

CEOG COMBUSTION ENGINEERING OWNERS GROUP

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Arizona Public Service Co. Palo Verde 1, 2, 3	Consumers Energy Co. Palisades	Florida Power & Light Co. St. Lucie 1, 2	Northeast Utilities Service Co. Millstone 2	Southern California Edison SONGS 2,3

April 14, 2000
CEOG-00-101

Project 692
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Subject: Submittal of Revised Wording to Clarify CE NPSD-1157 Revision 1, Joint Application Report Regarding Elimination of PASS Requirements

Reference: R. Phelps (CEOG Chairman) to NRC, CEOG Letter CEOG-00-085, Transmitting CE NPSD-1157 Rev 1, dated March 30, 2000

As a result of recent discussions with the staff, ABB C-E Nuclear Power, Inc. (ABB CENP) has prepared wording changes to clarify the Joint Application Report, CE NPSD-1157 Rev 1, "Technical Justification For The Elimination of the Post-Accident Sampling System from the Plant Design And Licensing Bases for CEOG Utilities". These changes are intended to clarify that the elimination of the Post-Accident Sampling System will not interfere with CEOG licensees' ability to meet Regulatory Guide 1.97 requirements. On behalf of the Combustion Engineering Owners Group (CEOG) the affected pages are attached for your review of subject report. Twelve (12) copies are provided.

The CEOG respectfully requests that the staff continues an expeditious review of the Joint Application Report and completes the safety evaluation so as to support license amendment requests that have been submitted or are forthcoming from CEOG licensees.

ABB CENP and the CEOG utilities are prepared to discuss the proposed changes to the JAR and meet with the staff, if necessary, in order to complete this review. If you have any questions concerning this matter, please do not hesitate to call me at 402-533-7210 or call Gordon Bischoff, CEOG Project Office, at 860-285-5494.

Very truly yours,



Ralph Phelps
Chairman, CE Owners Group

Attachment: As stated

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DO47

6.7 Reactor Coolant Radioisotopes

Purpose:

RCS coolant sampling is required in NUREG-0737 and analogous Category 3 (“backup”) sampling capabilities are recommended in RG. 1.97. In accordance with NUREG-0737, the purpose of sampling the RCS for radioisotopes is to provide information for input to the CDA, to establish reactor coolant activity (without isotopes), and to provide a basis for one of the Alert EALs. The Alert emergency class is typically declared when I^{131} exceeds 300 $\mu\text{Ci/gm}$. Reactor coolant activity measurement (without isotopes) is suggested prior to entry into SDC. RG 1.97 also includes a Category 1 (“primary”) sampling capability for the purpose of detection of fuel damage. This capability may be met by use of the normal sampling systems, letdown radiation monitors and/or containment radiation monitors.

As discussed in the introductory material, reactor coolant may be sampled in the RCS or the containment sump. The following discussion applies to the use of radionuclide samples obtained from either location.

Recommendation: Delete NUREG-0737 and RG 1.97 Category 3 sampling analysis requirements and associated capabilities.

Justification:

The current CEOG Core Damage Assessment Methodology (Reference 16) provides four independent overlapping procedures for estimating the degree of core damage. For the lesser core damage estimates, all four (4) procedures apply including estimating core damage via core exit thermocouple indications, containment hydrogen concentration, containment radiation monitor and radionuclide assessment. Use of the fourth method is intended for the most severely damaged core scenarios and its use provides no useful input for selecting SAMG CHLAs, establishing EALs or formulating PARs.

Coolant Activity Assessment

The EOPs for the LOCA contains a statement regarding RCS activity in the guidance for entry into shutdown cooling. The EPG cautions that the operators should be aware of the coolant activity prior to SDC entry because it represents a potential release path to the environment and may also result in restriction of access to portions of the auxiliary building. Specific direction to analyze for radionuclides is not given. The notation is strictly cautionary in nature and will not impact the function of safety systems. For example, in a large break LOCA, a Recirculation Actuation Signal (RAS) will occur in as little as 20 minutes after the event initiation. The RAS is an automatic function which will circulate water from the containment sump, through the high pressure safety injection and containment spray pumps, the SDC heat exchangers, and back into containment. This is a design basis event which is not impacted by the coolant activity levels. In the case of an event in which a lesser amount of core damage occurs, the SDC entry procedure will provide guidance to ensure that precautionary measures are taken prior to initiating SDC flow. These precautionary measures may be conservatively made in the absence of a coolant radioisotopic analysis.

Core Damage Assessment

RCS liquid radioisotopes samples in Core Damage Assessments are primarily and formally used in one of the four core damage assessment protocols developed in Reference 16. For badly damaged core conditions there is little value for this assessment. Since significant core uncover has occurred the significant quantities of radioisotopes would have left the RCS or would have plated out in regions away

Table 7-1: CEOG Recommendations Regarding PASS Elimination

No.	Item	Accident Mitigation or Emergency Programs, where Sample is Referenced	Recommendation	Basis	Utility Action
					accident management or emergency planning program.
7	Reactor Coolant Radioisotopes	Emergency Planning: used in CDA, and EAL (ALERT declaration)	<ul style="list-style-type: none"> Delete requirement of NUREG-0737 & associated RG 1.97 recommendation for sampling of Category 3 ("backup") variables. 	<ul style="list-style-type: none"> Requirement of NUREG 0737 and RG 1.97 Included in CDA to define low end of a damaged core (< 5% fuel failure) Low level CDA assessments have minimal impact on public risk. Emergency class declaration may be established via alternatives <ul style="list-style-type: none"> - Event based declarations - Use of failed fuel monitors, NSS - ICC monitors, alternate dose assessment CDA may be established via failed fuel monitors, letdown radiation monitor or NSS. 	<ul style="list-style-type: none"> Establish non-PASS method for addressing EAL associated with DNB/reactivity addition transients. CDA procedures should allow bounding estimates until a clad failure assessment may be made using existing non-PASS systems. Alternative methods may also be used (See for example 5.1.4). For low level sample capability of NSS; capability will be defined and may be extended.
8	Containment Hydrogen	EOPs – H ₂ recombiner startup Containment Purge SAMGs, ERDS	<ul style="list-style-type: none"> Delete from PASS, but retain functional requirement for use during severe accidents (SAMGs) 	<ul style="list-style-type: none"> Containment hydrogen concentration containment supports <ul style="list-style-type: none"> - CDA (for most utilities) - Containment challenge assessment and, - Limited CHLA strategies Relief granted via CEN-415-P 	<ul style="list-style-type: none"> None for utilities that use Class 1E H₂ monitors to fulfill this function. For other utilities, when needed, H₂ monitoring may be performed by Class 1E monitors.
9	Containment Oxygen Sample	None	<ul style="list-style-type: none"> Delete requirement 	<ul style="list-style-type: none"> Measurement does not support any accident management or emergency planning function. 	<ul style="list-style-type: none"> Applies only to PVNGS, delete upon approval of request.