DAVIS BESSE - DUAL CONTAINMENT EVALUATION

1. (Sections 6.2.1 and 6.2.3)

   Identify any leakage paths which could bypass the volumes treated by the Emergency Ventilation System following a design basis loss of coolant accident. Consider isolation valve leakage and leakage through guard pipe welds. Indicate where lines which could be open to containment atmosphere following a LOCA terminate assuming a concurrent seismic event. List the specific leakage paths identified and the Technical Specification commitment you are able to meet for each path. Provide the total leakage specification for leakage to untreated areas. This Technical Specification must be met assuming a single active failure.

2. Describe in detail the tests, and their sensitivity, which will be performed to determine the ability of the EVS to pull down the annulus to negative pressure and maintain it at a maximum pressure of -0.25 inch water gage at all points within the boundaries treated by the EVS.

6.2.3 (Filters)

Analyze each engineered safety feature air filtration system (Control Room, Fuel Handling Building, Annulus Ventilation Filtration System) as to the positions in Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants."

DAVIS BESSE - CONTAINMENT SPRAY EVALUATION

The following information is required for iodine removal credit for containment spray in accident computations. The required information corresponds to Sections 6.2.3 and 15.1.x.2 of the Standard Format and Content of Safety Analysis reports for Nuclear Power Plants, Rev. 1, 1972.

A. Chapter 6

6.2.3 Containment Air Purification and Cleanup Systems: Description of the iodine removal function of the Containment Spray System.

6.2.3.1 Design Basis (for iodine remval function)

6.2.3.2 System Design (as affected by iodine removal function). Description of systems and components employed to carry out the containment cleanup function of the spray system, including the method of additive injection (if any) and delivery to the containment. Detailed information should be provided in this section concerning:

- Methods and equipment used to insure adequate delivery and mixing of the spray additive (where applicable).
- Source of water supply during all phases of spray system operation.
- Spray header design, including the number of nozzles per header, nozzle spacing and orientation (a plan view of the spray headers, showing nozzle location and orientation should be included.)
- Spray nozzle design, including the drop size spectrum produced by the nozzle. Source of the data method of measurement and expected accuracy should be discussed.

A description of the operating modes of the system should be given including the time of system initiation, time of first delivery through the nozzles, length of injection period, time of initiation of recirculation, and length of recirculation operation. Flow rates should be supplied for each period of operation, assuming minimum and maximum spray operation coincident with minimum and maximum safety injection flow rates.

6.2.3.3 Design Evaluation

Evaluation of iodine removal function of the containment spray system. The system should be evaluated for fully effective and minimum safeguards operation. In this section, specific attention would be given to the evaluation of the effects of spray solution chemistry, spray and sump pH, drop size spectrum. drop coalescence, steam condensation, drop saturation, iodine partition coefficient, containment coverage unsrpayed volumes, wall effects, and mixing in the sump.

6.2.3.4 Tests and Inspections

Description of provisions made for testing all essential functions required for the iodine removal effectiveness of the system. Where appropriate, reference may be made to Section 6.2.2.4, in order to avoid duplication.

6.2.3.5 Instrumentation Requirements

Description of any additional instrumentation of the spray required for actuation and monitoring of the iodine removal function of the system.

6.2.3.6 Materials

Discuss the chemical composition, susceptability to radiolytic or other decomposition, corrosion properties, etc. of the spray additive (if any), the spray solution, and the containment sump solution.

B. Chapter 15

15.1.X.2 1. Estimated course of events, as related to actuation of the containment clean-up function of the spray system.

2. Mathematical model employed to perform the analysis of iodine removal by spray, (unless this model is described in Chapter 6) and the model used to calculate the reduced doses with the spray system in operation. All assumptions made in this calculation should be specified. (e.g., if it is assumed that all fission products are uniformly distributed throughout the containment, or that the spray removal function is effective throughout the containment volume, or that the removal effectiveness is constant for a period of time, these assumptions should be stated.)

3. Identification of any computer programs used in the analysis.

4b. Fission product concentrations in the containment atmosphere and the sump solution (as a function of time) used in the spray iodine removal analysis, particularly their effect on the iodine partition coefficient.

7. Justification of assumptions used, with reference to experimental data.

8. System interdependency, particularly the interdependency of containment spray and other engineered safety systems, such as filtration systems, secondary containment systems, ice condenser iodine removal, etc. on the dose reduction factor claimed for each system.

9. Results of analysis of iodine removal by sprays, and the margin of protection provided.

DAVIS BESSE - CONTROL ROOM EVALUATION

Section 9.4.1.3 In the isolated mode, estimate the infiltration rate into the control room assuming 1/8"Wg pressure differential across all leak paths and the maximum operation pressure differential across dampers upstream of active fans. Substantiate the leak rate by providing experimental and manufacturers data.

Section 15.14.8.2 Item b-1 indicates only a continuous chlorine release was assumed. Assume a failure which results in an instantaneous release of 25% of the chlorine with subsequent boil-off of the balance of the chlorine. Infiltration into the control room should be taken into account in the computation..

Sections 15.4.1.2.2(b) Confirm the accuracy of the 10,960 CFM flow rate
Section 15.4.6.4(d) given in these assumptions.

Section 15.4.6.4(f) A control room inleakage of 1 CFM during isolation is unrealistic. (See comment on Section 9.4.1.3 requiring an infiltration analysis). Recalculate the control room operator doses based on (1) a 25 CFM and (2) a 100 CFM infiltration rate assumption.