



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20566

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REGARDING POST-ACCIDENT SAMPLING SYSTEM ROOM VENTILATION

GEORGIA POWER COMPANY, ET AL.

HATCH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-321 AND 50-366

1.0 INTRODUCTION

Georgia Power Company, et al. (the licensee), identified a scenario in which a Unit 1 Post Accident Sampling System (PASS) sample line experiences a leak or break in the Unit 2 reactor building, where the PASS for both units is located. The licensee had postulated that Unit 2 was in a refueling outage and that secondary containment was not being maintained. Further, a core damage accident was postulated to occur at Unit 1, which necessitated a sample using the PASS. The purpose of this evaluation is to assess the continued acceptability of the as-installed PASS at the Hatch facility.

2.0 EVALUATION

During most plant conditions the PASS, which is physically located in an extension of the Unit 2 reactor building, forms part of the Unit 2 secondary containment.

Should an accident occur in Unit 1 without secondary containment being established at Unit 2, a situation may arise in which a potentially high activity leak could occur from Unit 2 due to an inability to isolate a broken sample line from Unit 1.

By letter dated October 18, 1990, the licensee described the basic sequence of events which had been hypothesized to occur. In this letter, the licensee discussed the extremely low probability of a sequence of events occurring which would result in the leakage of reactor coolant from Unit 1 via the Unit 2 PASS. In this submittal, the licensee noted that the chance of an unfiltered group level release through a sample line was estimated to be about 1.0×10^{-8} to 1.0×10^{-9} per year for the postulated scenario. As the licensee notes, this is well below the safety goal of about 10^{-6} per year.

The licensee described the construction requirements of the PASS (ASME Class 1 and 2, and ANSI B31.1) as well as some of the features of the PASS designed to limit potential leakage from a failed sample line. For example, the licensee noted the small (3/8 inch diameter) tubing size used to minimize the volume of fluid being removed from containment and the use of an excess flow check valve to limit the reactor coolant loss from a ruptured sample line.

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As noted in the October 18, 1990 submittal, the licensee will modify its procedures governing post accident sampling to require closing of major Unit 2 reactor building doors, hatches, etc., prior to taking a sample, thereby increasing the effectiveness of building ventilation systems in mitigating release from the postulated sample line failure.

3.0 CONCLUSION

Based on its review, the staff finds that the features of the post accident sampling system at Hatch remain acceptable. This conclusion is based on the extremely low probability of the postulated sample line failure occurring together with the procedural changes to be undertaken by the licensee with respect to closing of doors, hatches, etc., in the Unit 2 reactor building should it be necessary to draw a post-accident sample.

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