

Center for Nuclear Waste Regulatory Analyses

FOR ADDRESSEE ONLY

FACSIMILE TRANSMITTAL SHEET

DATE:

8/20/89
Phil Altomare

4-H-3

TO:

2

TELEPHONE NO:

492-3400

TELEPHONE NO. OF FACSIMILE MACHINE:

FROM:

Wes Patrick

TELEPHONE NO:

512-522-5158

NUMBER OF PAGES (INCLUDING THIS COVER SHEET):

16

SOUTHWEST RESEARCH INSTITUTE TELEPHONE NO. IS 512/684-5111

PLEASE SEND RETURN TRANSMISSIONS TO 512/522- 5155

THE MACHINE IS A XEROX-7010 AND WILL AUTOMATICALLY ANSWER AND RECEIVE.

IF YOU NEED MANUAL ASSISTANCE, PLEASE CALL 512/684-5111 ext. 5160

FOR OPERATOR USE:

Date/Time Received or Sent: _____

Person Receiving or Sending: _____

Comments: _____

8903240316 890321
FDR WASTE PDC
WM-11



FOR ADDRESSEE ONLY

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

FOR ADDRESSEE ONLY

March 20, 1989

To: Phil Altomare

From: Allen Whiting and Ted Romine

DK

Subject: Program Architecture Comment Resolution and Related Materials
.....

Attached is the document RECOMMENDED PA PROCEDURAL REVISIONS, which is transmitted for review and concurrence by the NRC staff and management, including representatives of the OGC. This is provided per our agreements of March 9 and 10, 1989, as confirmed in meetings this week in Washington. Please note that this incorporates all comments that you provided last week on an earlier draft.

It is our understanding that review of the attached will be completed March 21, 1989. Your assistance in this matter is greatly appreciated.

cc: W. Patrick
R. Johnson

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 1

SUBJECT: REGULATORY ELEMENTS OF PROOF

BACKGROUND: There is a clear legal distinction between (1) the rules for which compliance must be demonstrated and (2) the evidence submitted in that demonstration. In order to maintain that legal distinction while serving the technical needs of the licensing process, new terminology and definitions have been introduced. These changes are incorporated in the recommended revision below. In addition, it has become necessary to provide a new "field" in the PA Database (PADB) for material dealing with technical evidence. That recommended revision begins on page 5. This approach is believed to satisfy the intent of Reference 1, Question 1; Reference 2, Section 1; and Reference 3, Discussion Point #1.

RECOMMENDED REVISION TO TOP-001-02, ATTACHMENT A:**FIELD 15A, REGULATORY ELEMENTS OF PROOF**

Delete the first six paragraphs of Field 15 and substitute the following:

Definition - REGULATORY ELEMENTS OF PROOF are what must be demonstrated to support a conclusion that the REGULATORY REQUIREMENT has been met. REGULATORY ELEMENTS OF PROOF must be directly stated in the requirement itself. When a potential REGULATORY or INSTITUTIONAL UNCERTAINTY exists, and rulemaking is a potential uncertainty reduction method, the revised language of the affected rule must be postulated. When this occurs, the resulting POSTULATED UNCERTAINTY REDUCTION LANGUAGE (PURL) is developed as a part of the NRC UNCERTAINTY REDUCTION METHOD (see Field 39, section h).

REGULATORY ELEMENTS OF PROOF would include those conditions, specifications, criteria, or procedures which will be the standard by which specific evidence will be compared to evaluate the degree to which the REGULATORY REQUIREMENT has been met.

Background - Given the concept of collecting closely-related sections of applicable statutes and rules into a multi-element REGULATORY REQUIREMENT, the demonstration of regulatory compliance must be made in a structured manner that takes into account the logical interrelationships between those regulatory elements. Thus the need to develop a REGULATORY ELEMENT OF PROOF logic structure for each REGULATORY REQUIREMENT. An example is shown in a hierarchical format in Attachment B. [Note for 3/21 -- An example of the graphic hierarchy as it would be typed in IBM DW4 is shown on page 4. When entered in the PADB, the right-hand brackets are translated to vertical lines.]

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 2

The REGULATORY ELEMENTS OF PROOF at the lowest levels of the logic hierarchy (the end points of each branch) are the items to be proven directly using as evidence the results of analyses and information developed during Site Characterization. The next higher item in each branch of that logic hierarchy is, in turn, proven by the combined proofs of its subordinate REGULATORY ELEMENTS OF PROOF.

Content - This field is to contain for each the subject REGULATORY REQUIREMENT one or more statements that begin with "DOE shall demonstrate that:", followed by a succinct definition of WHAT must be proven to demonstrate compliance.¹ These "WHAT" statements shall be organized in a hierarchical format that displays their logical interrelationships (see Attachment B). That "textual hierarchy" shall be followed by a graphic representation of the logic hierarchy (see Attachment B).

In order to retain the force of law, individual REGULATORY ELEMENTS OF PROOF shall use the exact language of the Regulatory Text (rule or statute) to the maximum extent possible consistent with the required change in tense. When a Regulatory Text contains a potential uncertainty for which a FURL has been prepared, the REGULATORY ELEMENT OF PROOF shall use the language of the FURL.

All REGULATORY ELEMENTS OF PROOF are to be entered in upper case (all-caps) and are to be followed by a citation of the Regulatory Text(s) from which they were derived. When the REGULATORY ELEMENT OF PROOF is based on a FURL, the citation shall so indicate (Example: 10 CFR 60.122(b)(7) - FURL). When listing multiple Regulatory Texts, cite them in the same order used in Field 9, REGULATORY REQUIREMENT. List the primary and referenced Regulatory Text(s) citations without parentheses, brackets or similar enclosures. Place the associated Regulatory Text citations in braces {}. An example is provided in Attachment B.

Any assumptions that are required to develop the REGULATORY ELEMENTS OF PROOF in the presence of UNCERTAINTIES are to be explained in the Notes for this field. Examples of such assumptions include the interpretation of the rule relative to the logical relationship of two or more requirements, and the resolution of an Institutional Uncertainty. Assumptions do not include the presumed result of possible rulemaking presented as POSTULATED UNCERTAINTY REDUCTION LANGUAGE in Field 39.

¹ HOW compliance is to be proven by DOE will be defined in Field 25, DOE COMPLIANCE DEMONSTRATION METHOD. Similarly, HOW the NRC intends to determine whether the DOE/system is in compliance will be defined in Field 28, NRC COMPLIANCE DETERMINATION METHOD.

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 3

[NOTE: The above paragraphs are recommended as a complete replacement for the first six paragraphs of the instructions in Attachment A, Field 15. The remaining paragraphs below are recommended to be modified as shown.]

MOVE THIS PARAGRAPH TO THE TECHNICAL REVIEW COMPONENTS SECTION
 Where appropriate, these definitions are to include ~~probability~~ probability and/or confidence statements for ~~analyses~~ analyses that involve spatially or temporally distributed parameters.

MOVE THIS PARAGRAPH TO THE TECHNICAL REVIEW COMPONENTS SECTION
 If ~~an~~ alternative ~~ELEMENT/OF/PROOF/TECHNICAL REVIEW COMPONENTS~~ are acceptable, ~~they~~ they shall be clearly identified as such and included in this field. The preferred method of inclusion and identification as an alternative is through a logic "OR" gate. Where this is inappropriate, the primary ~~ELEMENT/OF~~ ~~PROOF/TECHNICAL REVIEW COMPONENT~~ and the alternative shall each clearly reference the other.

MOVE THIS PARAGRAPH TO THE DC SECTION This field also may ~~include~~ contain general guidelines and criteria for acceptable DOE COMPLIANCE DEMONSTRATION METHOD(S) for ~~each~~ REGULATORY ELEMENTS OF PROOF. Guidelines and criteria are intended to define the bounds of acceptable demonstration methods without specifying a particular approach; i.e., without prescribing HOW.

MOVE THIS PARAGRAPH TO THE RR SECTION If the REGULATORY REQUIREMENT is expressed in deterministic terms or implies a deterministic proof, and a probabilistic approach is considered to be more appropriate or meaningful, a REGULATORY ~~of/TECHNICAL~~ UNCERTAINTY shall be included in Field 30, Uncertainties, and a reference to the Uncertainty made ~~in the~~ in the Notes for this field.

Format - Field size: Variable length up to 32K characters.

3/21/89

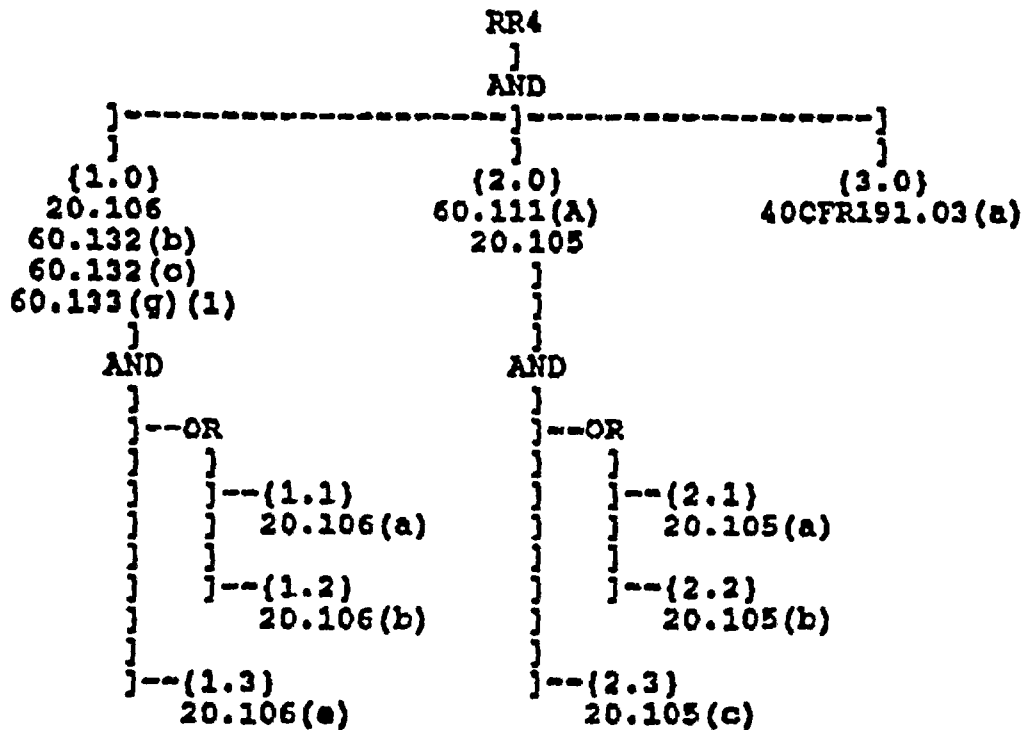
RECOMMENDED PA PROCEDURAL REVISIONS

Page 4

EXAMPLE OF GRAPHIC REGULATORY ELEMENT OF PROOF HIERARCHY

NOTE FOR EXAMPLE: This structure, which references by number (e.g., 2.0) the statements in the Regulatory Element of Proof "textual hierarchy", is to follow that text in Field 15A of the PADB. Its intent is to depict the logical interrelationships more clearly than is possible in the text.

When prepared in IBM DW4 on the input form, hyphens are used for horizontal lines and right-hand brackets are used for vertical lines (as shown below). The IBM mainframe stores and prints DW4 right-hand brackets as vertical bars (and vice versa).



- NOTES:
1. All regulations listed are from Title 10 of the CFR unless indicated otherwise.
 2. Citations enclosed in braces {} are the numbers assigned to individual REGULATORY ELEMENTS OF PROOF. (See the textual hierarchy.)

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 5

SUBJECT: TECHNICAL REVIEW COMPONENTS

BACKGROUND: Two key parts of the licensing process are (1) the identification of the technical analyses necessary to demonstrate and evaluate regulatory compliance and (2) the demonstration and evaluation of the validity and applicability of the demonstration method and the data offered as proof of regulatory compliance. This new PA Database (PADB) "field" addresses those parts of the process. (See Reference 1, Question 1; Reference 2, Section 1; and Reference 3, Discussion Point #1.)

RECOMMENDED REVISION TO TOP-001-02, ATTACHMENT A:

Insert the following --

FIELD 15B, TECHNICAL REVIEW COMPONENTS

Definition - TECHNICAL REVIEW COMPONENTS are what will be used to support a DOE demonstration or NRC determination of regulatory compliance. TECHNICAL REVIEW COMPONENTS include both the analyses to be used as proof of compliance with the REGULATORY ELEMENTS OF PROOF and the supporting material to be used to demonstrate the technical adequacy of the regulatory compliance demonstration. TECHNICAL REVIEW COMPONENTS are derived from the REGULATORY ELEMENTS OF PROOF (including PURLs, where present) at the lowest levels (the end point of each branch) of the REGULATORY ELEMENT OF PROOF logic hierarchy.

The technical adequacy of analyses used for compliance demonstration includes the validity and applicability of the demonstration method (e.g., the theory, analytical method, analytical uncertainties, model, test technique), and the adequacy of data used for demonstration (e.g., measurement techniques and instrumentation, measurement uncertainties, data collection procedures [including quality assurance provisions], fidelity of environment simulation, sample size, spacial and temporal distribution of measurements).

TECHNICAL REVIEW COMPONENTS identified in the PADB are not stated in the REGULATORY REQUIREMENT and, consequently, do not have the force of law. They are being developed solely for the internal use of NRC's Office of Nuclear Material Safety and Safeguards, Division of High-Level Waste Management, as a management tool. The TECHNICAL REVIEW COMPONENTS identified represent the minimum acceptable breadth of analyses. They are not intended to represent the necessary depth (detail) of analyses to be used. The detailed information the NRC needs for COMPLIANCE DETERMINATION is to be developed under INFORMATION REQUIREMENTS.

Background - The REGULATORY ELEMENTS OF PROOF hierarchy of Field 15A defines a structured requirement for regulatory compliance demonstration and evaluation that takes into account the logical

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 6

interrelationships between the elements of the REGULATORY REQUIREMENT. Given that logic structure, it is necessary to identify the minimum TECHNICAL REVIEW COMPONENTS required for demonstration/evaluation of the REGULATORY ELEMENTS OF PROOF at the lowest levels (the end point of each branch) of the REGULATORY ELEMENTS OF PROOF logic hierarchy. Since the TECHNICAL REVIEW COMPONENTS also have inherent logical interrelationships, they must be defined in a set of logic hierarchies -- one for each lowest-level REGULATORY ELEMENT OF PROOF. These represent extensions of the logic for compliance demonstration and evaluation that is provided by the REGULATORY ELEMENTS OF PROOF.

The lowest-level TECHNICAL REVIEW COMPONENTS identified in these logic structures are, in turn, the items to be demonstrated and evaluated in the licensing process using the analyses and information developed during Site Characterization. The technical adequacy or compliance of the next higher item in each branch of that total logic hierarchy is, in turn, demonstrated by the combined evidence of its subordinate TECHNICAL REVIEW COMPONENTS or REGULATORY ELEMENTS OF PROOF.

Content - This field is to address the lowest-level REGULATORY ELEMENT OF PROOF in each of the branches of the logic structure in Field 15A. For each such REGULATORY ELEMENT OF PROOF, this field is to contain succinct statements defining WHAT (e.g., analytical product) is to be used to (1) demonstrate and evaluate regulatory compliance and (2) demonstrate the technical adequacy of analyses that are to be used in demonstrating/determining compliance. Each of these statements is to be entered in normal sentence (lower-case) format and is to be ended with the following: (TECHNICAL REVIEW COMPONENT). All TECHNICAL REVIEW COMPONENTS derived from a FURL are to be ended with: (TECHNICAL REVIEW COMPONENT - FURL).

The "WHAT" statements derived from each lowest-level REGULATORY ELEMENT OF PROOF shall be organized in a hierarchical format that displays their logical interrelationships (using the basic format shown in Attachment B). The complete set of "textual hierarchies" shall be followed by a set of graphic representations of the TECHNICAL REVIEW COMPONENTS logic hierarchies (see Attachment B).

Any assumptions that are required to develop the TECHNICAL REVIEW COMPONENTS in the presence of UNCERTAINTIES are to be explained in the Notes for this field. Examples of such assumptions include the technical interpretation of a statement in the rule and the means chosen to resolve a technical program need. This includes the presumed result of possible rulemaking presented as POSTULATED UNCERTAINTY REDUCTION LANGUAGE (FURL) in Field 19.

In all cases in which POSTULATED UNCERTAINTY REDUCTION LANGUAGE is developed for a lowest-level REGULATORY ELEMENT OF PROOF

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 7

(i.e., for the corresponding Regulatory Text), the TECHNICAL REVIEW COMPONENTS lodged in this field shall be derived from the REGULATORY ELEMENT OF PROOF (i.e., the rule) as it would be revised by the PURL, unless redirected by the NRC.

THIS PARAGRAPH WAS MOVED FROM THE REGULATORY EP SECTION1 Where appropriate, descriptions of TECHNICAL REVIEW COMPONENTS are to include ~~probability and/or confidence statements for analyses~~ that involve spacially or temporally distributed parameters.

THIS PARAGRAPH WAS MOVED FROM THE REGULATORY EP SECTION1 If ~~an~~ alternative ~~ELEMENT/OF/PROOF/TECHNICAL REVIEW COMPONENTS~~ are acceptable, ~~they~~ shall be clearly identified as such and included in this field. The preferred method of inclusion and identification as an alternative is through a logic "OR" gate. Where this is inappropriate, the primary ~~ELEMENT/OF/PROOF/TECHNICAL REVIEW COMPONENT~~ and the alternative shall each clearly reference the other.

Format - Field size: Variable length up to 32K characters.

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 8

SUBJECT: NRC COMPLIANCE DETERMINATION METHOD

BACKGROUND: See "Background" addition below.

RECOMMENDED REVISION OF TOP-001-02, ATTACHMENT A:

Field 28, NRC COMPLIANCE DETERMINATION METHOD

Add the following:

Background - For every "WHAT" in the REGULATORY ELEMENTS OF PROOF and the TECHNICAL REVIEW COMPONENTS, there must be a "HOW" in the NRC COMPLIANCE DETERMINATION METHOD. Thus, the NRC COMPLIANCE DETERMINATION METHOD structure must duplicate exactly the structures of the REGULATORY ELEMENTS OF PROOF and the TECHNICAL REVIEW COMPONENTS.

In developing a NRC COMPLIANCE DETERMINATION METHOD, it is important to avoid entirely the presumption of a particular approach to design or operations. That includes, to the extent practicable, current DOE baselines. This is best accomplished by directing attention exclusively to the verification of the functions of the Nuclear Waste Management System equipment, software, personnel and/or procedures that are related to the Regulatory Requirement. "System functions" are the actions to be performed or capabilities to be provided by each element of the system to contribute to the accomplishment of the mission of the complete system. The mission of the Nuclear Waste Management System, as derived from the Nuclear Waste Policy Act and 10 CFR Part 60, is to permanently isolate high-level radioactive waste (HLW) from the accessible environment.

Modify the Content section as follows:

Content - This field is to contain a summary of (and, if published, a reference to) the strategy and the test, investigative and/or analysis method(s) to be used by the NRC to determine if the DOE has met, or can be expected to meet, each REGULATORY ELEMENT OF PROOF. The structure of the NRC COMPLIANCE DETERMINATION METHOD shall duplicate exactly the complete logic structures of the REGULATORY ELEMENTS OF PROOF and the TECHNICAL REVIEW COMPONENTS. The method(s) must be sufficiently specific and detailed to provide the basis for identifying INFORMATION REQUIREMENTS (Field 42). If the DETERMINATION METHOD is documented by the NRC (e.g., in a ~~§§§§§~~ Technical Position or Regulatory Guide), provide the number, name and date of the document. Contingency, backup or other alternative methods under serious consideration shall also be described.

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 9

SUBJECT: COMPLETION OF THE 22-STEP PROCESS IN THE PRESENCE OF A REGULATORY OR INSTITUTIONAL UNCERTAINTY

BACKGROUND: Two questions are addressed in this revision. One, there is a recognized need for an early judgment of the significance of each uncertainty in order to assess the risk associated with completion of the 22-step process and make appropriate decisions (Reference 1, Question 2). Two, there has been concern that the Center may be perceived to be making decisions regarding the specific uncertainty reduction method to be used (e.g., rulemaking). An approach to uncertainty reduction analysis that would avoid such a perception was proposed in Reference 1, Question 5, with the observation that the solution to Question 2 could be included in that approach. Refinements to that approach were developed in subsequent discussions and communiques (Reference 2, section 5, and reference 3, Discussion Point #4).

RECOMMENDED REVISION:

Include in the detailed Program Architecture Network to be developed and in TOP-001, the following --

When a potential Regulatory Uncertainty is identified, the Center shall implement the following procedure:

1. Assess the attributes of the uncertainty (e.g., Importance, Time constraints, Durability, Impact on Site Characterization),
2. Conduct preliminary rank-ordering of the uncertainty using the NRC-approved general weighting factors,
3. Define the desired outcome of the uncertainty reduction,
4. Identify reasonable alternative methods for achieving that outcome,
5. Summarize the advantages and drawbacks of each alternative method and, considering the nature of the uncertainty and its ranking, select one uncertainty reduction method for recommendation to the NRC. Document the rationale for the recommendation,
6. If the recommended uncertainty reduction method is rulemaking, prepare a draft of the Postulated Uncertainty Reduction Language (PURL) for that lowest-level Regulatory Text in which the potential uncertainty is located [Regulatory Text is defined in TOP-001-02, Attachment A, Field 9, Definition],
7. Forward the products of steps 1 through 6, together with appropriate background material, to the NRC (HLEN, Director, Repository Project Licensing and Quality Assurance Directorate). From the time of receipt by the NRC, allow ten (10) government business days for review and comment. After ten government working days,

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 10

proceed to step 8 based on the Center recommendation of step 5, unless redirected by the NRC.

8. Complete the plan for the conduct of appropriate uncertainty reduction activities (i.e., complete the remaining PA Process steps).

To ensure consistency and a system perspective, the Center WSE&I Manager will be responsible for the performance of steps 1 and 2 above. Steps 3 through 8 are to be performed under the direction of the cognizant Element Manager. Steps 1 through 7 constitute a Decision Point for the purposes of the Center Quality Assurance Manual, Section 19.

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 11

SUBJECT: NRC UNCERTAINTY REDUCTION METHOD**BACKGROUND:****RECOMMENDED REVISION TO TOP-001-02, ATTACHMENT A:**

In Field 39, NRC UNCERTAINTY REDUCTION METHOD,

Definitions -- Add the following:

POSTULATED UNCERTAINTY REDUCTION LANGUAGE is defined as an identification by the analyst of what the rule would be revised to contain if the uncertainty were to be reduced through rulemaking. Thus, POSTULATED UNCERTAINTY REDUCTION LANGUAGE would reflect the difference between what is written in the rule now and what would be there in order to ameliorate the particular REGULATORY, TECHNICAL, or INSTITUTIONAL UNCERTAINTY if the uncertainty were to be ~~reduced~~ through rulemaking.

It should be noted that in postulating the ~~missing~~ ~~revised~~ language, no decision has been made on how to implement the reduction; e.g., rulemaking, technical position, or other NRC regulatory instrument.

Add the following:

Background - The procedure to be followed in uncertainty reduction analysis is detailed in TOP-001, section TBD. That procedure is designed to produce a coordinated judgment of the significance of each uncertainty and of the preferred NRC UNCERTAINTY REDUCTION METHOD. The steps of that procedure relevant to this field of the PADB are numbers 1 through 6 and 8. The assumptions, decision criteria, rationales, recommendations and conclusions of those steps are to be documented as specified under Content below.

Content --

Add the following new sections ("a" through "e") to correspond with steps 1 through 6 of the new uncertainty reduction analysis procedure (the preceding Recommended Revision) and modify the section identifiers of the existing sections accordingly:

- a. **Attributes:** The results of the attributes assessment performed in accordance with [the procedure for this activity developed upon the approval of the process used for the R8 and R9 deliverables].
- b. **Preliminary Rank-Ordering:** The preliminary results using the NRC-approved general weighting factors. The rank-ordering shall be performed in accordance with [the procedure for this activity developed upon the

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 12

- approval of the process used for the R8 and R9 deliverables].
- c. **Uncertainty Reduction Outcome:** Define the desired outcome of the uncertainty reduction in terms related specifically to the subject UNCERTAINTY. The discussion of desired outcome shall be basically a brief expansion of the part of the NRC UNCERTAINTY statement that "... defines what is needed to correct the uncertainty . . . and identifies why the uncertainty needs to be corrected." (see Field 30, Content).
- d. **Alternative Methods:** An identification of the most viable potential methods for reduction of the uncertainty. The discussion of alternative methods shall identify the most credible uncertainty reduction methods (three alternatives are preferred) and list the activities that would be required by each method for the subject UNCERTAINTY. The activities identified are to be of the following type and level -- exploratory discussions; legal or technical research and/or analyses; preparation of a draft MOU, position, guide, rule or other NRC regulatory instrument; coordination and review with the NRC; coordination/review with affected parties and/or the public; preparation, approval and public release of the final NRC regulatory instrument.

Provide the following additional alternative NRC Uncertainty Reduction Method for all Regulatory and Institutional Uncertainties: "If 10 CFR 60 is subject to rulemaking to resolve one or more other Regulatory and/or Institutional Uncertainties, clarification [or definition or ...] of this Uncertainty could be included in that action."

- e. **Recommended Reduction Method:** A summary of the advantages and drawbacks of each alternative method. Considering the nature of the uncertainty and its ranking, identify one uncertainty reduction method for recommendation to the NRC. Document the rationale for the recommendation in this subsection.

In accordance with TOP-001, section TBD, forward the products of subsections a through e, together with appropriate background material, to the NRC (HLEN, Director, Repository Project Licensing and Quality Assurance Directorate). If the Recommended Reduction Method (subsection e) is rulemaking, include in the submittal to the NRC a draft of the POSTULATED UNCERTAINTY REDUCTION LANGUAGE (see subsection m, below). From the time of receipt by the NRC, allow ten (10) government business days for review and comment. After ten government working days, proceed to subsection f based on the Center recommendation of subsection e, unless redirected by the NRC.

3/21/89 RECOMMENDED PA PROCEDURAL REVISIONS Page 13

Existing section "b", new section "f" -- Substitute the following:

Summary of Approach: A summary of the overall approach or strategy to be used for UNCERTAINTY reduction using the NRC-approved method.

Existing section "c", new section "h" -- Substitute the following:

Required Tasks: An abbreviated statement of work; i.e., the tasks ~~presented~~ necessary for reduction of the UNCERTAINTY to an acceptable level. The tasks identified in this section are to be carried to the level necessary to define INFORMATION REQUIREMENTS; i.e., the NRC INFORMATION REQUIREMENTS for Field 42 will be derived from the tasks identified in this section. The tasks in this section are expected to begin with the basic tasks required for uncertainty reduction that are applicable to the selected reduction method. Examples are exploratory discussions; legal or technical research and/or analyses; preparation of a draft MOU, position, guide, rule or other NRC regulatory instrument; coordination and review within the NRC; coordination/review with affected parties and/or the public; preparation, approval and public release of the final NRC regulatory instrument. In addition, this section is to include those tasks at the next lower level, and any unusual tasks at the second lower level that require definition. An example of a task at the "next lower level" would be, "Conduct an investigation to identify candidates for an improved measure of site isolation capability."

Existing section "h", new section "m" -- Substitute the following:

Postulated Uncertainty Reduction Language: This subsection applies ONLY when an INSTITUTIONAL and/or REGULATORY UNCERTAINTY exists that, per NRC direction, may be resolved by rulemaking. In those cases, this subsection shall present the POSTULATED UNCERTAINTY REDUCTION LANGUAGE (PURL) for the REGULATORY REQUIREMENT; i.e., the relevant Regulatory Text as it is presumed to be written after the subject UNCERTAINTY is acceptably reduced. Prepare the PURL for that lowest-level Regulatory Text in which the potential uncertainty is located [Regulatory Text is defined in Field 9, Definition]. In the PURL, wording may be added or modified as necessary to reflect the presumed result of the rulemaking, if that should be the chosen reduction method.

Delete the final paragraph of Field 39, Content (beginning "Contingency, backup or other . . .")

3/21/89

RECOMMENDED PA PROCEDURAL REVISIONS

Page 14

SUBJECT: USE OF THE TERM "FIELDS"

BACKGROUND: For a number of persons associated with Program Architecture and the PA Database (PADB), the use of the term "field" or "fields" appears to have inhibited an understanding of the true structure and operation of the PADB. It seems to have resulted in an association with the structure and operation of a PC spreadsheet rather than that of a relational database. In turn, this has led to misconceptions relative to the flexibility and capabilities of the PADB as evidenced by a significant number of comments concerning the ordering and the permanence of "fields". In fact, while a relational database is less flexible than a PC spreadsheet (in the sense of the ability to change the apparent [displayed] structure), it is far more powerful in operation. This increased power is reflected in several ways including retrieval speed and potential database size. A recognition and understanding by all participants of the basic structure, capabilities and limitations of relational databases will aid immeasurably in communicating and satisfying NRC needs in the PADB.

RECOMMENDED REVISION:

1. Delete the term "field(s)" from the process descriptions and procedures, replacing it with the proper relational database term ["record(s)"] or with the subject title (e.g., Uncertainties), as appropriate.
2. Prepare a one page description, in non-computer-programmer terms, of the basic structure and operation of the PA relational database. Distribute this description to all persons associated with the HLW Management Program within both the NRC and the Center. Insert this same description in TOP-001-02.

ENCLOSURES

- 2 -

ENCLOSURE 2