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**From:** <Hdcuret@aol.com>  
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**Date:** Mon, Feb 12, 2001 2:47 PM  
**Subject:** Comments Regarding Draft DG-1096 and Draft SRP15.0.2

Subject: Comments Regarding Draft DG-1096 and Draft SRP15.0.2

This e-mail includes comments regarding the subject documents as solicited in 65 FR 77934, December 13, 2000. Hopefully, the comments may be found to be beneficial. The new guidance and review process proposed appear to be more microscopic in nature than those of the past. The level of expertise and resources required of the NRC to review all of the documentation and programming detail for new licensing submittals is anticipated to be higher than for past reviews. The new guidance and review process may indeed be the framework required for future risk-informed regulation, but their application to existing approved licensing methodologies should be prudent and implemented based upon valued added safety margin.

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REGULATORY DIVISION

Draft Regulatory Guide DG-1096 Transient And Accident Analysis Methods

**General Comment**

The process described as acceptable to the NRC staff for the development and assessment of evaluation models that may be used to analyze transient accident behavior is very detailed and comprehensive. The process is also considered necessary as noted in Section 3.1 Alternative 1 Take No Action the NRC would continue to receive request to review and approve analytical methods that are prepared with no clear guidance on what the NRC considers to be an acceptable model. The lack of an identified set of guidelines and practices would have adverse effects on the level of staff required to conduct model reviews and to assure consistency of principle among reviewers. Thus, as this proposed guide is a significantly new review process and new guidance to applicants, it is suggested that it only be implemented for totally new realistic evaluation models. The guide should not be imposed upon existing, acceptable evaluation models or future updates to such models.

The proposed guide is referencing technology and processes (CSAU and PIRT) developed for the NRC from ten to twenty years after many existing evaluation models have been found acceptable to the NRC. Back fitting this guide to such existing evaluation models would, most likely if evaluated on a risk-informed basis, not improve reactor safety. Therefore, it does not appear to be a prudent use of industry or NRC resources to do so.

**Specific Comments**

Specific comments are provided below for certain sections of the draft guide.

**Introduction**

- The sentence following item 2 should be noted as item 3, as it is in the Regulatory Position, 1. Problem section.

template = ADM-013

E-RIDS = ADM-03  
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- The second paragraph refers to evaluation models that may be used to analyze transient and accident behavior. Traditionally an evaluation model was used in reference to ECCS evaluation models used to analyze LOCAs. In fact, the definition for evaluation model is found in section 15.6.5 of the SRP. Also 10 CFR 50.46(a)(3)(i) and (ii) note that reporting of any change to or error in an acceptable evaluation model is a requirement specific to ECCS evaluation models. Additionally, Generic Letter 83-11, Supplement 1 refers to all licensing analyses other than LOCA analyses as safety analyses using approved computer codes. The terminology of evaluation models for safety analyses is not used.

The liberal use of the term evaluation model for all computer codes used to perform transient and accident analyses may be in conflict with the reporting requirement of 10 CFR 50.46.

- The third paragraph states, "This regulatory guide is intended to provide guidance on realistic accident [and transient] analyses." It is presumed that the added bracketed text should also be included in the sentence. With that presumption accepted, does this preclude an applicant for submitting and anticipating a review by the NRC of a model that is demonstrably conservative without all of the EMDAP elements? Such an a priori model may be very simplified and capable of predicting safety margins and/or figures of merit.

#### Basic Principles of Evaluation Model Development and Assessment

- Item 2 refers to a data base from existing experiments and from the performance of new experiments. Indeed if sufficient data bases were available, it is quite possible that NRC model reviews could be focused on comparisons of model predictions with appropriate IET and SET data sets and some of the elements of the EMDAP would not be of significance or necessary. Unfortunately, much of the data from NRC funded nonproprietary IETs and SETs (e.g., LOFT, Semiscale, FIST, and foreign tests) have not been maintained or archived by the NRC Office of Research in a form that it is accessible to the public. These data sets should be qualified and archived for retrieval and use by the nuclear industry, the NRC, and those contractors developing computer codes for the NRC.

- The first paragraph after item 6 refers to the CSAU methodology. This methodology is relatively young (1988) compared to some existing NRC approved licensing codes. It does not appear to be practical or of safety significance to apply the CSAU methodology to such codes.

- In the spirit that this guide be only applied to new codes (i.e., not to updates or improvements to existing evaluation models), it is suggested that sentences 3 and 6 in the fourth paragraph following item 6 be deleted. The application of pieces/parts of this guide to updates and improvements to existing codes could be very subjective and arbitrary to both applicants and NRC reviewers.

#### C. Regulatory Position

- In section 1. it is stated that the EMDAP applies even to simple modifications to existing [previously approved] evaluation models. Why

should the original approval processes be assumed inadequate or invalidated because the EMDAP is implemented. Submittals of updates to existing models should be reviewed from the historical perspective of their approvals.

EMDAP, though more structured than the NRC's previous review process, should not be backfitted on existing models.

- Item 8 of 1.1.3 needs a change in font type. Also it might be better identified as Transport Processes. See item 7 that refers to Fields being transported.

- In 1.1.4 the references to PIRT do not include Reference 7. Possibly Reference 6 is a typo.

Are applicants required to develop PIRTs for all SRP transients and accidents using AHP? Or will the NRC provide the PIRTs that applicants may use as guidance in code development? As noted the PIRT process can rely heavily on expert opinion, which can be subjective. If PIRTs are developed by each applicant for each transient and accident evaluation models, considerable resources can be expected to be expended by both the applicants and NRC staff to come to agreement as to the adequacy of the PIRTs. Consideration should be given to having the industry, in concert with the NRC, develop PIRTs for all SRP transients and accident scenarios that can be referenced in future licensing code development.

- 1.2.3 includes discussions regarding data bases from IETs and SETs. See first comment under Basic Principles of Evaluation Model Development and Assessment above regarding data from the Office of Research.

### 3. Documentation

- There are seven documents listed and characterized as the proper documentation that would allow NRC approval of evaluations models. It is expected that the elements in Documents 1., 2., 3., 4., and 6., though not as separate documents, have been addressed in the overall documentation for existing, approved models. Documents 5. and 7. appear to be newly required reports. Are these reports to be generated for existing approved models?

### D. Implementation

- In lieu of applicants having to take exceptions to the guide for submittals of updates to existing models once it is approved and issued, it is suggested that the guide only be applied to totally new, realistic transient and accident models.

Draft Standard Review Plan Section 15.0.2 Review of Analytical Computer Codes

### General Comment

This draft SRP is intended to describe the review process used to assure that

applicants have submitted methods/codes that comply with code development processes and guidance provided in DG-1096. Therefore, it is suggested that starting with the document titles, the terminology used in this SRP and DG-1096 be made identical in order to avoid misinterpretations and confusion during code reviews. Depending on whether or not the term "evaluation model" is used generically the documents might be titled:

DG-1096 "Transient And Accident Analysis Methods" and the SRP title would be "Review of Transient And Accident Analysis Methods", or DG-1096 "Transient and Accident Evaluation Models" and the SRP "Review of Transient and Accident Evaluation Models".

Paraphrasing what was said in the General Comments regarding DG-1096 - This proposed SRP is based on a significantly new review process and the new guidance of DG-1096 and, as such, it is suggested that it only be implemented for totally new realistic evaluation models. The SRP should not be imposed upon existing, acceptable evaluation models or future updates to such models.

The proposed SRP, as did DG-1096, is referencing technology and processes (CSAU and PIRT) developed for the NRC from ten to twenty years after many existing evaluation models have been found acceptable to the NRC. Back fitting this SRP to such existing evaluation models would, most likely if evaluated on a risk-informed basis, not improve reactor safety. Therefore, it does not appear to be a prudent use of industry or NRC resources to do so.

#### Specific Comments

Specific comments are provided below for certain sections of the draft guide. The comments are somewhat sparse because the comments above regarding the draft DG-1096 are relevant to this draft SRP and would be somewhat duplicative.

#### I. Areas of Review

##### 1. Documentation

- The documentation listed is similar by not consistent with that of the EMDAP in DG-1096. This is one example of terminology inconsistent with that of DG-1096.

##### 3. Accident Scenario Identification Process

- In order to maintain consistency with DG-1096 this could be titled Phenomena Identification and Ranking Table (PIRT).

#### II. Acceptance Criteria

##### 1. Documentation

- The text discusses the need for "scrutable, complete, unambiguous, accurate, and self contained documentation" with a submittal. Documentation of the responses to requests for additional information (RAI) is also discussed. Such documentation of responses should be noted as to be provided after the review process is nearly complete. Likewise, it is suggested that the NRC provide the applicant with a notification that responses to a RAI have been received and found acceptable. The NRC in the past has not

consistently followed such a procedure.

### III. Review Procedures

#### 3. Detailed Review

##### a. Documentation

- The last paragraph of this section seems to present a level of review that has not been encountered in the past. Such information may have been gathered during audits by the NRC but not during a review of a submittal. Reviews of UserΓÇÖs manuals and hardwired input settings to produce error messages seem to be at an extraordinary level of detail and will increase the resources required of the NRC staff to review licensing codes.

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