

## Homework for Sub 3

Bill Carroll

I have at least two overriding concerns for this process. First is the potential expense associated with it, especially for small companies. Second, is generation of what could be a never-ending process of enforced checks and re-checks that together decrease clarity and accountability rather than enhance it.

As to certification, at a minimum, third-party assessors who hang out a shingle should complete a course in life cycle assessment according to processes such as those of SETAC or ISO. Registration with DTSC as trained assessors with a requirement for CE hours and periodic re-registration might be useful and sufficient; certification and licensure may imply a state-created testing regimen and create more bureaucracy than is warranted. Proprietary, that is, company assessors might not need such certification for two reasons: first, there is no reason to protect a company or NGO from its own employees. Second, if they choose to empower someone who is not competent, the result will reflect badly on the company when the AA becomes public and such embarrassment will be its own deterrent.

Dale's idea of more or less standard toolkit modules is interesting. Such tools may exist in the life cycle assessment literature; I also believe, however, that there will be a non-trivial amount of custom fitting that will need to be done for each case, at least if my reading of LCAs is any indication. This may not be as easy to achieve as it seems at first blush.

I was intrigued by some of the ideas that feel more like peer review. Compelling the signature of a senior corporate officer on an AA with the knowledge that at least embarrassment if not civil penalty accompanies discovery of error or worse, fraud, is a powerful motivator for quality. Joe's idea of different pathways for AAs that do not contain CBI is also intriguing.

There seems to me to be three types of information that might be included, and will probably be reviewed when the AA hits the streets. **Process** considerations, e.g., the logic flow and calculations leading to the final assessment; **Data** considerations, e.g., the hazard information or other technical detail driving the determination; and **Conclusions**, the judgment of which alternative is preferred and by what margin.

I see the following potential tracks, and potential roles for reviewers of any kind:

- 1) Transparent AA containing no CBI.

AA may be done by internal company personnel employed by a company making/using a PC or a company making/using an alternative. AA might also be done by another interested organization using only public domain information, then placed in the public domain. This process is self-policing:

competitors, NGOs and government all have the information needed to judge/ review the assessment. All cards on the table, no third-party oversight necessary.

2) Semi-transparent AA with CBI.

CBI examples, among others, might include: 1) disclosure of chemical by description rather than identity while providing hazard information; 2) keeping process confidential where it does not affect hazard of product. Recognizing that hazard traits cannot be CBI, it seems that most of these will be reasonably transparent, with limited CBI. There may be a few exceptions.

DTSC would engage in a validation exercise if it has the resources (probably preferable to have DTSC engage) or a third-party assessor could be contracted under secrecy agreement to work with the AA author to check the CBI to assure the AA is an accurate representation. An extensive study is unnecessary; this validation of accuracy of the CBI could be done at much less expense, with preservation of confidentiality.

3) From-first-principles AA, done by third party, hired by a company with no internal expertise.

Obviously, the company will need to contract for an analysis. Depending on the CBI texture—1 or 2 above—further validation by DTSC or a second contractor might be desirable.

Conflict resolution and final decision-making. I personally believe that since AA involves winners and losers there will be a need for a final arbiter. It seems to me this is DTSC's job, but if there are limited funds to hire people or contractors, the cost and execution of this analysis will probably devolve to those who are makers or users of the PC or PP.

Under these circumstances, sponsors of each of the AAs could nominate three registered third-party organizations. DTSC chooses one by some process (random draw?) and asks which AA, if either, is more valid. The final third-party organization reviews both and either chooses one or determines that either is equally valid, given the uncertainty of the process. Cost of the review will be shared equally by proponents of each AA.

I worry about the work plans. In the previous iteration, the work plan sounded like it was going to be 80% of the analysis. An outline, flexible enough to deal with the

relevant considerations for the products involved, along with time commitments should be sufficient. Final peer review by whichever process will show whether the AA is adequate or not, and the penalty for being inadequate is the cost of redoing it.