

MAY 24 1994

MEMORANDUM FOR: Richard J. Barrett, Chief
Containment Systems and Severe
Accident Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

FROM: Farouk Eltawila, Chief
Accident Evaluation Branch
Division of Systems Research
Office of Nuclear Regulatory Research

SUBJECT: QUESTIONNAIRE ON CONTAINMENT LEAKTIGHTNESS AND BYPASS

The attached questionnaire was sent to Dr. Tim Lee (RPSB/DSR) by Mr. Fernando Robledo of Consejo de Seguridad Nuclear (CSN) of Spain, in preparation for a related document by the CSNI Task Group on Containment Aspects of Severe Accident Management (CAM). Since AEB/DSR has recently assumed the responsibility to handle participation to CAM, I will be coordinating the response to the questionnaire. Therefore, I would appreciate receiving the NRR response by June 23, 1994.

Sincerely,

[Handwritten Signature]
Farouk Eltawila, Chief
Accident Evaluation Branch
Division of Systems Research
Office of Nuclear Regulatory Research

Attachment:
As stated

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PDR	<input checked="" type="radio"/>	N

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Tinkler, Eltawila, King, Hodge

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PORTADA DE MENSAJE POR TELECOPIADORA

DATE: April 21th 1994

(TO) Dr. Tim Lee
(USNRC/RES)

(FROM)
DE: Fernando Robledo
CONSEJO DE SEGURIDAD NUCLEAR
Justo Dorado, 11
28040 Madrid.- (ESPAÑA)

NÚM. DE HOJAS: 8
(Incluyendo portada)

NOTA: SI EXISTE ALGÚN ERROR EN EL MENSAJE,
LLAMEN AL TELÉFONO: 91-346.01.00



Consejo de Seguridad Nuclear

*Justo Dorado, 11
280140 Madrid*

Madrid, April 21st, 1994

Dr. Tim Lee
(USNRS/RES)

Dear Dr. Lee,

The Task Group on Containment Aspects of Severe Accident Management (CAM) held the seventh meeting in Paris on 18th and 19th January 1994. As the summary record states, Section VIII of the document NEA/SEN/SIN/WG4(94)4, I would prepare a paper on "Containment Leaktightness and Bypass".

The enclosed questionnaire would provide me very useful information for the paper. I should be very grateful if you could send me the responses before, June 30.

Best regards,

QUESTIONNAIRE ON "CONTAINMENT LEAKTIGHTNESS AND BYPASS"

As it was accorded during the last CAM meeting held in Paris on 18th and 19th January 1994, I would provide to Secretary with an extended paper on containment leaktightness and bypass.

The following questions would provide me very important and helpful information for this paper.

1.- DATA ON TEST PRESSURE FREQUENCY.

A) On the integrated leakage Rate Test (ILRT)

- 1°) Test pressure
- 2°) Frequency

B) On the Local Leakage Rate Tests (LLRT)

The questions lie on table I.

2.- OPERATIONAL EXPERIENCE.

A) ILRT.

It would be very helpful to have information on failures of ILRT due to excessive leakage from the containmet isolation devices. The helpful information would be:

- 1°) Plant.
- 2°) Type of Containmet.
- 3°) Date of ILRT.
- 4°) Type of failure.
- 5°) Corrective measures.

B) LLRT.

It would be very helpful to have information on excessive leakage rate in containment isolation devices. The helpful information would be:

1°) Type of containment isolation devices.

2°) Type of failure.

3°) Corrective measures.

- DETECTION METHODS.

1°) Are there in the nuclear power plants of your country, procedures to detect and later, to plug, unacceptable leakage from the containment isolation devices following an accident?

2°) In affirmative case for 1°). ¿Could you provide some description on these procedures?.

- RELIABILITY OF CONTAINMENT ISOLATION DEVICES.

1°) Has it been calculated valve to close if a containment isolation the probability of failure of a containment isolation signal occurs? In affirmative case, please indicate the failure probability.

2°) Some containment isolation devices only can be closed local and manually therefore some potential exist to leave these device unintentionally opened with the subsequent containment impairment.

It would be helpful to have information about whether these kind of incidents have occurred in your country.

- V SEQUENCES AND SEVERE ACCIDENTS INDUCED BY A STEAM GENERATOR TUBE RUPTURE.

It Should be helpful to know the contribution of these sequences to the core damage frequency.

1°) Plant.

2°) Probability.

3°) Percentage of the core damage frequency.

- CAPABILITY OF THE CONTAINMENT ISOLATION DEVICES
AGAINST SEVERE ACCIDENT LOADS.

The main information for this issue come from experiments. The following questions focuses on the results of the reserach programs applied to containment isolation devices.

1°) Containment Isolation Devices Tested.

2°) Characteristics of the test:

- a) Pressure profile.
- b) Temperature profile.
- c) Deformation loads.
- d) Others.

3°) Brief test results decription.

Table I (1/3)
Questions on LLRT.

Type of containment isolation devices	Are leak tested ?	Test pressure	Frequency
Equipment hatch ----- overall			
Door seals			
Electrical penetrations			
Mechanical penetrations			
Other			

Table I (2/3)
 Questions on LLRT.

Type of containment isolation devices	Are leak tested ?	Test pressure	Frequency
Personnal airlocks ----- overall			
Door seals			
Electrical penetrations			
Mechanical penetrations			
Other			
Electrical penetrations			
Containment isolation valves (1)			
Blind flanges			

Table I (3/3)
 Questions on LLRT.

(1) Because of not all the containment isolation valves are leak tested, for example the containment isolation valves belonging to the secondary system in PWR, below are described some of this containment isolation valves.

Containment isolation valves	Leak Tested	
	Yes	No
Containment ventilation valves		
Vacuum relief valves		
MSIV in BWR		
Feedwater lines in BWR.		
Other lines: Service air, demineralized water, etc.		