

FOR ADDRESSEE ONLY

**DRAFT**

Attachment 3

TO: P. M. Altomare

February 24, 1989

FROM: D. T. Romina



SUBJECT: Example of Regulatory Element of Proof and Technical Component of Proof Structure

Attached is an example of the output of the recommended restructured PADE Field 15, formerly entitled "Elements of Proof". For reasons cited in our February 21 submittal, we recommend that this field contain both the Regulatory Elements of Proof and the Technical Components of Proof. Thus, it seems desirable to select a new name for the field. We are suggesting (and have used in the attached example) "Proof of Compliance".

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**CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES  
PROGRAM ARCHITECTURE SUPPORT SYSTEM  
PROOF OF COMPLIANCE LISTING**

**EXAMPLE**

**EXAMPLE**

<b>PROOF OF COMPLIANCE ID:</b>	RR1/PC1	<b>SUBMISSION DATE:</b>	19890222
<b>ANALYST:</b>	Example, P C	<b>REVIEW DATE:</b>	19890222
<b>REVIEWER:</b>	Sample, P C	<b>PARC REVIEW DATE:</b>	19890222
<b>PARC REVIEW STATUS:</b>	OK	<b>QA REVIEW DATE:</b>	19890222
<b>QA REVIEW STATUS:</b>	OK		

**PROOF OF COMPLIANCE  
\*\*\*\*\***

**TOPIC:** IMPORTANT TO SAFETY - NATURAL PHENOMENA AND ENVIRONMENTAL CONDITIONS,, Geologic Repository Operations Area,, Safety functions,, Design of structures, systems and components

**WHEN ACTION REQUIRED:** License Application

**COGNIZANT ELEMENT:** RD Repository Design, Construction and Operation

**PROOF OF COMPLIANCE TEXT (PAPD Steps 3, 5 and 9; Field 15)  
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The following defines what must be proven to demonstrate (a) regulatory compliance and (b) technical adequacy of the evidence offered. Regulatory Elements of Proof are what must be demonstrated to support a conclusion that the Regulatory Requirement has been met. They are directly stated in the requirement. Technical Components of Proof are what must be demonstrated to support a conclusion that the evidence offered as proof of compliance with the Regulatory Requirement is valid and technically adequate. TECHNICAL COMPONENTS OF PROOF DO NOT HAVE THE FORCE OF LAW. Regulatory Elements of Proof are identified below by presentation in all upper-case and by the citation of the parent Regulatory Text(s).

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**DOE SHALL DEMONSTRATE THAT:**

**STRUCTURES, SYSTEMS, AND COMPONENTS IMPORTANT TO SAFETY ARE DESIGNED SO THAT NATURAL PHENOMENA AND ENVIRONMENTAL CONDITIONS ANTICIPATED AT THE GEOLOGIC REPOSITORY OPERATIONS AREA WILL NOT INTERFERE WITH NECESSARY SAFETY FUNCTIONS. 10 CFR 60.131(b)(1)**

**AND**

**1. Natural phenomena anticipated at the geologic repository operations area have been identified and characterized. (Examples: floods,**

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tornadoes, earthquakes, lightning, subsidence, landslides, volcanic activity.) (TECHNICAL COMPONENT OF PROOF)

AND

1.1 Identification of the anticipated natural phenomena was prepared considering site characteristics such as geology, geophysical properties, geochemistry, hydrology (surface and subsurface), climate, and meteorology. (TECHNICAL COMPONENT OF PROOF)

AND

1.2 Each identified anticipated natural phenomena was characterized as to: anticipated variations in values, (temporal, spatial and magnitude); worst case (maximum/minimum) values; knowledge of, and period of time to collect the site history; accuracy of data/measurements; frequency of reoccurrence; duration of phenomena and margins for variations considering inaccuracies in the above information. (TECHNICAL COMPONENT OF PROOF)

AND

2. Natural phenomena that are not anticipated at the geologic repository operations area but that may be remotely plausible have been identified and justification given as to why these natural phenomena are not anticipated. (TECHNICAL COMPONENT OF PROOF)

AND

3. Environmental conditions anticipated at the geologic repository operations area have been identified and characterized. (Examples: temperature, winds, dust, air impurities, humidity, precipitation.) (TECHNICAL COMPONENT OF PROOF)

AND

3.1 Identification of the anticipated environmental conditions was prepared considering site characteristics such as geology, geophysical properties, geochemistry, hydrology (surface and subsurface), climate and meteorology. (TECHNICAL COMPONENT OF PROOF)

AND

3.2 Each identified anticipated environmental condition was characterized as to: anticipated variations in values, (temporal, spatial and magnitude); worst case (maximum/minimum) values; knowledge of, and period of time to collect the site history; accuracy of data/measurements; frequency of reoccurrence; duration of conditions; and margins for variations considering inaccuracies in the above information. (TECHNICAL COMPONENT OF PROOF)

AND

4. Environmental conditions that are not anticipated at the geologic repository operations area but that may be remotely plausible have been identified and justification given as to why these environmental conditions are not anticipated. (TECHNICAL COMPONENT OF PROOF)

AND

[Continued]