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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
REQUEST FOR ADDITIONAL INFORMATION ON
GENERIC LETTER 88-01/NUREG-0313, REVISION 2

Gentlemen:

By letter (SL-4489) dated June 30, 1988, Georgia Power Company (GPC) submitted its response to Generic Letter 88-01/NUREG-0313, Revision 2 for Plant Hatch. By letter dated September 1, 1988, the NRC transmitted to GPC a request for additional information (RFAI) relative to the June 30 letter. GPC's response to these questions is contained in the enclosure. Also, a phone conversation was held between NRC Staff and GPC personnel on October 11, 1988 to discuss the RFAI. Responses to staff inquiries are also included in the enclosure.

If you have questions, or require additional information on this subject, please contact this office at any time.

Sincerely,

W. G. Hairston, III

GKM/ac

Enclosure: Response To Request for Additional Information (RFAI)

c: (See next page.)

A001
1/1

c: Georgia Power Company
Mr. H. C. Nix, General Manager - Hatch
Mr. L. T. Gucwa, Manager Licensing and Engineering - Hatch
GO-NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. L. P. Crocker, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Dr. J. N. Grace, Regional Administrator
Mr. J. E. Menning, Senior Resident Inspector - Hatch

Georgia Power

ENCLOSURE

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (RFAI)
GENERIC LETTER 88-01/NUREG 0313, REVISION 2

The following is Georgia Power Company's (GPC's) response to the NRC RFAI dated September 1, 1988.

NRC Question

Provide justification for the classification of Category A welds in the submittal in Sections C and D.

GPC Response

Category A welds are defined by NUREG 0313, Rev. 2 as those welds composed of intergranular stress corrosion crack (IGSCC)-resistant material. Materials considered resistant are deliniated in section 2.1.1 of NUREG 0313, Rev. 2 and include, (1) low carbon wrought stainless steel (including 316 nuclear grade and simliar low carbon grades with a maximum carbon content of 0.035%), and (2) austenitic stainless steel which is given a solution heat treatment after welding.

a) The 162 Category A welds in Unit 1 include 160 welds which are long-seam austenitic stainless steel welds made in the shop and solution heat treated. The remaining two welds are in the reactor water cleanup (RWCU) system within the containment penetration and are composed of low carbon grade steel (less than 0.035%). According these welds are considered resistant.

b) The 222 Category A welds in Unit 2 are on replacement pipe classified as 316 nuclear grade, and/or are long-seam, austenitic stainless steel solution heat-treated shop welds, and are therefore considered resistant.

NRC Question

Provide a justification for not identifying any Category G welds in Sections C and D.

GPC Response

Category G welds are defined as non-resistant, not inspected welds. In the past, GPC has classifed welds as Category G at Plant Hatch; however, at present, all welds have been inspected and upgraded to the appropriate category. The welds listed in GPC's June 30 submittal did not include the Units 1 and 2 RWCU welds outside the outboard isolation valves. These welds were not included, because relief was requested on the inspection of these welds. (See Item B of GPC letter SL-4489 dated June 30, 1988.) Welds outside the second isolation valve were specifically excluded in Generic Letter 84-11, and GPC and industry comments took exception to the scope statement as contained in the draft of NUREG 0313,

Revision 2. If GPC's relief request is not granted, approximately 130 RWCU welds outside the scope of the Section XI program (and, therefore, not included the Section XI repair/replace program) would be Category G.

NRC Question

Provide a description of the accuracy of determining the leakage rates by manually monitoring the time between sump pump starts as stated in Section E12.

GPC Response

An accuracy of determining leakage rates using the manual method described below is estimated to be 6.2 percent. First however, a brief description of the two normal methods of leakage determination is appropriate. Both these methods use the flow integrators on the equipment and floor drain sump pumps, and will have similar accuracy.

Normal Methods - Usually, equipment and floor drain drywell leakage is monitored every 4 hours by running the pump down to its low-level trip and reading the flow integrator. When in the automatic mode, the pump will start on high level and stop on low level. Occasionally, the integrator drifts slightly between pump starts because of integrator sensitivity to the input signal from the differential pressure transmitter. The pump is then placed in the manual mode, and a flow integrator reading is taken just before, and immediately after, the pump is started. This method is as accurate as the automatic method, since significant drifting does not occur during the short time the pump is running.

Manual Method - Technical Specifications also allow flexibility for manually monitoring leakage if the integrator is completely inoperable. Available, calibrated instrumentation includes level instrumentation for both sumps, as well as flow rate measuring instrumentation on both pumps. Without the integrator, the most accurate manual method is to monitor the time the pump runs (with a stop watch), while watching the flow rate instrumentation, and calculating the amount of water pumped out of the sump each time the pump is run. With the high level pump start disabled, the pump would be run to low level at least every four hours (more often if sump level gets high). The total amount of water pumped would be used to calculate the unidenified leakage rate over a four hour interval. The operator manually starts the pump and stop watch and reads the pump flow rate instrumentation until the pump trips off. Multiplying the flow rate by the pump run time will provide the total number of gallons pumped out of the sump, which will be converted to a leakage rate for each four-hour interval. Georgia Power Company is in the process of developing a procedure to perform the leakage surveillance using this method. We have not conducted extensive studies on the relative accuracy of manual methods, and do not propose to do so. However, an estimate of

the inaccuracy of measuring the unidentified leakage using the flow rate instrumentation is given below, assuming a 100 gpm pump runs for 90 seconds (about 150 gallons total). Assumptions for this calculation include:

a) Flow rate meter is accurate to ± 1/2 % of full scale. Full scale on the meters is either 150 gpm or 250 gpm. This equates to 1.25 gpm for the 250 gpm meter. Actual flow rates for the pumps range from 100 to 130 gpm.

b) Operators can read the gauge within about 2 gpm.

c) The pump is assumed to run for only one and a half minutes, and will reach full speed in 2 seconds. Reaction time to both start and stop the stop watch is taken as 0.3 seconds. Note that this will tend to overpredict the gallons pumped out of the sump slightly.

For 150 gallons total pumped, assumptions a) and b) account for 3.25 gpm or about 5 gallons during the 90 second run. Assumption c) could result in a 4.3 gallon error (2.6 seconds with no flow and 100 gpm pump flow rate). This would mean an error of 9.3 gallons on 150 gallons total, or about 6.2 %. This is an estimate of the error associated with pumping the sump down one time. If leakage were such that the pump was run more than once during a four hour interval, the percent error (about 6.2%) would remain the same, even though the total gallons pumped in the four hour interval would be higher.

NRC Question

Provide an explanation and justification of averaging leakage over a 24-hour period as stated in Section E12.

GPC Response

Averaging the leakage rates over a 24-hour period is justified because the measured leakage may vary at each 4 hour surveillance interval by several tenths of a gallon per minute, even when the leakage is not trending upward and plant operating conditions are not changing. This variation in measured leakage may be explained by the detection capability of the equipment, as well as the presence of flashing in the equipment and floor drain sumps. Inaccuracies on the order of a few tenths of a gallon per minute will not invalidate the basis for monitoring leakage.

For example, Table 1 shows measured leakage rates from a shift surveillance record for Unit 1 during a period of relatively constant thermal power. Note that the leakage measured by the integrators on the

equipment and floor drain pump varies several tenths of a gallon per minute, and is not trending upward. This variation in leakage rate is typical when equipment and floor drain leakage is substantial.

The allowable unidentified leakage rates specified in the Units 1 and 2 Technical Specifications (5- gpm and 2- gpm increase) represent lower-bound numbers in that the probability of an imperfection or crack associated with the leakage growing rapidly is small. The development of these allowable leakage rates also considered the detection capability of the equipment.

These limits then should not be considered "exact" indicators of a critical-size pipe crack. Therefore, considering the variability in measurement readings at 4-hour intervals, one reading of 5.1 gpm (for example) should not cause plant shutdown if the previous intervals were in the 4.5- to 4.9-gpm range. Rapid changes in leakage rates are covered by the 2 gpr increase limit.

NRC Question

Provide clarification of the expression "substantive modifications" included in Section E13.

GPC Response

"Substantive modifications" to the Plant Hatch IGSCC program would be any changes in scope or program application which would reduce a commitment we have made in accordance with Generic Letter 88-01, as discussed in GPC's letter (SL-4489) dated June 30, 1988.

NRC Verbal Question of October 11, 1988

During an October 11, 1988 phone conversation, Mr. William Koo requested GPC verify that all penetration welds affected by the Generic Letter (NUREG) are Category A, and that we have no access problems with other IGSCC-susceptible welds.

GPC Response

The only penetration which is included in the scope of NUREG 0313, Rev. 2 (and Generic Letter 88-01) is on the hot side of the Reactor Water Clean Up system, and the welds in the penetration are Category A. No other welds currently contained in GPC's IGSCC program have accessibility problems. (Note that this does not include RWCU welds outside the outboard isolation valve.) Pressure retaining welds in piping which are inaccessible for examination are delineated in the Plant Hatch ASME Section XI Inservice Inspection program document (submitted February 24, 1988) under Relief Request 2.1.7.1.

TABLE 1

SHIFT SURVEILLANCE RECORD (UNIT 1)

SHIFT SURVEILLANCE RECORD

STEP	REF.	ITEM	NIGHT	NIGHT	DAY	DAY	EVENING	EVENING	LIMITS	SOURCE
7.7 (cont)	TECH. SPEC. 3.6.6	Equip. Drain Leakage	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ONLY APPLICABLE IN CONDITION 1, 2 ***	011-[illegible] or #
		Actual Time *	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Present Reading	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Previous Reading	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
	R.O. BULL 74-100	Difference [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Time Elapsed Min.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Leakage [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	←	
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Acceptable (✓)	✓	✓	✓	✓	✓	✓		
		Floor Dr. Leakage	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		011-[illegible] Or #
		Actual Time *	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Present Reading	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Previous Reading	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Difference [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Time Elapsed	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Leakage [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		←
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
		Acceptable (✓)	✓	✓	✓	✓	✓	✓		
		Total [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
		Acceptable (✓)	✓	✓	✓	✓	✓	✓		
		Total [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
		Acceptable (✓)	✓	✓	✓	✓	✓	✓		

DATE OCT 0 1 1987

INITIALS	[illegible]	[illegible]	[illegible]	[illegible]
TIME	[illegible]	[illegible]	[illegible]	[illegible]

LIMITS

Does not increase by more than 2 gpm. in an 24hr. period or less.
< 5 gpm.
< 25 gpm. total Floor Drain and Equipment Drain.
If integrators are [illegible], use [illegible] and red circle "Source".
Reading to be taken ± 1 hr. of specified time.
* Integrator Reading should be multiplied by 10 for GPM.
*** Limit 1 does not apply until 24 hours of data has been taken after entering condition 2.