

Request for Additional Information No. 40, Revision 0

8/04/2008

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.01 - Containment Functional Design
Application Section: 6.2.1.1.3 "Design Evaluation"
SPCV Branch

QUESTIONS

06.02.01-11

**Information needed for NRC staff to develop confirmatory analysis:
(Relate to SRP Section 6.2.1.1A)**

The staff finds the information provided in response to RAI 6.2.1-07 to be helpful, but additional descriptions are needed for the staff to develop a multi-noded confirmatory containment model for the US-EPR containment building. Please provide the following information:

1. Floor area (or total volume) of containment sub-compartments:

Although containment sub-compartment descriptions are provided in the response to RAI 6.2.1-07 in Table 6.2.1-07-2, the floor area of each room cannot be calculated reliably from the Table data, because the free volumes (not total volumes) are given, and the free volumes may differ from the room total volumes. This heat transfer area is important for understanding the heat transfer for the horizontal surfaces in the containment.

Please provide the floor area for each room in table 6.2.1-07-2.

2. Location of passive heat sinks:

The passive heat sinks (heat structures) of US-EPR are provided in FSAR Table 6.2.1-5. Description of location of the heat structures is quite general in the Table, and hence, it is very difficult to understand the exact location of each structure in the reactor containment building.

Please provide the exact location of the structures (e.g. room names where each structure is located).

3. Internal heat loads:

Provide the heat loads from all equipment which would be operating within the containment following a major piping break and provide the room name where the heat load would be released.

4. Total area and opening criteria of rupture and convection foils, and mixing dampers:

Dimensions of rupture and convection foils are provided in the response to RAI 6.2.1-07 in Table 6.2.1-07-1. What is the meaning of column "Type?" What is the total flow area of rupture foils alone? What is the total flow area of convection foils alone? What is the total flow area of the mixing dampers? What is the time delay (if it exists) for opening of mixing dampers after the opening signal is reached? What are the blind sheets listed in Table 6.2.1-07-1? Describe their function.

5. Total loss coefficient of vent paths:

The vent paths connecting the reactor building rooms are identified in RAI 6.2.1-07 in Table 6.2.1-07-03. Please provide the total flow loss coefficient for each of the flow paths and describe how the loss coefficients were derived.