Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

Comments on Safety Conscious Work Environment "Best Practices"

What does a "Safety Conscious Work Environment" mean?

NRC's May 1996 policy statement defined safety conscious work environment as a work environment in which employees are encouraged to raise concerns and where such concerns are promptly reviewed, given the proper priority based on their potential safety significance, and appropriately resolved with timely feedback to employees.

UCS concurs with this definition with one important clarification. Employees must not only feel free to raise concerns, but they must in fact actually exercise that freedom when concerns rise above some safety threshold. When it comes to nuclear safety concerns, freedom without action is only marginally better than lack of freedom.

Out of curiosity, does the NRC consider itself to possess a "safety conscious work environment?" If so, what evidence supports that notion? If not, is one on order?

Is "guidance" the most effective way to encourage SCWE?

UCS cannot single "guidance" out as being the most effective way, but it seems clear that "guidance" should make an important contribution. The best way to encourage SCWE uses a comprehensive package of (a) crisply defined expectations, (b) incentives to encourage desired behavior towards the expectations, and (c) deterrents to discourage improper conduct below the expectations. "Guidance," which can cover expectations, incentives and deterrents, should be included in the package.

A candidate model for this "guidance" is NUREG-1022, Rev. 2, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," dated October 2000. The reporting requirements are explicitly described in 10 CFR 50.72 and 50.73. NUREG-1022 fleshes out the skeleton with examples on both sides of the reporting line so licensees develop better understanding of what should be and need not be reported. This NUREG is revised periodically to reflect changes in the underlying regulatory requirements and to incorporate frequently asked questions. This template could be applied to SCWE by describing the regulatory requirements of 10 CFR 50.7 and 10 CFR 50 Appendix B, along with examples of shortfalls (i.e., violations) on one side and "best practices" on the other.

Out of curiosity, what "guidance" is provided within the NRC to encourage the agency's employees to raise concerns?

How should "best practices" be developed and implemented?

In theory, developing and implementing "best practices" is the industry's job while developing and implementing "minimum acceptable standards" is the regulator's job. In practice, this division of responsibility led the NRC to abandon its efforts to identify "superior" performing

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plants in the systematic assessment of licensee performance (SCALP) process, as evidenced in this extraction from pages 27 and 28 of the transcript of the April 2, 1998, Commission briefing on the senior management meeting process:

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13              MR. BORCHARDT:  If I could try to summarize, to
14      the best of my recollection, five of the major points that
15      were discussed, that led us to the conclusion that we did,
16      that we ought not to try to recognize superior performers,
17      that responsibility was not viewed by us as being a true
18      regulatory responsibility.
19              The criteria for establishing excellent or
20      superior performance does not exist currently.  In fact, as
21      you mentioned, others do it already, and therefore, we
22      question the need for us to have to do it separately.  There
23      are resource implications in order to do that.
24              This is related, but there's a risk of distraction
25      from what we thought was the most important job that we had
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1       and that was to identify safety problems and to get them
2       corrected, and for all the time that we spend trying to
3       differentiate a good performer versus a superior performer,
4       that's time that we're not looking for what might truly be
5       significant safety problems, and we didn't want to do
6       anything to distract ourselves from that.
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The NRC no longer wastes resources and gets distracted in identifying "superior" performing plants. All of these arguments for why the NRC should not identify "superior" performers apply to the question of whether the NRC should be identifying "best practices" for SCWE. If so applied, the answer is "NO."

However, "best practices" developed by industry could constitute part of the "guidance" within the comprehensive package needed for SCWE. The NRC should complement the "best practices" by developing "minimum acceptable standards" and the regulatory means to evaluate performance against the standards and to intervene when unacceptable performance is identified.

If "best practices" – whether developed by NRC or industry – are the only things in the 'comprehensive' package, then the result will be the rich getting richer and the poor getting poorer. The sites with good SCWEs may find their efforts facilitated by the "best practices." The sites with bad SCWE will simply fall farther and farther behind.

By themselves, "best practices" do not appeal to management that believes their SCWE is good enough and second-best/third-best is more cost-effective. They will likely not be persuaded to invest in the best when third-rate is also accepted by the NRC. Coupled with "minimum acceptable standards" and the other components of the comprehensive package, "best practices" allow management to better understand the return on potential investment in bumping up a few notches on the SCWE scale.

By themselves, "best practices" are not very helpful to NRC. NRC inspectors could not use "best practices" to assess SCWE at any site, for falling short of the "best practices" does not correspond, necessarily, to a bad SCWE or a regulatory problem. And even when a bad SCWE is somehow identified, the NRC can neither require that the "best practices" be adopted to correct the problems nor use the "best practices" to ascertain when the problems have been remedied. The NRC cannot simply assume that "best practices" are okay when "minimum acceptable standards" have not been established.

By themselves, "best practices" are not palatable to the public because such measures may or may not apply to the facility in their backyards. "Minimum acceptable standards" are much more meaningful to the public because such measures apply, at least in theory, to all facilities.

Therefore, the NRC must not recognize "best practices" until it also establishes, or points out, "minimum acceptable standards."*

"Best practices" could be developed by defining the elements and sub-elements of SCWE and then describing three or four different commendable ways being used to address these elements and sub-elements. For example, the NRC's policy statement contained four elements:

(1) Employees are encouraged to raise concerns.
(2) Concerns are promptly reviewed.
(3) Concerns are properly prioritized based on potential safety significance.
(4) Concerns are appropriately resolved with timely feedback to employees.

Each element has several sub-elements. For example, Element (1) contains as a sub-element the lack of retaliation for having raised concerns while elements (2) and (3) contain as a sub-element the re-review and re-prioritization of concerns as warranted based on emerging information.

By providing a handful of models for each element and sub-element, people will be better able to extract the essential attributes of a successful process and gauge their programs against them.

What would be the relationship of any "best practices" guidance and the NRC Policy Statement?

To the extent possible, the elements and sub-elements of the "best practices" should be linked to applicable federal regulations (i.e., 10 CFR 50.7 and 10 CFR 50 Appendix B), which in turn should be reflected in the "minimum acceptable standards" developed by the NRC. If the development of "best practices" identifies an element or sub-element deemed vital to establishing and maintaining a SCWE that lacks a clear link to an existing federal regulation, then and only then should SCWE rulemaking be pursued.

Does "one size fit all"?

Not in this case.

Out of curiosity, does "one size fit all" at NRC?

What are effective ways to encourage employees to raise concerns?

Training and communication are effective ways to encourage employees to raise concerns. As part of their initial training, employees (and contractors) should receive instruction on their rights under 10 CFR 50.7 to raise concerns without fear of retaliation and the plant-specific vehicles available to them for raising concerns. To tailor training to specific job functions, part of department and section meetings could review concerns raised within that department/section to emphasize the expectation that actual and potential non-conforming conditions be flagged and reported.

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* The exception, of course, is that the breadth of "best practices" (i.e., number of bells & whistles) can be larger than that of "minimum acceptable standards."

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Continuing training should be used to reinforce the initial encourage. For example, when I worked as a consultant at Salem in 1996, the company's weekly newsletter carried a column called "Catch of the Week." This column recognized employees for raising concerns and explained how the process resolved their issues. This communication vehicle (a) positively reinforced the expectation that concerns are to be raised, (b) positively reinforced the expectation that concerns are to be resolved, and (c) provided employees and supervisors with better understanding into the thorny "threshold" question of what should be reported.

Good communication is vital in encouraging employees to raise concerns. If an employee's concern is evaluated to be invalid, that employee is likely to raise concerns in the future, should any arise, if given a professional, candid reason. Likewise, if an employee's concern is evaluated to be valid but not scheduled for resolution until some distant time, that employee is likely to raise concerns in the future if given a straight-forward reason for the prioritization.

Out of curiosity, how are NRC employees encouraged to raise concerns? Is it via rapid resolution of their differing professional views/differing professional opinions? Is it via freedom from retaliation for having initiated a differing professional view/differing professional opinion?

What should be included in the licensee processes to review and respond to concerns?

The review:

o   Must be timely.
o   Must be sufficiently broad as to encompass all applicable operating modes and safety functions (i.e., a concern about BWR source range monitors cannot be dispatched or assigned a low priority simply because the reactor is in Mode 1 with the source range monitors fully withdrawn).
o   Must be documented with the basis for the evaluation/prioritization.
o   Must be revisited when new information emerges that potentially affects the original evaluation/prioritization.
o   Must take into account all other outstanding, unresolved concerns against the structure, system, or component (i.e., while the probability of any single concern corresponding to safety margin reduction may be low, the probability that ALL concerns DON'T involve safety margin reductions decreases as the number of concerns increases).
o   Must be subject to periodic internal audits against expectations.

The response:

o   Must be timely.
o   Must be comprehensive.
o   Must address appropriate extent-of-condition issues.
o   Must identify the root cause(s), if appropriate.
o   Must be distributed to the initiator.
o   Must be subject to periodic internal audits against expectations.

Out of curiosity, what is in the NRC's processes to review and respond to concerns raised by its employees?

What types of training, and for whom, should be conducted to maximize the effectiveness of a SCWE "best practices" program?

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Out of curiosity, what types of training, and for whom, is provided to NRC employees on the effectives of its differing professional view/differing professional opinion program?

What should be the nature and scope of the licensee self-assessment program and the development of performance indicators?

The licensee should develop metrics to routinely gauge SCWE against the NRC's "minimum acceptable standards."

Unlike the NRC's self-assessment program for its differing professional view/differing professional opinion program, licensees should actually do something to address any deficiencies revealed during the self-assessments.

Comments prepared by David Lochbaum, Nuclear Safety Engineer