

Center for Nuclear Waste Regulatory Analyses

P.O. DRAWER 26510 • 6220 CULEBRA ROAD • SAN ANTONIO, TEXAS, U.S.A. 78226-0510
(512) 522-5160 • FAX (512) 522-5155

October 27, 1989
Contract No. NRC-02-88-005
Account No. 20-3702-031

U.S. NUCLEAR REGULATORY COMMISSION
ATTN: Mr. Phil Altomare
Division of High-Level Waste Management
WF1, Mail Stop 4-H-3
Washington, D.C. 20555

Subject: Lessons Learned in the Initial Implementation of Draft
TOP-001-02, Program Architecture Relational Database Content
and Development Instructions, Revision 1

Dear Mr. Altomare:

Per your request, we are forwarding a brief summary of the lessons learned in preparing the "Baseline" analyses submitted on October 20.

The principal lesson learned can be stated very simply: Our experience has satisfied us that the PA process and the draft procedure do what they were intended to do.

There are a few subsections of the procedure in which clarification or increased emphasis has been found to be desirable. However, the Center has not found anything to date that impacts or would require changes to either the PA process or the substance of the procedure.

A number of issues have arisen relative to the implementation of the procedure. These have been discussed and, in most cases, resolved in our twice-weekly PA Analysts meetings. Where some action outside the meeting was necessary, an action item was assigned and tracked. To date, most implementation issues have been minor. They would generally be categorized as either "Reaffirmation of the Process" or "Refinement of Analysis Techniques". The most significant examples are:

- o It is most efficient for analysts to develop large segments of the so-called "Synopsis", then prepare the input forms with clerical assistance based on that material. As you may recall, the concept of the Synopsis began as the "textual hierarchy" of the Regulatory Elements of Proof. That was expanded to include the Technical Review Components and then the Compliance Determination Methods. The Synopsis has now become the primary working tool of the analyst for the process from Step 2 through part of Step 13. This approach



Washington Office • Crystal Gateway One, Suite 1102 • 1235 Jefferson Davis Hwy. • Arlington, Virginia, 22202-3293

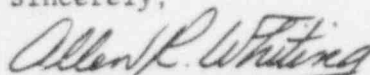
8911080487 GMP

has the added advantage of permitting the analyst to concentrate on the substantive content of the input rather than the form. The Synopsis also provides an excellent facsimile of one potential output of the system.

- o Analyst experience serves to emphasize the importance of the Compliance Determination Strategy. In the absence of an approved strategy, the analyst is forced to assume a strategy in order to bound the analysis. This tends to (1) produce a broad, general definition of the approach and/or (2) limit the Compliance Determination Method development to high-order, largely general methods.
- o "Combination" input forms were developed for the initial analysis of "sets" and individual Regulatory Elements of Proof, Technical Review Components, and Compliance Determination Methods. These avoid a significant amount of duplication of input form information.

Please contact me or Ted Romine if you have any questions regarding this matter.

Sincerely,



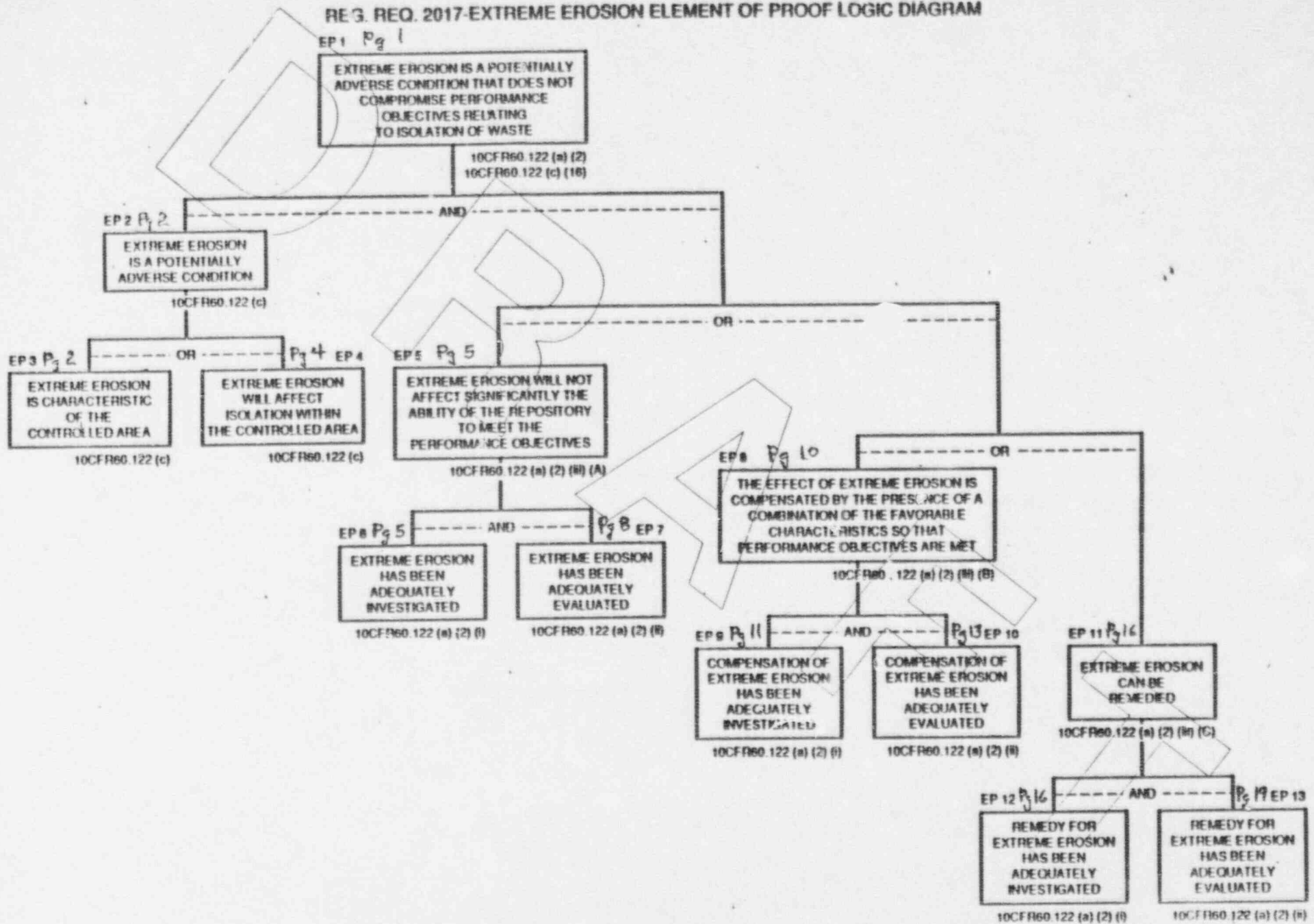
Allen R. Whiting, Director
Systems Engineering and
Integration

cc: J. Funches
S. Fortuna
B. Stiltenspole
M. Mace
J. Latz
Center Directors
Center Element Managers
T. Romine
S. Boyanowski

SUPPLEMENT TO EROSION SYNOPSIS
GUIDE TO CONTENTS

	PAGE
REGULATORY ELEMENTS OF PROOF (REOP) (see also the attached logic diagram)	
REOP1	1
REOP2	2
REOP3	2
REOP4	4
REOP5	5
REOP6	5
REOP7	8
REOP8	10
REOP9	11
REOP10	13
REOP11	16
REOP12	16
REOP13	19
TECHNICAL REVIEW COMPONENTS (TRCs)	(follow REOPs)
NRC COMPLIANCE DETERMINATION METHODS	(follow TRCs)
REGULATORY UNCERTAINTIES (UNs)	22
UNCERTAINTY REDUCTION METHOD	(follow UNs)
COMPLIANCE DETERMINATION STRATEGY	27
INFORMATION REQUIREMENTS (IRs)	28
TABLE - IRs RELATED TO CDMs	32
RELATED ISSUES (RIs)	35
OPEN ITEMS (OIs)	36
RATIONALE AND COMMENTS	A-1

REG. REQ. 2017-EXTREME EROSION ELEMENT OF PROOF LOGIC DIAGRAM



SUPPLEMENT TO THE SUBSTANTIALLY COMPLETE CONTAINMENT SYNOPSIS
GUIDE TO CONTENTS

	PAGE
REGULATORY ELEMENT OF PROOF (REOP) (see also attached logic diagram)	
REOP100	1
REOP200	21
REOP300	32
REOP400	43
REOP500	49
REOP600	54
REOP700	60
REOP800	69
REOP900	70
REOP1000	78
REOP1100	86
REOP1200	93
REOP1300	101
REOP1400	113
REOP1500	115
REOP1600	121
TECHNICAL REVIEW COMPONENTS (TRCs)	(follow REOPs)
COMPLIANCE DETERMINATION METHODS (CDMs)	(follow TRCs)
COMPLIANCE DETERMINATION RATIONALE	(follow CDMs)
INFORMATION REQUIREMENTS (IRs)	(follow CDMs)
REGULATORY UNCERTAINTIES (UNs)	129
(uncertainty 1,2, and composite are the same)	
ALTERNATIVE UNCERTAINTY REDUCTION METHODS	133
ALTERNATIVE INDIVIDUAL PROGRAM	139
RELATED ISSUES (RIs)	144
OPEN ITEMS (OIs)	156
RATIONAL FOR TECHNICAL REVIEW COMPONENTS	A-1

EP000 Pg 1

THE ESB WILL BE DESIGNED SO THAT CONTAINMENT OF HLW WILL BE SUBSTANTIALLY COMPLETE DURING THE PERIOD WHEN CONDITIONS IN THE ESB ARE DOMINATED BY FISSION PRODUCT DECAY

10CFR60.1336(b)(2)(A)

