DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 1

Proposed Technical Specifications

Remove page	Insert Page
4.4-10	4.4-10
4.4-13	4.4-13

19

TABLE 4.4-1
LIST OF PENETRATIONS WITH 10CFR50,
APPENDIX J TEST REQUIREMENTS

PENETRATION NUMBER	SYSTEM	TYPE A TEST SYSTEM CONDITION	LOCAL LEAK TEST	REMARKS
47 (Unit 1 only)	Demineralized water supply to RC pump seal vents	Note 1	Type C	Note 3, 7d
48	Breathing air inlet	Note 1	None required	Note 3 (manual valves)
49 (Unit 1 only)	LP Nitrogen supply	Note 1	None required	Note 3 (manual valves)
50	OTSG A Emergency FDW line	Not Vented	None required	Note 5
51	ILRT Pressurization line	Note 1	None required	Note 6a, 7a
52	HP Injection to 'B' loop	Not Vented	None required	Note 5
53 (All)	HP Nitrogen supply to 'A' core flood tank	Note 1	Type C	Note 3 (manual valves), 13
(Unit 2, 3)	LP Nitrogen supply	Note 2	None required	Note 3 (manual valves)
54	Component cooling outlet line	Note 1	Type C	Note 3, 7b, 9(8)
55	Demineralized water supply	Note 1	Type C	(Unit 1) Note 3, (manual valves), 12 (Unit 2,3) Note 3, 9 (manual valves)
56	Spent fuel canal fill and drain	Note 1	None required	Note 3 (manual valve)
57 (Unit 1 only)	DHR return line	Not Vented	None required	Note 4

TABLE 4.4-1
NOTES (continued)

c. Isolation valves are required to operate intermittently under post accident conditions.

d. Check valves used for containment isolation.

NOTE 8 DELETED

NOTE 9 Reverse direction test of inside containment isolation valve authorized. Leakage results are conservative.

NOTE 10 System is submerged during post-accident conditions and performance of Type A test. System will be drained to the extent possible.

NOTE 11 Type B test performed on the blind flanges inside the Reactor Building. The tube drain valves and valves outside the containment are not tested.

NOTE 12 A one-time extension from the local leak test and corresponding exemption from Sections III.D.2 and III.D.3 of Appendix J to 10 CFR Part 50 is granted such that it be performed during the 1983 Unit 1 refueling outage, provided that such outage begins no later than July 16, 1983.

NOTE 13 A one time relief from the requirements to perform a type A test in accordance with Notes 1 and 3 of Table 4.4-1, and a corresponding exemption from section III.A.1(d) of Appendix J to 10CFR50, is granted until the type A test is performed during the end of cycle 12 refueling outage on Unit 1, and during the end of cycle 11 refueling outages on Units 2 and 3. For the type C test, the initial test will be performed on Unit 2 no later than January 15, 1990, and during the end of cycle 11 refueling outage on Unit 3.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 2

Basis for Emergency Situation

In accordance with 10CFR50.91(5), when a licensee asserts that an emergency situation exist requiring prompt action by the commission to process an amendment request, the licensee must explain why this emergency situation occurred and why it could not avoid this situation. The following is a brief discussion addressing these criteria:

Why the Emergency Situation Occurred

Technical Specification 4.4.1.1 requires that a type A, integrated Leak Rate test (ILRT) be performed. Table 4.4-1, list of penetrations with 10CFR50, Appendix J test requirement, specifies the system condition for each penetration during a type A test. Table 4.4-1 also identifies if a type C, local leak-rate test, needs to be performed for each penetration. As specified by Table 4.1-1, penetration number 53, high pressure nitrogen supply to "A" core flood tank, does not need to have a type C test performed. When a type A test is performed, penetration 53 is to be drained of fluids and vented to the containment atmosphere so that the penetration is subjected to the test differential pressure established during an ILRT.

Prior to the 1981-1982 timeframe, penetration 53 consisted of an inside isolation check valve (CF-8) and an outside isolation valves (N-129, CA-27, HP-155 and CF-47), along with connecting piping. With this valve configuration, penetration 53 was properly tested during a type A ILRT. Valve CF-42 and the vent valve CF-43 were added to address a seismic qualification concern associated with the piping from the containment wall to CF-8. With this modification the new inside containment isolation valve for the penetration became CF-42. The first Unit to perform a type A test after modifying the penetration was Unit 3 in 1982. During this test, valve 3CF-43 was opened.This challenged the outside containment isolation valve, and as such this test complied with technical specification surveillance requirements. Subsequent tests for Unit 3 and all tests for Units 1 and 2 performed after adding valves CF-42 and CF-43, omitted opening valve CF-43. As such, the penetration was not tested properly. These type A tests challenged valve CF-8, but did not challenge the actual containment penetration valves.

The above error in the type A testing procedure was not identified until September 22, 1989. At that time it was determined that penetration 53 was not properly tested. The test procedure used did not establish an appropriate valve alignment in order to effectively challenge the penetration during an ILRT. Accordingly, the Oconee units are not in compliance with technical specification surveillance requirements to subject penetration 53 to the test differential pressure established

during a Type A test. As part of the solution to resolve this issue, the technical specification needs to be revised to require that a type C test be performed, and to redefine when type A and C test requirements are to become effective.

Why the Emergency Situation Could Not be Avoided

The error in the type A test procedure was not discovered until September 22, 1989. Why this error was not discovered prior to this time is currently under investigation. A Licensee Event Report, pursuant to 10CFR50.73 will be submitted shortly and should identify the reason/cause or why the error was not discovered earlier.

Speculation on Duke's part within this submittal as to the reasons/causes for this oversight would be premature and would unduly prejudice the investigation process. When the error was identified, the situation was promptly brought to the NRC Staff attention.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 3

No Significant Hazards Consideration Evaluation

No Significant Hazards Consideration Evaluation

Duke Power Company (Duke) has made the determination that this amendment request involves a No Significant Hazards Consideration by applying the standards established by the Commission's regulation in 10CFR50.92. This ensures that operation of the facility in accordance with the proposed amendment would not:

(1) involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) involve a significant reduction in a margin of safety.

The Commission has provided guidelines pertaining to the application of the three standards by listing specific examples in 48FR14870. Example (ii) relates to a change that constitutes an additional limitation, restriction, or control not presently included in the Technical Specifications: for example a more stringent surveillance requirement.

In this case the change proposed by this request is similar to Example (ii) in that a type C local leak rate test for penetration number 53 is now required; whereas, the current technical specification does not require a type C test. The footnotes added provide clarification of when the type A and type C testing requirements become effective. As noted in the technical justification (Attachment 4), a modification is required in order to perform a type C test. This same modification facilitates a proper challenge of penetration 53 during type A testing. Footnote 13 specifies that a type A test will commence at the next refueling outage for each Oconee unit and that a type C test will be performed no later than January 15,1990 for unit 2 and during the end of cycle 11 refueling outage for unit 3.

The following evaluation measures aspects of this proposal against the Part 50.92(c) requirements to demonstrate that all three standards are satisfied.

First Standard

(Amendment would not) involve a significant increase in the probability or consequences of an accident previously evaluated.

Each accident analysis addressed in the Oconee Final Safety Analysis Report (FSAR) has been examined with respect to the proposed requirement for type C testing of penetration 53. The probability of any Design Basis Accident (DBA) is not affected by this change, nor are the consequences of a DBA affected by this change. This change will assure that penetration 53 will meet the local leak rate criteria of Appendix J. In this way during an Engineered Safeguards Actuation, containment isolation will be enhanced.

Footnote 13 concerns the timing in which type A and C testing requirements become effective. The probability of any DBA is not affected by this change since this is not considered to be an initiator for any DBA. The consequences are not affected, since the timing of when these tests are performed does not contribute to the consequences of any DBA and because the single penetration affected by this change will now have a local leak rate test requirement.

Based on the above, the proposed technical specification change will not involve a significant increase in the probability or consequences of an accident that has been previously evaluated.

Second Standard

(Amendment would not) create the possibility of a new or different kind of accident from any kind of accident previously evaluated.

It has been determined that the possibility of a new or different kind of accident will not be possible due to this change. This change constitutes a more stringent requirement by requiring a type C leak rate test, when no testing was required previously. This testing ensure that the penetration will meet the local leak rate criteria of Appendix J, thereby providing additional assurance of the integrity of the penetration in the event of an Engineered Safeguards actuation. The timing of when the testing requirements become effective does not require any hardware or procedural changes. As such, this change does not create the possibility of a new or different kind of accident from any kind of accident previously evaluated.

Third Standard

(Amendment would not) involve a significant reduction in a margin of safety.

This change constitutes a more stringent requirement by requiring type C local leak rate testing for penetration 53. This ensures that penetration 53 will meet the local leak rate criteria of Appendix J during an Engineered Safeguards actuation requiring containment isolation. As such, the margin of safety offered by penetration 53 in precluding leakage of

containment atmosphere is enhanced. since the timing requirements of footnote 13 do not require any hardware or procedural changes, no safety margin for Oconee are impacted. Therefore, there will not be a reduction in a margin of safety.

Based on the above and the supporting technical justification, Duke has concluded that there is no significant hazard consideration involved in this amendment request.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 4

Technical Justification

Introduction

Figure 1 provides the initial configuration of Penetration 53. This penetration consisted of an inside isolation check valve (CF-8) and outside isolation valves (N-129, CA-27, HP-155 and CF-47) along with connecting piping. Technical Specification in affect at that time did not require a type C test for this penetration, thus none was performed. During a type A Integrated Leak Rate Test (ILRT), penetration 53 was properly challenged during the type A test.

By a letter dated November 6, 1981 the NRC issued amendment numbers 104, 109, 101 to license numbers DPR-38, -47 and -55 for the Oconee Nuclear Station. These amendment revised Oconee's Technical Specifications to incorporate the containment penetration testing requirements of Appendix J to 10CFR50. No substantial changes have been made to this area of the technical specification since the initial approval. Briefly, technical specification 4.4.1.1 requires that a type A, ILRT be performed. Table 4.4-1 specifies the system condition for each penetration during a ILRT. Table 4.4-1 also identifies if a type C test is required for each penetration. In accordance with the table, a type C test is not required for penetration 53. Further, the technical specification also requires that penetration 53 be drained of fluids and vented to the containment atmosphere during a type A ILRT.

In 1982, penetration 53 was modified to add valve CF-42 and vent valve CF-43, as shown in Figure 2. These two valves (CF-42 and CF-43) were added to address a seismic qualification concern associated with the piping from the containment wall to valve CF-8. With this modification the new inside containment isolation valve for penetration 53 became CF-42. After Unit 3 was modified, a ILRT was conducted in 1982. During this test valve 3CF-43 was opened and the piping was drained of fluid. This, in effect, challenged the outside containment isolation valves. This test complied with technical specification surveillance requirements. Subsequent tests for Unit 3 and all tests for units 1 and 2 were performed without opening valve CF-43. As such the penetration was not tested properly. These type A tests, in effect, only challenged valve CF-8, but did not challenge the actual containment penetration valves.

The above error in the type A testing procedure was not identified until September 22, 1989. At that time, it was determined that penetration 53 was not properly tested. The test procedure used did not establish an appropriate valve alignment that would result in challenging the penetration during an ILRT. Accordingly the Oconee units are not in compliance with the technical specification surveillance requirements to subject penetration 53 to the type A test differential pressure established during ILRT.

Resolution

To resolve the above concern, the configuration for penetration 53 is being modified (Figure 3). The modification will add a vent valve, a drain valve and a test isolation valve to the Nitrogen line that feeds the A core flood tank. The new vent and drain line and test isolation valve will allow local leak testing of CF-42 and simplify type A testing of the penetration. During future ILRT, the new vent line will be open to the containment atmosphere.

The modification affects the non-seismic portion of the Nitrogen System. The piping is non-QA and non-safety related. The new vent and drain lines and the new valves are designed for the connecting piping's design temperature and pressure. The vent and drain valves will be normally closed and the vent and drain line will have pipe caps installed. The new valve installed in the main nitrogen line will be kept normally open. The stress analysis for the piping changes were reviewed and determined to require no support changes. These changes will not affect the safety related portion of the Nitrogen System. Technical specification 3.3 requires the core flood tanks to have a pressure of 600 $\pm$ 25 psig. This modification will not adversely affect this pressure requirement.

This modification was recently implemented on Unit 1. A type C test of containment isolation valves 1CF-42 and 1N-129, 1CA-27, 1HP-155, and 1CF-47 was successfully completed. Units 2 and 3 will be modified during the next available outage of sufficient length. After implementation of the modification and prior to restart of the unit a type C test of the containment isolation valves will be performed. For Unit 1, an integrated leak rate test (ILRT) will be performed during the end of cycle 12 refueling outage; for Unit 2 during the end of cycle 11 refueling outage; and for Unit 3 during the end of cycle 11 refueling outage.

A special test to qualitatively assess the potential leakage through penetration 53 on unit 2 was performed on September 28, 1989. Utilizing nitrogen pressure trapped within the penetration boundaries from previous nitrogen additions to the A core flood tank,leakage through 2N-129 was found to be no more than 0.53 lbm/hr. Utilizing nitrogen pressure in the A core flood tank, leakage through 2CF-8 and then through 2CF-42 (see figure 2) was found to be below detectable levels.

Further, until a type A and a type C test has been successfully performed for a given unit, the following manual valves will be maintained closed when containment integrity is required:

1) N-128
2) CA-27
3) HP-155
4) CF-47

During normal operation the piping associated with penetration 53 is used to add demineralized water or boric acid from the chemical addition system to the A core flood tank. This is, however, rarely used. The penetration is also used to add Nitrogen gas to the A core flood tank in order to maintain a 600 psi pressure in the tank. During normal operation, nitrogen is frequently added to the tank. The frequency varies from approximately once a shift to once a week. During the times when the above valves are opened to perform the above functions, and while containment integrity is required, Compensatory Action will be established to assure that these valves can be closed promptly after an Engineered Safeguards (ES) actuation has occurred.

These compensatory measures involve providing dedicated operators stationed near the valves. While the penetration is in use they will be in direct communication with the control room at all times. Once advised by appropriate personnel in the control room that an ES actuation has occurred, the dedicated operator will promptly close all manual valves that may be open at the time. Prior to assuming the duties of a dedicated operator, the individuals will be fully qualified to operate the valves in question.

Finally, the technical specifications will be revised. The proposed technical specification amendment request will require that a type C local leak rate test for penetration number 53 be performed. In addition, a footnote is also added to provide clarification of when type A and type C testing requirements for this penetration become effective. As noted above, a modification is required to perform a type C test. This same modification will allow a type A test which challenges penetration 53 to be easily performed.

Evaluation

During normal operation the piping associated with penetration 53 is used to add demineralized water or boric acid from the chemical addition system to the A core flood tank. This is, however, rarely used. The penetration is also used to add Nitrogen gas to the A core flood tank in order to maintain a 600 psi pressure in the tank. During normal operation, nitrogen is frequently added to the tank. The frequency varies from approximately once a shift to once a week, hence the structural integrity of the piping is demonstrated frequently. The piping is 1 inch diameter stainless steel and is rated at 700 psi. During a postulated accident, the penetration is subjected to approximately 60 psi.

As noted earlier, the type A test that have been performed recently primarily challenged valve CF-8. These past ILRT have met their acceptance criteria. Further, any leakage is further reduced by the inside containment valve, CF-42 and the outside containment isolation valves, N-129, CA-27, HP-155 and CF-47. Furthermore, following a postulated accident, any leakage at this penetration will be collected and processed by the penetration room ventilation system prior to being released to the environment

The piping from CF-42 to CF-8 is class G, (non-seismic) pipe. This piping run has been evaluated, and it has been determined that the piping will remain intact during a seismic event. Extensive industry wide review of seismic experience data has shown that industrial piping has exhibited a very high resistance to failure during past earthquakes. Piping with little or no seismic design has performed quite adequately during earthquakes up to 0.9g peak ground acceleration. The few failures that have occurred are generally due to seismic anchor motion usually related to unanchored equipment, interaction or corrosion.

For the pipe in question, both ends have been qualified for seismic loads so there is no problem with seismic anchor motion. The pipe is stainless steel and due to its location in the Reactor Building with mostly safety related equipment, there will be no adverse seismic interactions.

Although the pipe in question is not seismically designed, from a practical engineering standpoint, it is as reliable under seismic loads as fully qualified pipe. For this reason the type A tests which were conducted in the past are representative of the requirements of the technical specifications in that the piping in question will remain intact during a seismic event and will perform its intended safety function.

In addition, the nitrogen solenoid valves N-298 (upstream of N-128) on Units 1 and 2 and manual valve N-128 on Unit 3 are leak tight based upon observation of core flood tank pressure while adding nitrogen to the core flood tanks. These valves are closed after the nitrogen line is pressurized to 625 psi and no noticeable increase in core flood tank pressure occurs. In addition N-128 is now maintained closed to provide additional assurance, until such time as a type C test is completed on a given unit.

As noted, earlier, a modification to the Unit 1 penetration was recently completed. The modification added additional valves inside containment to allow for a type C test and a type A test to be performed on penetration 53. The type C test was successfully performed. Units 2 and 3 will be similarity modified during the next available outage of sufficient duration and a type C test will be performed. A type C test is conservative relative to a type A test in that each containment isolation valve is challenged.

In summary, it can be concluded that continued operation is acceptable although a type A test which challenges penetration 53 has not been properly performed recently, for the following reasons.

- The piping between valves CF-42 and CF-8 has been evaluated and determined that it will remain intact in a seismic event.

- The recent type A tests performed did challenge CF-8, and the results of the ILRT met the acceptance criteria.

- Given the above two points, penetration 53 has an additional valve in the flow path to prevent leakage.

- If any leakage does occur at this penetration, it will be collected and processed by the penetration room ventilation system.

- The structural integrity of the piping is verified during routine additions of nitrogen to the core flood tank with greater than 600 psi of nitrogen.

- For unit 1, a type C test has recently been performed and the test acceptance criteria was met.

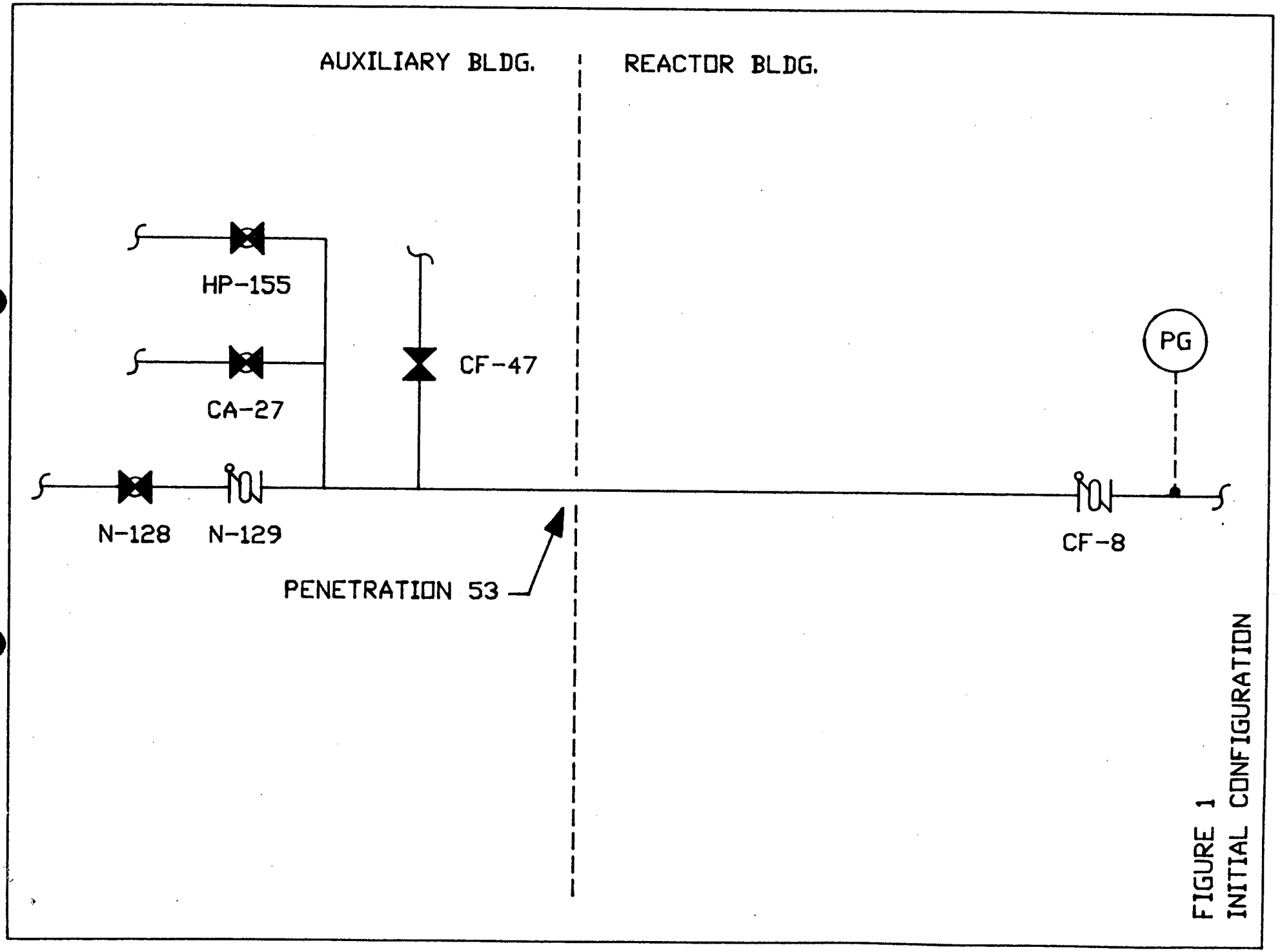

FIGURE 1
INITIAL CONFIGURATION

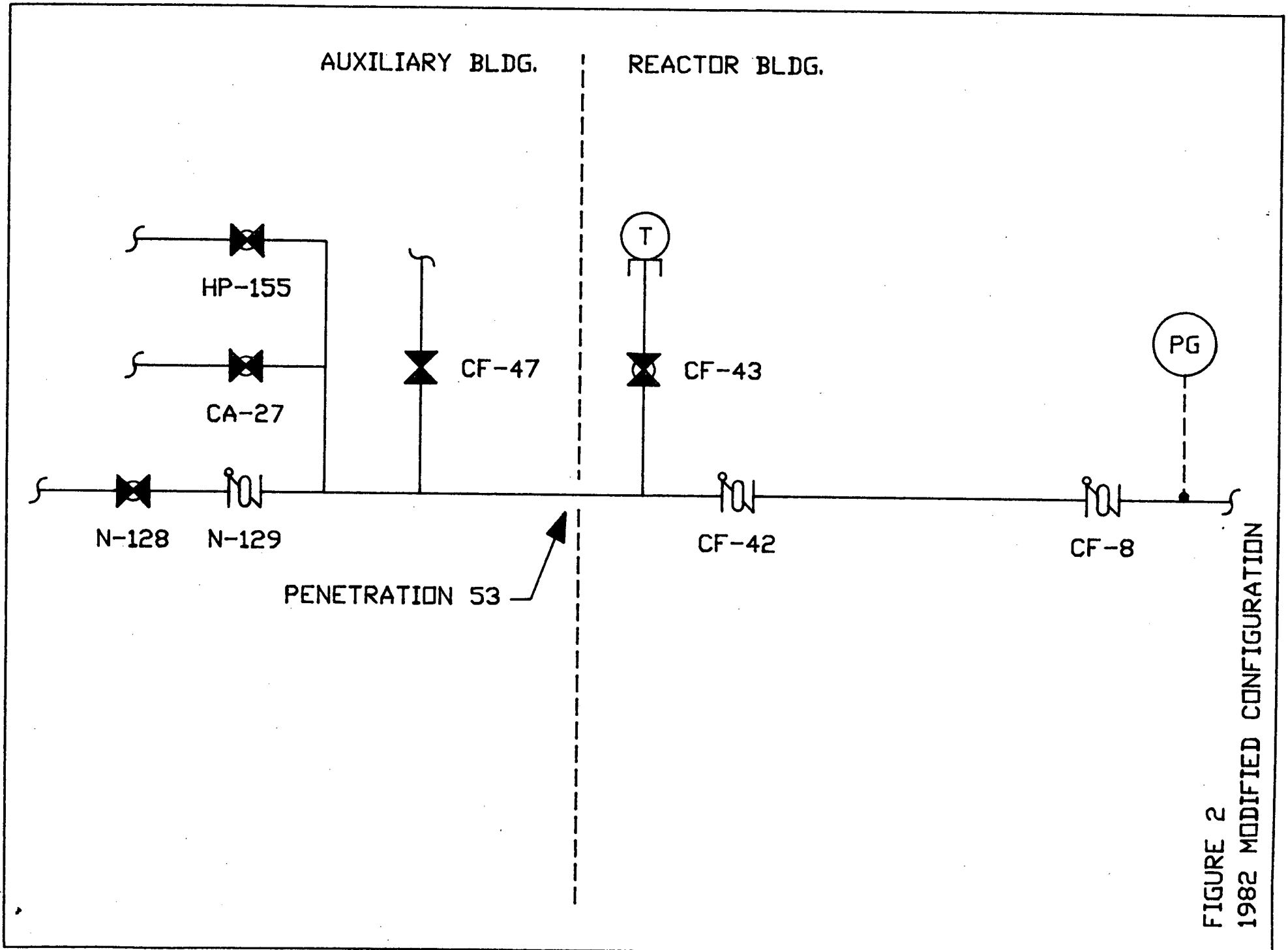

FIGURE 2
1982 MODIFIED CONFIGURATION

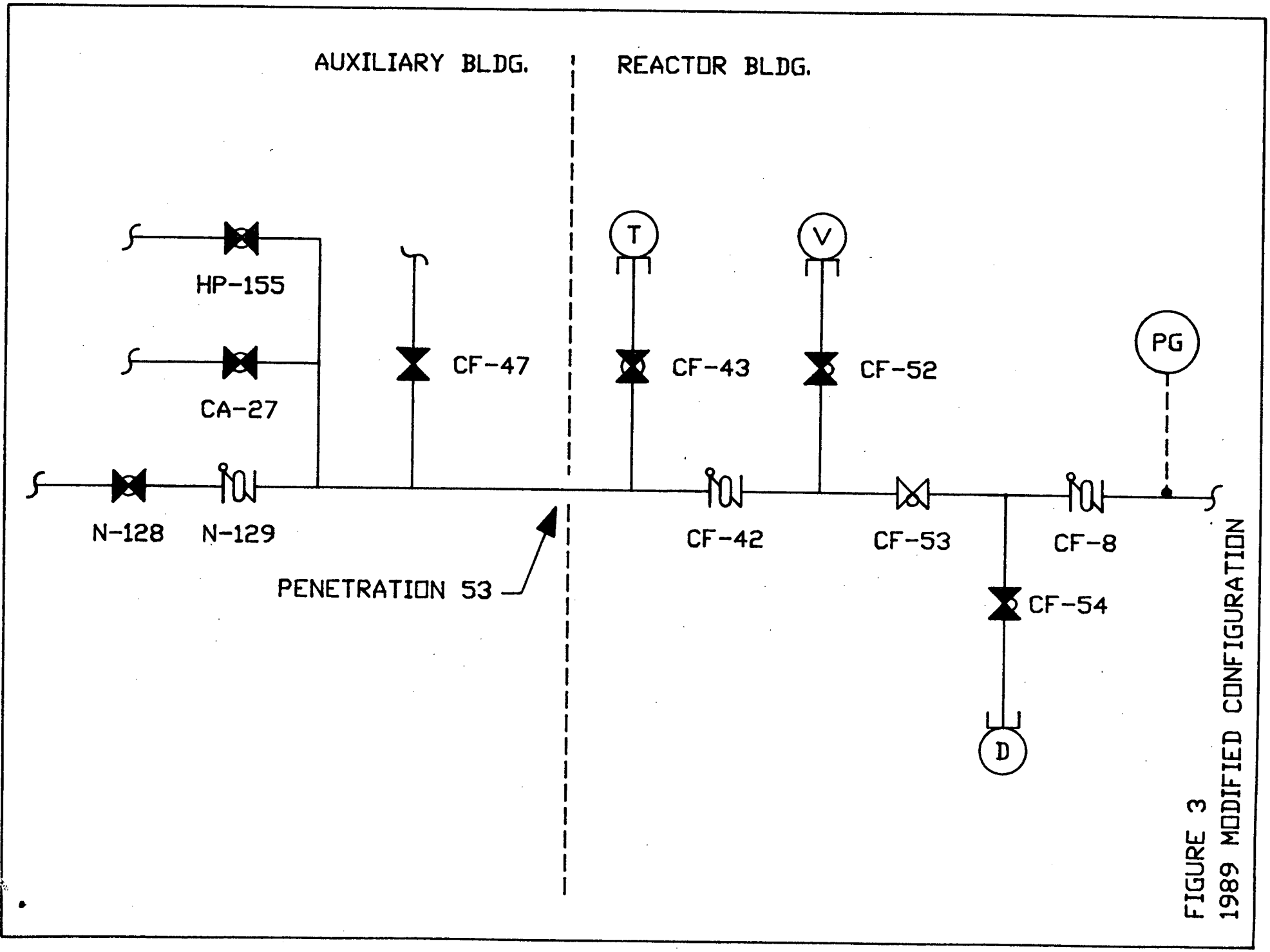

FIGURE 3
1989 MODIFIED CONFIGURATION