

FOIA/PA REQUEST

From: Jim Harrell <jim.harrell@numerical.com>
To: FOIA Officer <foia@nrc.gov>
Date: Thu, Oct 19, 2000 12:30 PM
Subject: FOIA/PA 2000-0351 Appeal

Case No: 2001-001A
Date Rec'd: 10-19-2000
Action Off: Pool
Related Case: (2000-0351)

I just received via US mail a response to FOIA/PA 2000-0351. This e-mail represents an appeal to change or reverse that response. I am a little baffled by both the denial to supply certain records and the exemption claimed. The Nuclear Regulatory Commission has already provided the RADTRAD source code/FORTRAN listing to Numerical Applications, Inc., so I do not understand how "internal personnel rules and procedures" prevent the NRC from providing the source code/FORTRAN listing to others (as long as they are US companies and/or meet other requirements for receiving the executable version of the code). It is impossible for anyone to properly qualify the RADTRAD computer program for use in nuclear safety-related applications without having the source code. Possessing and reviewing the RADTRAD source code/FORTRAN listing was the key element in the identification and correction of the majority of the errors that Numerical Applications, Inc. discovered in RADTRAD.

The source code/FORTRAN listing for RADTRAD is clearly not "solely related to the internal personnel rules and procedures of [the] NRC." RADTRAD is being or will be utilized by numerous US companies. In order to properly and safely apply the code, each of these companies needs the source code/FORTRAN listing. It is unclear how a computer code being used by numerous public and private companies can be viewed as "solely related to the internal personnel rules and procedures of [the] NRC." It is even more unclear how the RADTRAD computer program relates at all to "personnel rules and procedures."

Not providing the RADTRAD source code/FORTRAN listing also appears to be inconsistent with the NRC's position on other computer programs developed with public funding. For example, the RELAP executable and source code may both be obtained.

We have spoken with many utilities who intend to use RADTRAD for Alternative Source Term applications to the NRC. In order for a utility to properly qualify the code for use in nuclear safety-related applications, they must have the source code. It is clear from the errors that we have already identified that simply running limited example problems with the code (as was done for the NUREG/CR-6604 "quality assurance" of RADTRAD) did not identify all of the potential non-conservative or conservative errors. I am sure that RADTRAD will evolve as do all computer codes. For this evolution to progress, the source code/FORTRAN listing is essential. Having the source code/FORTRAN listing allows for the use of debugging programs, as well as manual line-by-line checks. These checks ensure that the equations internal to specific subroutines perform the correct calculations.

We believe that any company that receives NRC authorization for receipt of the executable version of the RADTRAD code should also be able to receive the source code/FORTRAN listing. If the FOIA request for NAI to be able to distribute a corrected version of the RADTRAD source code/FORTRAN listing was not clear on this point, please let me

clarify. Once a company has been authorized by the NRC to receive the RADTRAD executable, NAI is requesting permission to provide the same company with our corrected/modified RADTRAD source code. As required by our agreement with the NRC, the corrected (NAI) version of the program will be renamed.

10 CFR 50 Appendix B Section III. (Design Control) contains the following statements:

"Measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions."

"Design Control measures shall be applied to items such as the following: ...accident analyses..."

It is not possible to assure that all of the detailed technical equations identified as being used in RADTRAD are actually used correctly without the RADTRAD source code. Regulatory Guide 1.183 (Alternative Radiological Source Terms for Evaluating Design Basis Accidents At Nuclear Power Reactors) suggests the use of RADTRAD (as well as many of the correlations in RADTRAD). In order to assure that the correlations referred to in RG 1.183 are properly implemented, the source code is required.

In response to this appeal, please provide answers to the following questions:

1. How does the RADTRAD source code relate to "internal personnel rules and procedures of [the] NRC?" Please be sure to address the "personnel" aspect.
2. Since the RADTRAD source code has already been provided to Numerical Applications, Inc., how does Exemption 2 of Part II.A of NRC Form 464 apply?
3. How is the RADTRAD source code legally different from the RELAP (as well as other NRC codes) source code that is already being provided to companies?
4. In the absence of extensive accident dose data to benchmark against, how is it possible to qualify the RADTRAD computer program for nuclear safety-related uses without the source code?
5. Is the denial to provide the RADTRAD source code specifically associated with NAI's redistribution of the corrected source code?
6. If NAI only distributes the corrected RADTRAD source code to companies previously authorized by the NRC to receive the RADTRAD executable, is this distribution approved and acceptable?
7. Does a denial of NAI's request to distribute the modified RADTRAD

source code (to companies previously authorized by the NRC to receive the RADTRAD executable) mean that such companies will not be able to directly receive the RADTRAD source code from the NRC or their designated contractor? If so, how would such companies be able to qualify RADTRAD for use under an Appendix B Program?

The main concern that we have is that the nuclear industry utilizes properly qualified codes to assess implementation of design or operating changes associated with Alternative Source Terms. We are convinced that the RADTRAD source code is required to properly qualify this code for use in nuclear safety-related applications.

Sincerely,

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