

June 5, 2000

Peter B. Davies, Director
Geosciences & Environment Center
Sandia National Laboratories
Albuquerque, NM 87185-0701

SUBJECT: Completion of SEDSS and DandD Deliverables

Dear Mr. Davies:

First, with regard to progress on developing the "Sandia Environmental Decision Support System," you and key staff for the project met with the NRC project manager, Ralph Cady, and the Assistant Chief of the Radiation Protection, Environmental Risk, and Waste Management Branch, Bill Ott, on May 22 and 23 to discuss the status of the SEDSS and DandD projects. I had transmitted a list of our concerns to you prior to the meeting. I would like to confirm our understanding of the results of the meeting and the NRC's position with regard to the completion of major milestones for the projects. Bill and Ralph returned with a much improved picture of progress on the project and are optimistic that the September deliverable will be provided on time, and will consist of a PC version of SEDSS incorporating: (1) baseline architecture, computational engine (highly adaptable for inclusion of computational libraries in the future; (2) DandD scenarios, pathways, assumptions, models; (3) limited inclusion of decision framework elements; and (4) NEFTRAN2 wrapped, with new sorption models. They are also optimistic that the quality and scope of the deliverable will meet our expectations. They were informed that appropriate staff to complete this deliverable are available. Ralph will monitor performance more closely by attending weekly staff progress and planning meetings via telephone and I expect Sandia management to pay close attention to progress and to meeting the September deliverable.

With regard to DandD the story is mixed. Following the testing period of the beta-test version of the code, extensive comments were submitted by NRC. Sandia staff organized these comments into a matrix and provided estimates of resources for completion of the corrections which would take far more time than is available between now and the time by which the deliverable is needed. The July delivery date for a version of the code useable as a screening tool must be met. With this in mind the NRC staff reviewed the matrix and identified those items which must be fixed before the code is released. Sandia staff then applied their own prioritization and downgraded the status of sixteen of the identified required changes. These items were subsequently discussed by telecon on June 1, 2000, between members of our staffs. Resolution is documented in the attachment, including those required to be completed and included in the July deliverable. These are not considered new requirements and are fully covered in the existing scope of work or the specifications for earlier versions of DandD that have not been relaxed or removed. It is my understanding that adequate resources are available to complete these changes and meet the schedule for the deliverable.

I expect Sandia management to monitor performance on each of these highly visible projects and assure both the quality and timeliness of these products in order to meet NRC's needs.

Thank you for your attention to these matters.

Sincerely,

/RA/

Thomas L. King, Director
 Division of Risk Analysis and Applications
 Office of Nuclear Regulatory Research

Attachment: As stated

cc: T. Blejwas, SNL

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Summary of Thursday, June 1, 2000 Teleconference with Sandia

Sandia attendees: John Guth, Doug Brosseau, Walt Beyeler, Katherine McFadden
NRC attendees: Ralph Cady, Christine Daily, Bill Ott

This teleconference was held to discuss the final resolution of the disputed items listed in the May 25, 2000 e-mail from Christine Daily to Doug Brosseau, and to determine what would be included in the version of the DandD software that will be delivered in July, 2000.

Resolution of Disputed Items
W6804, "Environmental Modeling Support"
06/01/2000 Update

#16 It would seem that a procedure to "insure the integrity of the template database" would be part of good software design, rather than "not perceived as a requirement". However, since not all requirements can be met for this version, we will allow this to be deferred to the next revision IF this is a paper-based procedure as opposed to part of the software. Please provide additional information so we can make a final decision on this item.

6/1/00: According to Katherine, this item refers to a one-time activity performed before final release of the software, and will be done for the July-release version. This item is closed.

#17 (1) If the agreed upon default is not being used, that needs to be noted and discussed with me. (2) If this problem with LHS can be solved by making a minor alteration to the default distribution, and it can be demonstrated that the impact of the alteration is trivial, then the change should be clearly stated and the help file modified so that the parameter does not show up as modified when it has not been changed by the user. (3) If (2) cannot be done, try fitting another distribution that does not cause the problem in LHS. (4) "Can't be resolved" is not a reasonable justification for downgrading this bug.

6/1/00: SNL agreed to document that this parameter differs from the original default distribution and that the difference has little or no impact on the final output. SNL will provide this information in a letter prior to release of the July software, and will include this information in the final software documentation.

#172 The software must use consistent notation. If it is too difficult to develop a 'smart' algorithm, then put everything into scientific notation and we will try to refine for the next revision.

6/1/00: This will be done for the July release.

#173 This is not a new requirement (see version 1 Fortran report). The components of the dose distribution with time need to be available in some form. Given the storage space impacts, it may be reasonable to provide the information for the 90th percentile rather than the full distributions. This needs further discussion so we can understand what can be accomplished and you can understand what we need. Please provide your availability for a conference call early next week, preferably Tuesday morning (5/30).

6/1/00: It was decided that it would be more efficient to allow the user to save the entire dose history rather than expend additional resources on programming in order to save storage space. Therefore, the user will be able to save history information, when the file reaches a certain size it will be compressed (zipped), and the user will be warned that the history file can be very large.

In addition to the above, an additional 2 days will be required to provide access to history information for selected radionuclides and pathways. This work will be done if time is available.

#186 We disagree that this behavior is intuitive to a windows user, or, obviously, that this works fine. It is unusual for a user not to be given the opportunity to cancel without saving. This is a significant reduction in flexibility, not an increase, and needs to be corrected.

6/1/00: This is a defect in the Access software. Two options for resolution were discussed: 1) within the software, create a dummy database with the changes input by the user, and save it as the real database if the user chooses 'save' or delete it if the user chooses 'cancel'; 2) if the software cannot be corrected in time for the July release, the user will be provided with a paper or on-line help message telling them how to perform a work-around using save-as.

#206 As noted before, version 2 should have attributes not available in version 1. Version 1 had a totally different interface, so the justification that this was not in version 1 is meaningless and not helpful. This should be a very simple fix, and it appears that Katherine has already identified a reasonable approach.

6/1/00: Katherine has identified a reasonable approach to resolve this issue, and this will be included in the July software.

#226 This is definitely a requirement, and we consider it to be a basic function of any interface that fundamental information is displayed in such a way that the user can verify that their input is being incorporated correctly.

6/1/00: Until a software fix can be developed, the short-term patch will be to detect when units are different and pop up a message alerting the user. Also, all displayed values will have units specified.

#255 This is the same as #17, is a bug, and must be corrected. See discussion under #17.

6/1/00: This will be resolved with #17.

Deferred Requirements

(To be done for the final release, or for this release if all other A items are completed)

#53 This was prioritized as a A-, which was defined as an item that could be deferred to the next revision.

#110 Again, this was an A-, so it can be deferred.

#130 This is resolved, since the window can be minimized.

- #162 This issue has been discussed for (literally) years. Having 8 or 9 significant figures makes the software appear to have been developed by someone who does not understand this concept. However, we agree that it does not affect the calculations, so it can be deferred to the next revision.
- #164 Since this is related to functions beyond screening, it can be deferred.
- #200 This is related to #186. Version 1 did allow actions to be canceled. Version 2 supports this function in the sensitivity analysis. However, since this does not affect the calculations, just the usability, it can be deferred to the next revision.
- #210 Again, the justification for downgrading this item is not helpful. Progeny information is flashed on the nuclide selection screen now, but not in a way useful to the user. However, since this does not affect the calculations, it can be deferred to the next revision.
- #224 Although this would be a very minor change, it can be deferred to the next revision.