John B. Dilworth's Commentary on "Dissent About Nuclear Safety"

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Cases such as this resist a simple answer because those involved (in the present case, Alison) must deal with several fundamentally different kinds of considerations in making their judgement. It is useful to explicitly distinguish these, because the resolution of each requires different kinds of reasoning. However, once distinguished, each is much easier to discuss and resolve than was the original problem. Here are the kinds of considerations:

1. (Facts) What are the relevant facts of the situation? Even here there is room for judgment and argument, as to which facts are or are not relevant or problematic with respect to safety.
2. (Regulations) Given 1., what government regulations apply to the situation? This also may require judgment, since for example 'borderline' data may require an expert decision on whether or not a regulation is significantly infringed by the facts.
3. (Duties) The PNSRC safety committee: what is its structure and organization, and what regulations must it itself conform to? Consequently, what are the duties of individual committee members such as Alison?
4. (Pressures) What political pressures are operative on the committee members? Do they both individually and collectively have the courage, authority and power to ignore these pressures and do the right thing anyway?

Let's start with the easiest part, the Duties. Who would disagree that the committee and its members have a duty to raise and satisfactorily resolve any and all safety issues that come up? What is more, all members of the committee, no matter how junior, have a duty to raise any safety issues they personally are aware of, and a duty to ensure that the committee resolves those issues. Failing this, they have a duty to record a dissenting opinion or vote if the matter has not (in their view) been properly resolved by the committee.

Surely none of this is controversial at all, since this is precisely what safety committees and the experts who sit on them are supposed to do. Hence if we have any doubt about whether Alison should express her reservations or cast a negative vote, it must be for other reasons. (One might quibble about whether Alison should raise further specific objections at the meeting before committing herself to a negative vote, but that is a mere tactical consideration having no implications for her duties.)

Now to the Pressures. Alison might well feel 'pressured' to keep quiet and not officially record her dissent, given the blatantly political and self-serving comments of others on the committee. She could also fear being a lone dissenter, or fear that her career may be compromised if she is perceived as a 'troublemaker' or an obstructionist. But here again, who would deny that she ought to resist such pressures? This, and any other kind of political pressure, clearly ought to be fought in every way possible by the committee and its members.

Since neither Duties nor Pressures provide any reasons for Alison to hold back her concerns, we are left with broadly scientific and factual issues (the Facts and Regulations mentioned under 1. and 2. above) as the arena for any remaining concerns about what she should do. From the facts presented, and regulations outlined or which can be assumed, an unexpected picture emerges.

Though Alison's concerns seem legitimate, from the initial information we are given it seems there are much more pressing reasons for safety concerns. A heat exchanger shows degraded coolant flow and high differential pressure even after two months of repairs, and tests show the other exchanger in the same generating unit has the same problems. Not only that, but the other generating unit also has problems with its heat exchangers. It seems quite likely that we have the makings of a disaster here, whether or not a generating unit could normally function with the loss of one heat exchanger (the specific point of Alison's concern). All of these facts should be reported to the NRC.

We are also told that the cooling water flow is slightly below the minimum requirement for the whole plant. Quite simply, this means that the NRC must be informed that the plant is in violation of this basic requirement, and NRC's duty is to immediately shut down the plant. A minimum standard is just that, i.e., a minimum level below which performance is absolutely unacceptable. (Even performance above but near to the minimum would be reason for serious safety investigations.)

Why did no one on the committee raise this issue?

This case indirectly provides a good illustration of why the U.S nuclear power industry is held in such low esteem by its public. Sadly, engineers and scientists have failed to expeditiously seek out and correct many fundamental safety problems connected with nuclear power, and NRC regulation has been lax or non-existent. With engineers being more concerned with 'not rocking the boat' than with being activists for safer plants, regulatory committees have become largely 'rubber-stamps' for company policy. The comments of committee members as reported in this case, along with Alison's doubts as to whether she should do what it is plainly her duty to do, well illustrate these problems.