision-makers of the construction industry. Most practicing engineers work for architects and builders. None of them work directly for “the public,” and very few work for the regulators who represent the public. (Note that this is less true

in Europe, where professionally trained fire officers are the rule rather than the exception.)

Engineers also tend to be economic conservatives. They think more like the builders than like ordinary people.

Put this together and you have all the ingredients for a biased translation process, in which the goals and objectives are rewritten to make performance design possible but are also shifted, inadvertently or deliberately, toward the preferred forms of the construction industry.

Maybe they do not require so much safety. Maybe they do not require success against highly challenging fires. Maybe they do not address reliability or redundancy sufficiently to provide a high probability of success in practice. And slowly but surely, our intended and welcomed gains in expertise can be accompanied by an unintended (by the public) reduction in safety and a reduction in consensus around the values embodied in the regulations.

If this seems too abstract, then I invite you to attend any of the growing number of conferences around the world where examples of performance-based designs are presented. If you do, you will find all these deviations from society's consensus exist in practice, and not just as rare exceptions from particularly unskilled or rogue practitioners. If you are familiar with the kinds of fires and the kinds of conditions that occur every year in buildings like the ones being designed – and if you further imagine yourself as an unwitting occupant of such a building – then you will have some idea of the potential for public outcry and anger we may be permitting to grow in our built environment.

Most likely, we will not get caught. Fire is a rare event. Most buildings can survive more challenging fires than those they are tested against. Many practitioners employ considerable conservatism in parts of the engineering analysis, which may fully or mostly compensate for the lack of conservatism they may inadvertently introduce in other parts of the analysis. Deficiency of analysis is a very exotic form of failing, which is unlikely to be flagged by the general media or the general public, and if such an accusation does arise, it is probably more likely to involve misperceptions by the public than real poor performance by the design professionals or by the products or building.

But still, the burden of proof is always high for something new. If we can see the potential for disaster before everyone else does and before disaster materializes, it is incumbent on us to act now.

What do people want? They want more safety for less money. If what they actually receive is less safety for much less money, there is no guarantee that they will consider that a good deal.

The challenge for the performance revolution is to provide flexibility of means but not flexibility of ends. It is to provide freedom to design professionals to innovate while

fully empowering enforcers to determine whether the public's goals have been fully met. This has implications for the form and content of the performance-based rules. It has implications for the kinds and levels of technical support required to live by those rules and to enforce those rules.

I don't think it will come as a surprise that our first decade of crafting a performance environment has seen more progress made in crafting a viable translation of the rules than in assuring a complete and effective new decision-making environment directed toward society's goals. Enforcers around the world have been thrown back on their heels by the rapid changes and rising technical complexity. They know their old skills and knowledge no longer suffice to do the job of review and approval, but they aren't sure whether to try to acquire enough knowledge and skill to second-guess the best design professionals at their own game or to seek third-party help from another member of the close-knit fraternity, and in so doing, risk substituting an echo chamber of shared bias for a truly independent technical review.

I believe we will find our way to a new environment that works for all, but the path will not be straight or smooth. And I think it is only prudent to proceed with care and reduced speed, as we would on any other darkly lit, twisty, unfamiliar road.

What do people want? They want the benefits of new knowledge, and they want those benefits to be widely shared. They want precautions taken to avoid the risks of new knowledge, and they will apply a duty of care to the design professionals who are leading the parade to the new world.

Globalization of Performance and Regulation in Construction

The basic argument for globalization in this context is simple to state. It is to open up trade, which will give consumers more choices and lower costs. The mechanism for these benefits is also simple to state. If every market uses the same criteria to define an acceptable product and the same tests and analysis to establish compliance with the criteria, then as a minimum, the compliance costs of taking a product to market will be greatly reduced. As a maximum, the same product will be acceptable everywhere, which will give sellers a much wider pool of potential customers, presumably resulting in lower costs.

As with the performance revolution, however, there is potential for harm in the pathway that leads from the world we have to the globalized world of the future.

Some national differences in acceptance criteria represent real differences in the level of acceptable safety and risk, or in the conditions under which safety must be provided, or in the level of confidence required that safety will be achieved.

More often, some national differences in acceptance criteria represent historic differences in preferences for how safety is to be achieved. North Americans have a greater

preference for active fire protection and a lesser preference than passive fire protection than Europeans. This does not apply to all North Americans or all Europeans, but it is a general pattern, and it makes a very noticeable difference in the set of design options typically considered in the two continents and even in the engineering assumptions used in design analyses.

Whatever else is true, any global requirements cannot be identical to each of the conflicting, pre-existing national requirements they seek to harmonize.

If the global requirements are set to one of the previous national requirements, then every other country will be forced away from their national consensus. That may mean less safety than they agreed they wanted. It may mean more safety at a higher cost than they agreed they wanted. But whatever it means, it does not mean the simple world of more choices and lower costs that was used to sell the notion of globalization.

Sometimes, global requirements are set so that the old rules from any country can be applied in any other country. This approach sets up what has been called a race to the bottom for standards of safety. The lowest-cost products can now be sold anywhere, and they will bring their (potentially) lower safety performance with them. But that is not the worst threat in such a compromise approach.

Safety is a system. Products deliver a certain predictable level of safety in large part because they are used with other products that complement their performance, compensate for their weaknesses, and depend on their strengths. Product performance is also dependent on a management infrastructure of supervision, inspection, enforcement, maintenance, and trained safe use. If the same products are taken into another part of the world where the infrastructure and other products are different – not necessarily worse, just different – the performance of the system can easily suffer. Safety can be reduced not because less-safe products have been allowed in but because the system of product selection and use has been degraded.

If all this seems too abstract, consider a current example. In North America, the dominant standard for approval of smoke alarms requires successful performance against each of six different types of fires. In a European standard being considered for adoption by ISO, one is only required to report which of the six fires were successfully handled by the smoke alarm. Since each type of fire is a realistic possibility in any type of occupancy, there is no reasonable situation where a prudent person would choose a smoke alarm that failed to pass any of the six tests. Nevertheless, the latter standard blocks any effort by conscientious regulators to keep under-performing units out of the marketplace.

What do people want? They want more safety at less cost. As with performance, the danger in globalization is that they will actually receive either less safety or more cost than they had had under the old rules.

And now we come back again to the dangers inherent in the process for achieving change.

ISO and IEC are organized by nation. As noted earlier, they are often not balanced between regions, and that potential for bias existed even before it was formalized in the Vienna Agreement. But more importantly for this topic, there is no attempt to seek or even check for balance among affected parties on ISO and IEC committees. Anyone who has sat on such a committee knows that they are filled with people who have the expertise to participate effectively and the resources to travel and meet. Every other document development system has the same built-in bias toward people with expertise and funding, but some of those systems, such as NFPA, actively seek balance among affected parties so that the products of committee deliberations have a reasonable chance of representing a true broad consensus.

In processes without such deliberate balance of affected parties, influence flows to those with expertise and resources, which again tends to be disproportionately those people whose employment depends on industry. Representatives of the public – of the people who will actually use the products and occupy the buildings – are typically few and far between, either on the membership rolls or at least at the meetings where decisions are debated and made.

One might make a case that there is a global consensus on levels of desirable safety and that our global regulations need only to recognize that consensus. But one cannot make a case that the global consensus on desirable levels of safety coincides with the level of safety that the poorest people can personally afford.

If we as a global society blow past this dilemma over values and our need to recognize people's aspirations and wishes but also recognize the disparity in resources available to people to act on those wishes, it is likely that our approach to globalization can still serve the interests of the construction industry, but it is unlikely that we will serve the interests of the much more numerous world of other affected parties.

What do people want? They want enough control over their own lives to be able to pursue their own values. If they are caught up in a revolution where the already-powerful write new rules that the people do not understand and under which the effects on ordinary people are at best a mixed bag, then they will resist, they will object, and they will oppose.

What Else is Happening?

It is beyond the scope of this paper or even this conference to delve into the larger currents in economics, health and safety, and international relations that serve as a backdrop to the specific topics of globalization of construction trade and regulations and of use of a performance basis. I would not presume that there is a latent consensus on

these matters in this room, nor would I presume to be able to make a compelling case for my own views.

Instead, I would only make the case that these larger developments have a direct bearing on what we are discussing in detail. Specifically, I would posit that if people believe conditions of health and safety are generally improving, then they will be more willing to take some risks in changing the rules by which we achieve health and safety. If people believe that the economic situations of their households and the other people they care about are generally satisfactory or improving, then they will be more willing to take some risks through integrating their nation's markets with those of other nations.

If some people see good progress and welcome risks, while others see stagnation or reversal and oppose risks, then we can see the foundation for both support of and opposition to initiatives such as those we discuss.

As I wrote this paper, the latest polls showed a plurality in the US believing that the country is growing in the wrong direction. This phrasing has been used for decades as the best summary indicator of the overall mood of the country. I would be hard pressed to identify any other country where the mood would likely be better.

Whether you agree or disagree with the expressed concerns and mood of the public, I would argue that all of us who believe in the positive potential of both globalization and performance would be well advised to increase the urgency attached with doing the job right and, more specifically, crafting these initiatives so that they reinforce, rather than undercut, the consensus of values underpinning the rules we live by.

Summary

The title of this session is “Emerging Societal Expectations, Pressures and Threats.” If I could summarize my thesis along those lines, I would say that society has an emerging awareness of the move toward globalization and, to a much lesser extent, toward performance. I would say that they have an emerging realization that their lives are being and increasingly will be affected, for better or worse, by these changes. Their expectations for the nature of the changes are, as always, a sort of Bayesian integration of new information with long-settled beliefs and perceptions, with some people quick to shape their views to the new information and others all but deaf to such information.

The emerging pressures in conflict pit the more knowledgeable and more economically powerful industries (and their allies in government), who want the flexibility and market access that are the immediate and direct effects of the new rules, against the typically less knowledgeable (but not necessarily wrong) and less powerful interests who do not feel secure enough to welcome change or who see specific threats to their positions in the shifts the new rules will create.

The threats arise from both groups. There is the threat from supporters that they will succeed in the move to global performance regulation but will do so in a manner that maximizes every worst-case scenario of opponents regarding unintended consequences and unsupported deviations from the consensus of values. There is the threat from opponents that they will over-react to well-meaning, correctable errors in the early stages and end up killing a good idea for a generation or more. And these threats are in some ways symbiotic. Premature, poorly designed, over-reaching success by supporters will make the certainty, magnitude and duration of the reaction by opponents that much greater.

At NFPA, our approach to both these transformations reflects our understanding of what it takes to do the job right.

We support globalization, but we believe balance is essential to achieve a consensus of values and we believe a balance of interests is more important than a balance of home addresses.

We support performance, but we believe the enforcers must be given the tools and the support required to do their essential job on behalf of the public in the new performance environment.

And we support meetings like this, where interested and involved participants, who have never before had the opportunity to share their views and work together, can begin the hard tasks of seeking consensus and creating a jointly designed future that works for everyone. I extend my compliments and those of NFPA to the organizers of this important policy summit and to the speakers and other participants for their contributions to a uniquely promising exercise.