

Death by a Thousand Cutbacks

Consider a student beginning the senior year of college having received nothing but straight A's on every report card. The student's roommate—also a senior—is getting by with a more modest academic record. The roommate may not be making the Dean's List, but the roommate is solidly on the A-List for the best parties, concerts, and sporting events on campus. Somewhat envious of the roommate's social life, the student decides it is time for more extra-curricular activities. The student cuts back on doing homework and studying for tests in favor of attending more campus events. And because some events last late into the evening and into the wee hours of the next morning, the student also begins cutting classes. The student justifies the cutbacks on the long track record of stellar academic performance.

Consider the owner of a nuclear power plant having received nothing but top ratings from the Nuclear Regulatory Commission for many years. The owner's industry peers operate nuclear reactors that are getting by with more modest performance records. Those reactors may not be topping the NRC's charts, but their owners spend significantly less money each year on maintenance tasks and labor. Somewhat envious of the smaller budgets, the owner decides it is cost-cutting time. The owner cuts back on the preventative maintenance program, realizing that replacing and refurbishing equipment before it wears out just wastes money. The owner also scales back the training programs. After all, the owner paid premiums to recruit the best and brightest workers, eliminating the need to supplement their skills with costly continuing training sessions. The owner justifies these, and many other, cutbacks on having a long track record of stellar safety performance.

Are the cutbacks too deep and/or too numerous? The student will learn the answer is “no” if the string of straight A report cards continues and learn the answer is “yes” from non-A grade(s). The nuclear plant owner will find the answer to be “no” if the NRC ratings remain high and learn the answer is “yes” if the NRC ratings dip.

But consider the university revising its grading system from letter grades to a numerical system like that used in the Scholastic Aptitude Test. The student picks up the new report card on the way to a kegger and finds that last semester's straight A's are now scores around 1235. The student initially frets that the scores reflect an academic performance decline. But after a few drafts, the student perceives the scores in a totally different light—after all, the student has never scored higher than 1235. So, even though the grading system changed, the underlying academic performance level is probably unchanged.

And consider the NRC also revising its safety assessment system by evaluating significantly fewer things and allowing owners to self-assess some areas. The NRC's latest ratings show the nuclear plant's performance has declined for the first time in many years. The owner initially feels that the lower ratings reflect declining safety performance. But after a few drafts (after work, of course), the owner sees the ratings in a totally different light—because the NRC now examines far fewer things, one slightly below-average finding brings down the overall rating more than it had previously. And because the owner applies higher standards, its self-assessments are more critical than those previously conducted by the NRC. So, even though the revised assessment system suggests a decline, the underlying performance level is probably unchanged.

Consider the utter absurdity of concurrently changing both the behaviors used to achieve strong performance results and the yardsticks used to assess performance. But there's no need to consider it. All you have to do is watch the nuclear industry and the NRC play this dangerous game. Both are undertaking considerable cutbacks in the efforts that yielded strong safety performance while also making significant changes to the assessment processes of that performance.

If the new-fangled assessment processes indicate a drop in performance, does this outcome mean that performance has actually dropped? A pessimist could conclude “yes” based on the results being lower than in the past. An optimist could conclude “no” based on re-calibration of the assessment processes more accurately reflecting a sustained performance level.

If the new-fangled assessment processes indicate no drop in performance, does this outcome mean that performance has actually not dropped? A pessimist could conclude “no” based on the revamped assessment processes masking the true results. An optimist could conclude “yes” based on the lack of evidence to the contrary.

A realist would simply not play this game. Really. No way in Rockville.

So, changing behaviors and behavioral assessment regimes concurrently enables pessimists and optimists to each trot out their preconceived notions whether the cutbacks impaired performance.

The NRC needs to get real by stop whittling away at its reactor safety performance yardstick in order to be able to realistic assess whether the many cutbacks being taken by nuclear plant owners have adverse safety implications. Or, the nuclear industry needs to suspend the cutbacks until after the NRC finishes re-tooling its yardstick and establishes a suitable baseline with it so as to be really able to judge whether future cutbacks adversely affect safety or not.

On a scale of 1 to 10, undertaking so many cutbacks concurrently with significantly changing the assessment tools is rated “yellow.”

The NRC can, and must, do better.

Prepared by: Dave Lochbaum