

DISP / SER  
PETRANGELI

# COMITATO NAZIONALE PER L'ENERGIA NUCLEARE

TELEGRAMMA - TELEX - FONOGRAMMA (\*)

*World like these  
entered into our  
records.*

Posiz. SC

Destinatario: M. SILBERBERG

NRC - WASHINGTON D.C. - USA

Mittente: DISP/SER

(TELEX 7108240412)

4513

TESTO: Prot. n.

IN COMPLIANCE WITH DEAD LINE FEB. 3RD I AM SUBMITTING YOU SOME WRITTEN COMMENTS ON NUREG 0956 DRAFT. THEY ARE STILL TO BE CONSIDERED AS QUICK REACTIONS TO DRAFT AND MEETING.

THE DRAFT REPORT IS CONSIDERED BY ME AND BY COLLEAGUES AT DISP A REMARKABLE ADVANCEMENT IN EVALUATION TECHNIQUES AND DATA. IT IS VERY USEFUL TO US ALSO AS IT IS NOW AS A REFERENCE TECHNICAL DOCUMENT.

HOWEVER IT IS MY IMPRESSION THAT SOME REFINEMENT AND SUPPLEMENT COULD IN A SHORT TIME BRING IT TO THE LEVEL AND IMPORTANCE OF AN UPTODATED BEST ESTIMATE SOURCE TERM EVALUATION FOR A TYPICAL PWR. FOLLOWING COMMENTS ARE AN ATTEMPT TO GIVE A CONSTRUCTIVE CONTRIBUTION TO THIS END.

IN THE FUTURE, WITH INCREASING AVAILABILITY OF EXPERIMENTAL AND ANALYTICAL DATA, UNCERTAINTY MARGINS COULD ALSO BE DEFINED IN ORDER TO GIVE TO THE RESULTS WIDER MEANING AND APPLICABILITY (GENERALIZED SOURCE TERM DEFINITION).

8508150159 850710  
PDR FOIA  
SHOLLY85-447 PDR

Nel caso di motivi personali compilare quanto segue:

TIPO SK	MATRICOLA	CODICE	DESCRIZIONE	IMPORTO	TOTALE	MESE
61		303	TELEGRAMMI PERSONALI			
1 2	3 7	8 10	11 30	43 48	43 48	79 80

DA COMPILARE SOLO PER TELEGRAMMI PERSONALI

Trasmesso da:

11. 92

Preparata da:

CSI / SER

# COMITATO NAZIONALE PER L'ENERGIA NUCLEARE

TELEGRAMMA - TELEX - FONOGRAMMA (\*)

Posiz. ....

Destinatario: .....

Mittente:

*Retention in RPS  
Deposition in Buildings } best estimate  
Presence of water  
Containment failure } conservative*

TESTO: Prot. n.

*a consist of  
one portions  
re best  
estimate; others  
re conservative*

FOUR ITEMS ARE GENERALLY ADVOCATED AS LEADING TO LOWER AND MORE REALISTIC RELEASES THAN WASH 1400 ONES: RETENTION IN RPS; DEPOSITION IN CONTAINMENT AND IN OTHER BUILDINGS; PRESENCE OF WATER (IN PIPES, TANKS, PONDS, ATMOSPHERE); TIME AND MODE OF CONTAINMENT FAILURE. IT SEEMS TO ME THAT THE FIRST TWO ITEMS HAVE BEEN DEALT WITH IN THE DRAFT USING A "BEST ESTIMATE" APPROACH WHILE THE LAST TWO (WATER AND CONTAINMENT FAILURE) ARE APPROACHED WITH A "CONSERVATIVE" ATTITUDE.

*Might want  
to highlight  
this*

IT SEEMS TO ME THAT, IN ORDER TO COMPLY WITH THE "BEST ESTIMATE" GENERAL CHARTER OF THE REPORT, "MOST LIKELY" OR "MEDIAN PROBABILITY" PLANT EVENTS SHOULD BE ASSUMED INSTEAD OF "WORST RESPONSE" EVENTS, AT ANY DECISION STEP WITHIN EACH SEQUENCE. THE INITIAL DECISION OF REFERRING TO WASH 1400 DOMINANT SEQUENCES DEFINES THE GENERAL PROBABILITY LEVEL (I. E. THE DEGREE OF CONSERVATISM) AT WHICH THE "BEST ESTIMATE" SOURCE TERM IS BEING, BY CHOICE, EVALUATED. (IN THIS RESPECT, HOWEVER, THE INCLUSION OF

AB SEEMS OVERLY CONSERVATIVE DUE TO ITS VERY LOW PROBABILITY).

Nel caso di motivi personali compilare quanto segue:

TIPO SK	TRICOLA	CODICE	DESCRIZIONE	IMPORTO	TOTALE	MESE
61		303	TELEGRAMMI PERSONALI			
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DA COMPILARE SOLO PER TELEGRAMMI PERSONALI

Trasmesso da:



# COMITATO NAZIONALE PER L'ENERGIA NUCLEARE

TELEGRAMMA - TELEX - FONOGRAMMA (\*)

Posiz. ....

Destinatario: .....

Mittente:

TESTO: Prot. n.

THEREFORE THERE IS NO NEED TO CHOOSE ADDITIONAL CONSERVATIVE ASSUMPTIONS ON PLANT BEHAVIOUR IN THE DETAILED STUDY OF THE CONSEQUENCES OF EACH SEQUENCE. THIS SUBJECT MIGHT REQUIRE A CLARIFICATION OF MANDATE ON YOUR PART.

AS AN EXAMPLE, IN TMLB, THE BEST ESTIMATE APPROACH SUGGEST THE ASSUMPTION THAT PUMP SEALS FAIL WITHIN MINUTES AFTER LOSS OF ELECTRIC POWER IN MOST PWRs (BUT I DONT KNOW THE DETAILS OF SURRY SEALS).

THIS ASSUMPTION, NOT EXPLORED IN THE DRAFT REPORT, MIGHT TEND TO ATTENUATE THE CALCULATED CONSEQUENCES.

THIS "BEST ESTIMATE" ASSUMPTION SEEMS TO HAVE THE SAME BASIS AS THE ASSUMING, IN AN INTERFACE V LOCA, THAT THE LOW PRESSURE SYSTEM BREAKS WHEN PUMP IN COMMUNICATION WITH THE HIGH PRESSURE SYSTEM, BECAUSE IT IS NOT DESIGNED FOR SUCH A PRESSURE.

IN GENERAL TERMS, IT SEEMS TOME THAT WE SHOULD NOT REFUSE TO TRY TO IMPROVE SEQUENCE EVALUATIONS OVER WASH 1400 ONES, GIVEN THE

ADDITIONAL EXPERIENCE AND THOUGHT NOW AVAILABLE.

Nel caso di motivi personali compilare quanto segue:

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61		303	TELEGRAMMI PERSONALI			
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DA COMPILARE SOLO PER TELEGRAMMI PERSONALI

Trasmesso da:



# COMITATO NAZIONALE PER L'ENERGIA NUCLEARE

TELEGRAMMA - TELEX - FONOGRAMMA (\*)

Posiz. ....

Destinatario: .....

Mittente:

TESTO: Prot. n.

IN THIS EFFORT, IT WOULD PERHAPS BE USEFUL TO MAKE AVAILABLE, TO THE REPORT DRAFTING ACTIVITY, THE SUPPORT OF PEOPLE INVOLVED IN STUDIES ON CONTAINMENT RESPONSE UNDER SEVERE ACCIDENT CONDITIONS (NRC RESEARCH PROGRAMS; ZION AND I P ANALYSIS) AND ON PLANT SYSTEMS BEHAVIOUR IN DEGRADED SITUATIONS (BEST ESTIMATE OF WATER INVENTORY AND LOCATION; STRUCTURAL LIMITS OF PLANT COMPONENTS).

IN PARTICULAR, CRITICAL SEQUENCES SUGGESTED ITEMS FOR FURTHER WORK (IN BRACKETS) MIGHT BE: AB BETA AND V (AEROSOL DEPOSITION IN AUXILIARY BUILDING, SEE HOSEMAN KFK REPORT GAITHERSBURG 1982; AB NOT A RISK DOMINANT SEQUENCE; RISK DOMINANT CHARACTER OF V SEQUENCE BEING SPECIFIC TO SURRY 1 PLANT AND NOT A GENERAL PWR FEATURE) AND TMLB GAMMA (CONTAINMENT RESISTENCE TO PRESSURE SPIKE POSSIBLY AIDED BY FAILURE OF PUMP SEALS).

IT SEEMS AT FIRST GLANCE, BUT I MAY BE WRONG, THAT WORK IN THESE AREAS AND ALONG THESE LINES MIGHT BRING ABOUT A FACTOR OF TEN TO ONE HUNDRED IN THE OVERALL CALCULATED SOURCE TERM.

Nel caso di motivi personali compilare quanto segue:

TIPO SK	MATRICOLA	CODICE	DESCRIZIONE	IMPORTO	TOTALE	MESE
6.1		303	TELEGRAMMI PERSONALI			
1 2	3 7	8 10	11 30	43 48	43 48	79 80

DA COMPILARE SOLO PER TELEGRAMMI PERSONALI

Trasmesso da:



# CÒMITATO NAZIONALE PER L'ENERGIA NUCLEARE

TELEGRAMMA - TELEX - FONOGRAMMA (\*)

Posiz. ....

Destinatario: .....

Mittente :

TESTO : Prot. n.

I SHALL SEND YOU BY MAIL MY INFORMATION MATERIAL ON PUMP SEAL FAILURE, SHOULD IT BE OF SOME USE.

I SEND YOU MY BEST REGARDS AND I THANK YOU AGAIN FOR YOUR INVITATION IN THE PEER REVIEW MEETING. PLEASE, LET ME KNOW IF I CAN BE OF OF SOME HELP IN THE WORK. YOURS

PETRANGELI

ENEA-DISP-ROMA

Nel caso di motivi personali compilare quanto segue :

TIPO SK	MATRICOLA	CODICE	DESCRIZIONE	IMPORTO	TOTALE	MESE
61		303	TELEGRAMMI PERSONALI			
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DA COMPILARE SOLO PER TELEGRAMMI PERSONALI

Trasmesso da :



## Benton City Technology

ROUTE 1, BOX 46 A, HALFWAY, OREGON 97834  
503-742-7033

ARLIN K. POSTMA, PhD, ChE

March 4, 1985

BCT-LR-85-1

Ms. Jocelyn Mitchell  
U.S. Nuclear Regulatory Commission  
Washington D.C. 20555

Dear Jocelyn:

Attached is a brief write up entitled "Discussion of Organic Iodide Formation Under Severe Accident Conditions". This information documents the views stated in our recent telephone conversations.

As expressed earlier, I conclude that a best estimate conversion factor for organic iodides is in the neighborhood of 0.5%. This number derives from the Reactor Safety Study, and is based on a realistic evaluation of all available data.

As noted in the following discussion it might be worthwhile to look again in detail at organic formation to determine if information published during the past 13 years would change our perspective.

Please get in touch if you wish to discuss any of the information reported herein.

Very truly yours,

Arlin K. Postma

CC: G.R. Hulman

*Handwritten:* JLP  
8508130633

*Handwritten:* K