Arizona Public Service Company

July 13, 1984
ANPP-29954-TDS/TRB

U. S. Nuclear Regulatory Commission
Region V
Creekside Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, CA 94596-5368

Attention: Mr. T. W. Bishop, Director
Division of Resident
Reactor Projects and Engineering Programs

Subject: Final Report - DER 83-77
A 50.55(e) Reportable Condition Relating To Unit 2 Concrete Pour Contains Honey-Combed Concrete.
File: 84-019-026; D.4.33.2

Reference: A) Telephone Conversation between P. Narbut and K. Parrish on November 9, 1983
B) ANPP-28359, dated December 6, 1984 (Interim Report)
C) ANPP-28773, dated February 1, 1984 (Time Extension)
D) ANPP-29456, dated May 8, 1984 (Time Extension)
E) ANPP-29775, dated June 19, 1984 (Time Extension)

Dear Sir:

Attached is our final written report of the deficiency referenced above, which has been determined to be Not Reportable under the requirements of 10CFR50.55(e).

Very truly yours,

E. E. Van Brunt, Jr.
APS Vice President
Nuclear Production
ANPP Project Director

EEVB/TRB:db
Attachment

cc: See Page Two

IE-27 1/1

cc: Richard DeYoung, Director
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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FINAL REPORT - DER 83-77
DEFICIENCY EVALUATION 50.55(e)
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 2, 3

I. Description of Deficiency

Honeycombed concrete was first identifed in the Unit 2 dome concrete by NCR CC-4338. The areas were discovered while preparing the blockouts for the vertical tendon vents for grouting. The majority of the areas were in the buttresses or buttress/shell interface above the last dome hoop tendon. These areas were documented in NCR CC-4338. The worst condition was observed at buttress number 1 where the honeycomb area was located approximately six (6) feet above the top hoop tendon. The portion of the buttress above the last hoop tendon is principally an architectural feature. The cause of this deficiency is inadequate consolidation of the concrete.

To ascertain whether the honeycomb condition existed only in the vicinity of the vent blockouts and to verify the integrity of the rest of the dome concrete, soundings were made over one-third of the Unit 2 dome between buttresses 1 and 3 inclusive of the entire buttress. These soundings were made on a one-foot grid above 45° and below 70° elevation and a two-foot grid above 70° elevation. The results of these soundings did not indicate any other homecombed condition in the concrete.

Subsequently, to determine if the Unit 2 condition was an isolated case, soundings were performed on the Unit 3 dome between buttresses 2 and 3 inclusive of the entire buttress on one-foot grids between 45° and 70° and on two-foot grids above 70° to the apex. In addition, buttress 1 was inspected by sounding tests. Several small cosmetic depressions were found and will be repaired. An area of honeycombed concrete was found at the construction joint for the last dome placement at buttress 3. Two smaller areas were also found at buttress 2. These areas are documented on NCR CC-4418. These areas have been repaired.

Soundings were also performed for the Unit 1 dome between buttresses 1 and 3 inclusive of the entire buttress on one-foot grids between 45° and 70°, and on two-foot grids above 70° to the apex. No honeycombed concrete was discovered.

II. Analysis of Safety Implications

These conditions described above are evaluated as being not reportable under 10CFR50.55(e) and also Part 21 for the following reasons:

A. The buttresses in those regions of the Unit 2 dome are primarily for architectural purposes.

B. The honeycombed concrete regions at buttresses 2 and 3 on the Unit 3 dome were localized.

Therefore, if the honeycombed concrete were left unrepaired, it would not have affected the structural integrity of the containment structure.

III. Corrective Action

The honecombed concrete in Unit 2 and 3 was removed by chipping, and the areas were repaired by placing concrete in the larger areas and grouting the smaller areas.

NCR CC-4338 for Unit 2 was dispositioned on July 2, 1984.

NCR CC-4418 for Unit 3 was dispositioned on July 11, 1984.

This type of concrete placement, because of its geometric configuration (i.e., containment structure dome with its varying angles and radial shape), is an isolated case and is not expected to be repeated since containment structure dome placements have been completed for all three units. No further corrective action is required.