DS09
Add. C. Ryder → Dr. D. Ross RES S

OCDE
ORGANISATION DE COOPÉRATION ET DE DÉVELOPPEMENT ÉCONOMIQUES

OECD
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

AGENCE POUR L'ÉNERGIE NUCLÉAIRE/NUCLEAR ENERGY AGENCY
38, boulevard Suchet
75016 PARIS
Tél. 45 24 82 00

March 13, 1987
52 FR 7950

EN/S/2081

Paris, 14th October 1987

(44)

To: CSNI Principal Working Group No. 5: Risk Assessment
NUREG-1150

The attached letter has been received from Mr. Zaffiro and is distributed to PWG 5 for information.

Yours sincerely,

John Caisley
Nuclear Safety Division

Encl.

1/1

letter sent 11/4/87

Ref. Your telex of Sept. 24, 1987

Subject: Comment on NUREG 1100 given at the last PWG5 meeting.

I would like to make some comments on NUREG 1150 to be seen, however, in the light of the current Italian approach to nuclear safety and severe accident management. These comments have been made on the basis of the first reaction to the reading of the main report and are focused on some aspects of the uncertainty analysis in view of practical applications of the analysis results.

The major impression I had from the reading is that additional safety improvements are not really warranted on a rational basis supported by NUREG 1150. This is enhanced if the improvements are aimed at mitigating the severe accidents. In fact NUREG 1150 shows that the risks are always dominated by the early containment failure events. These are those which include the most uncertain phenomena. Divergent opinions by different experts have been used in the containment event trees for making probabilistic estimates and so a large variability is obtained in the analysis results. I think that in this framework it is not possible to assess the benfits of some improving features, like the containment venting, the enlargement of the reactor cavity covered by refractory bricks, the use of in plant emergency procedures. These are ineffective for the early containment failures and their efficacy might be practically hidden by the presence of uncertainties in the analysis results.

On the other hand if an agreement could be found among the experts in order to consider these catastrophic events very improbable, so to exclude them from the analysis, the risk would remain subjected to the events in

.../...

which large releases are caused by the presence of defects or malfunctions in the containment isolation system or by the containment rupture for overpressure in the long term.

In this less uncertain scenario additional improvements could be better evaluated in view of providing support to safety decisions. The analysis however would require to model the operator actions to recover the plant safety functions and above all they would need better probability values of the pre-existing openings with respected to the rough ones used in NUREG 1150.

Best regards

Carlo Baffino