



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

ACRSR-1387

PDR

February 15, 1990

The Honorable Kenneth M. Carr
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Carr:

SUBJECT: COHERENCE IN THE REGULATORY PROCESS

In our reports to you of November 24, 1989 (which also lists our earlier reports) and December 21, 1989, we have discussed a variety of aspects of the coherence problem -- the problem of assuring that all elements of the NRC pull in the same direction in the regulation of nuclear power, a direction provided by the Commission itself. These reports have generally dealt with symptoms of incoherence -- the most recent was about the internal use of SALP ratings. Here we would like to take a more global view of the coherence problem, leading in the end to a recommendation for a next step.

It is almost as if the NRC were created to be incoherent. There are five Commissioners and five statutory Offices. There are many Branches and five Regional Offices, with a kind of matrix management tying it all together. Regulatory power is spread throughout, resulting in a melange of technical positions, regulatory guides, generic letters, policy statements, undocumented pressures, enforcement actions, etc. The mechanisms for providing incentive to the various elements of the staff to test their actions in the light of Commission objectives are inadequate. Indeed those objectives are not always easy to determine, for reasons that need no elaboration here. This is not to say that anyone is deliberately misbehaving, only that too many are free to proceed in the light of their own best judgment.

We have long argued that the best way to test the effectiveness of the regulatory process is to measure the results in terms of the Commission's Safety Goals, and we do not depart from that position here, but a performance measure is not a coherence measure. The latter has to do with efficiency, clarity, and ultimately, acceptability of the process.

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In our November 24 report on this subject we emphasized that the coherence problem can be divided into many categories -- it is not a neat subject. The Commission itself can and should make its policy statements and other issuances as unambiguous as possible (we know that is not easy; we often fail ourselves), so as to minimize opportunities for misinterpretation. Also, as mentioned in that report, many of the examples lie within the province of the EDO, and he should be aware of his responsibility to keep the various offices working toward the same ends. Perhaps his own staff needs expansion. But the real tests of coherence lie in the NRC's interactions with the outside world, and we doubt that only internal modifications can solve these problems, although we believe improvements could be made. We are not prepared to recommend reorganization of the NRC, though that is one of the options available to you. Certainly, incentives for lateral communication would be helpful.

We do not believe coherence can be proclaimed from above. Not only is the effect of proclamations attenuated as they penetrate any organization, but high-level policies are necessarily imprecise. Not all ramifications or interpretations of a policy statement can be foreseen, and coherent policies have to be molded in use. It is the body of regulatory practice that is in question here, much of it in the form of corporate memory and lore, and the job at each level is to provide sufficient guidance and incentive to make it possible (and desirable) for the next level to function consistently with the global policies. Above all, the governing policy guidance must be simple, clear, and understandable to both regulator and regulatee.

How is coherence approached elsewhere? One necessary ingredient appears to be feedback, through which interpretations of policy are constantly tested against the policies themselves, not in every case but through a sampling process that, in the end, leads to a more coherent structure. The guiding law of the land is the Constitution, embodying our principles of government. The real law of the land, however, is the enormous body of case law generated by innumerable court decisions, each reviewable, and some in fact reviewed, by the next level of appellate court. Thus the regulatees, in this case the population, have a set of recourses that can bring any rule or ruling to a test of its coherence with the guiding principles. Further, and most important, those who do the testing are not those who make the rules, so there is at least the perception that there is a genuinely unbiased feedback process. The founders were careful to include this in the system. In addition, feedback loops need not be end-to-end; intermediate loops are also helpful.

February 15, 1990

There are many examples of this process in other areas. A taxpayer who feels mistreated by the Internal Revenue Service can appeal within the system, but can in the end go to the Tax Court, an entirely independent forum. A pilot denied his or her license by the Federal Aviation Administration has the right to appeal to the National Transportation Safety Board, an independent agency, whose ruling is final. In each of these there is some risk, but the constant feedback provided by external review helps to create a body of case law that is under continuous testing for coherence. This is not true in the nuclear business, where the only external review is in the courts, and their primary mission is not coherence in the regulatory process. The only appeal from a Regional decision (for example) is within the system, and we all learn early that it is unwise to complain about someone who has power over you, unless you're sure you'll win.

All engineers recognize that complex systems are better controlled by feedback than by blind input -- one measures the errors and corrects the input accordingly. The key is the ability to make objective measurements through a separate sensing system.

What appears to be needed in our case is a mechanism through which frequent testing of the body of "case law" against the guiding principles laid down by the Commission is made possible. To be credible and effective, that job cannot be assigned entirely to the Commission staff. The current situation is analogous to one in which there is a constitution (Commission policies), a body of law (letters, guides, enforcement actions, rules), but no courts.

In general, those with the most to gain by coherent regulation are the regulatees (and of course the rest of us, because safety will benefit), and they would be in a better position to seek coherence if they could do so without fear of retaliation. It is the fear of being taken to court that serves to constrain police forces -- the constraints in our case are entirely internal.

This kind of feedback solution has been used in many places. Governments and police forces have courts; factories have grievance committees; some agencies have ombudsmen for employee complaints, though these usually have no power. The NRC has nothing comparable.

We believe the ultimate solution to the coherence question must include the provision of an adequate feedback mechanism. To be sure, you have made any number of commendable requests to the regulated community to come forward with complaints, but less has come of it than might have been hoped. Even if more had happened, this would still have been symptomatic treatment of the problem,

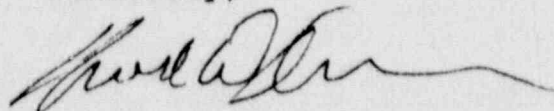
February 15, 1990

and we believe that a mechanism in place is required. Some of us believe that, in the end, only an external Nuclear Safety Board can help, while others believe that great strides can be made within the NRC itself. However, just as we are not prepared to recommend reorganization of the NRC, we do not suggest what form the feedback mechanism should take.

We do recommend that possible means for achieving the objects stated above be explored, and doubt that it would be wise to simply ask the staff (or us) to do the job. We think it would be entirely appropriate, given the importance of the issues, to take a major initiative by asking some respected outside group to explore the subject, and to lay out the feedback options available to the country, even if they require legislation. Such a study group could be chartered by the NRC -- there are precedents -- and should include representation from the affected industry. The National Academy of Sciences has done such things, or it could be an entirely free-standing operation. The result should not be a specific recommendation, but a list of options and analyses, which could then be freely debated within the interested community. This is a complex subject, and we do not think it should be resolved by hip shot. We also do not think it should be neglected, since the effectiveness of the regulatory process is at issue.

Additional comments by ACRS Members Carlyle Michelson, Chester P. Siess, and Charles J. Wylie are presented below.

Sincerely,



Harold W. Lewis
Acting Chairman

Additional Comments by ACRS Members Carlyle Michelson, Chester P. Siess, and Charles J. Wylie

If there is a problem with coherence in the regulatory process, we do not believe that it has been identified and characterized in this report with sufficient clarity to support a recommendation that the NRC charge some outside group to explore it. We agree that there have been examples of inadequate integration of regulatory staff activities, sometimes serious, but it should not require an outside panel to tell management how to correct such deficiencies. If the ACRS believes that there is a coherence problem beyond the capability of the Commission to highlight and correct,

February 15, 1990

then it should clearly articulate the problem before suggesting that the ultimate solution must include provisions for an adequate feedback mechanism and asking some outside group to lay out the feedback options. There are other portions of this letter to which we would take exception; but unless the ACRS can define the problem that needs to be fixed, they may not be worthy of mention. It is our observation that the agency knows its responsibilities and has been successful in carrying out its mission.