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November 5, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Ms. E. G. Adensam, Chief

Subject: McGuire Nuclear Station
Docket Nos. 50-369, -370

Dear Mr. Denton:

During the licensing process of McGuire, an Augmented Inservice Inspection for Pipe Rupture Protection was proposed by Duke and approved by NRC. The staff evaluation and conclusions are contained in NUREG-0422, Supplement 4, dated January 1981 (the McGuire Safety Evaluation Report). The purpose of this letter is to identify an alternate inservice inspection plan for the Accumulator Injection Line welds. No other portions of the previously committed to Augmented ISI plan are affected.

The Duke Augmented Inservice Inspection for Pipe Rupture Protection is contained in Duke report SRG-78-01, as revised. As stated therein, "inservice inspection is a viable alternative to protect against postulated pipe ruptures in very ductile material". One of the major features of this inspection was to be examined while the system is under pressure. The examination program was detailed in Appendix III of SRG-78-01 and for the Accumulator Injection Line welds, the examination conditions proposed were 450 psig system pressure and 150°F system temperature. For the reasons contained in the attached, Duke Power has determined that examination under these conditions of temperature and pressure to be impractical. The bases of this determination is provided as well as our intended alternative examination. Duke considers that the planned alternate examination is technically superior to an examination while the system is under pressure, as previously proposed. Duke intends to implement this new examination technique during a forthcoming Unit 1 planned maintenance outage during November - December 1984.

Duke considers that this action is a change to a previous Duke committment. Unless informed to the contrary, Duke considers that the actions as described in the attached are acceptable and no further actions on the part of the NRC are necessary.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

RLG/mjf

Attachment

A047
1/1

cc: Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. W. T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Mr. Ralph Birkel
Division of Project Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Duke Power Company

McGuire Nuclear Station

Augmented Inservice Inspection

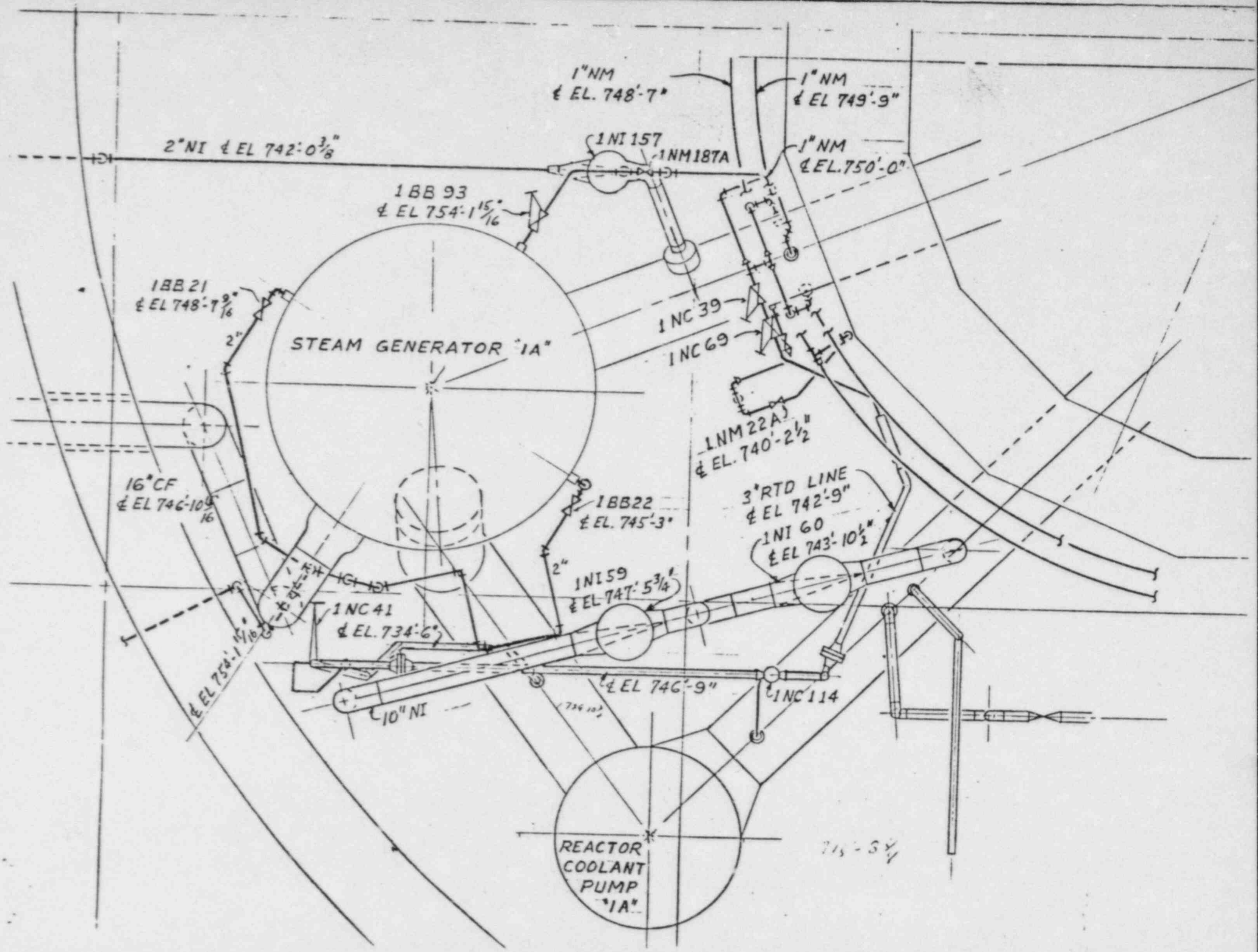
Accumulator Injection Line Welds

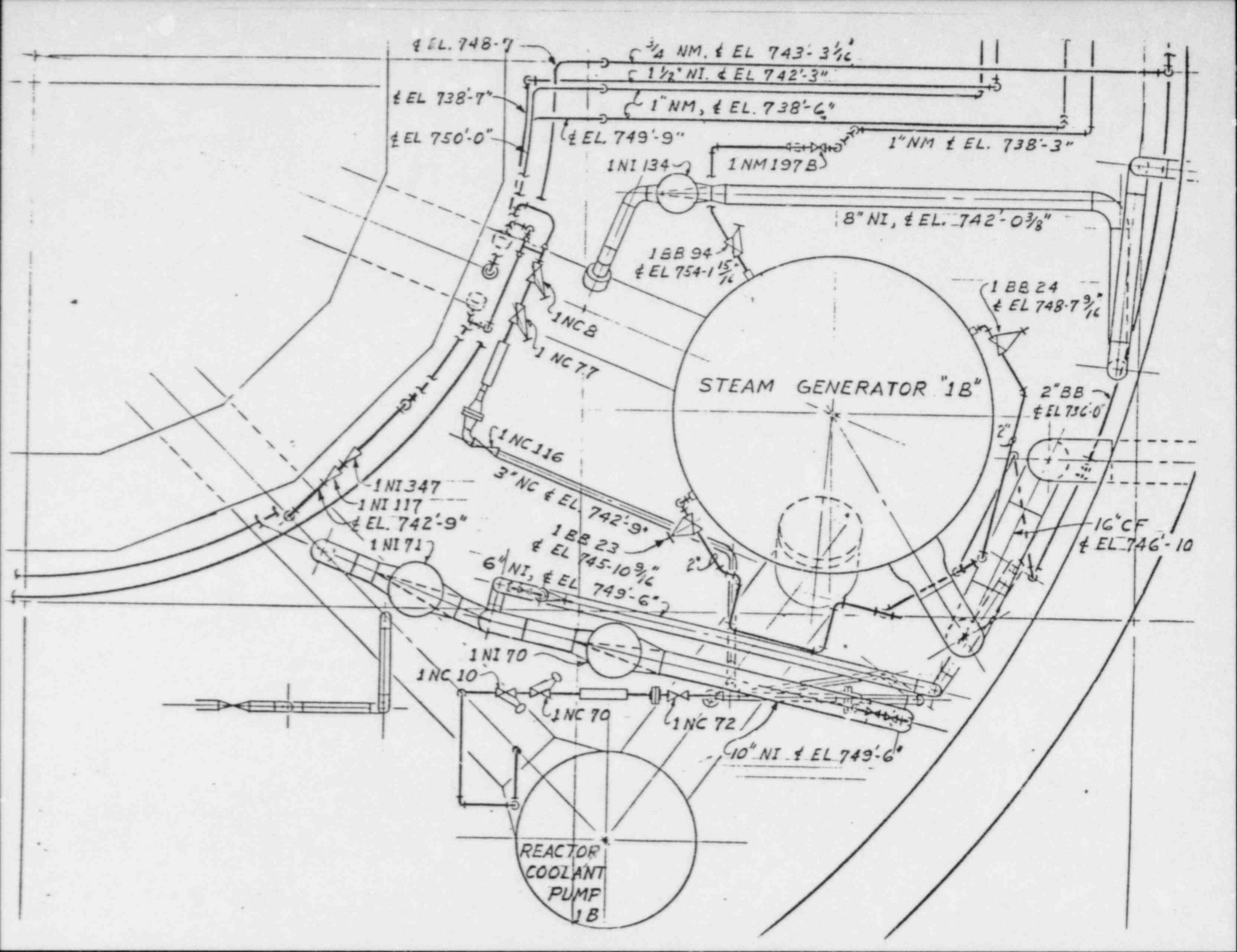
The Accumulator Injection Lines are connected to each reactor coolant system cold leg as indicated on the attached drawings. The welds of concern are located at the elbow between the NI isolation valve (NI-60, NI-71, NI-82, and NI-84) and the respective cold leg (A, B, C, D).

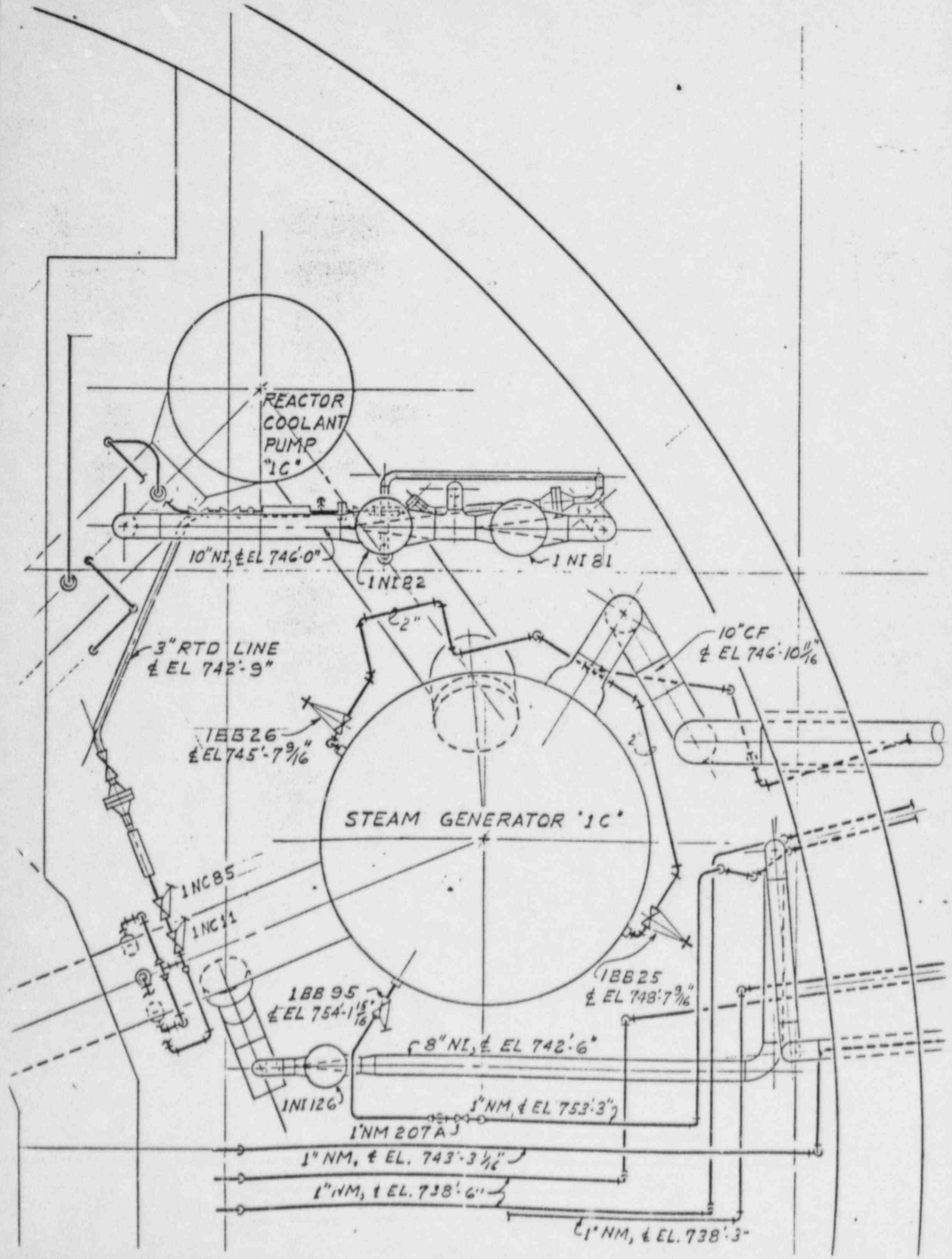
The inspection commitment as described in Duke document SRG-78-01, provides for volumentric and surface examinations with the system at 450 psig and 150°F. In order to satisfy the pressure-temperature limits of the reactor coolant system, to which the accumulator line is directly connected, the fluid temperature would need to be at least 180°F.

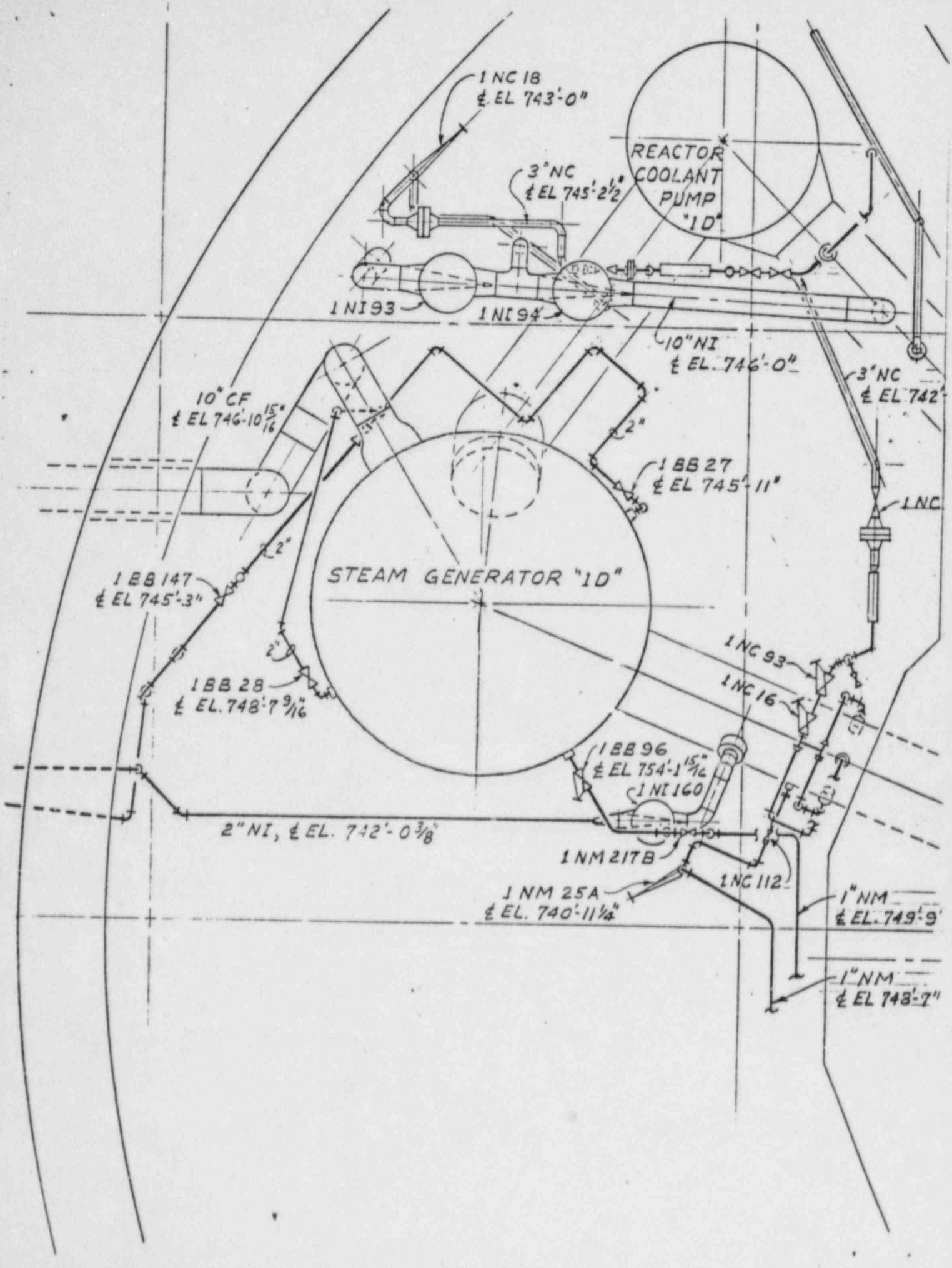
Duke has reviewed this commitment and determined that examination performed under the temperature - pressure limitations would be less reliable and rather than "enhance detection" may in fact degrade overall examination reliability. Inspections performed at the elevated temperatures are inherently less reliable than those performed under normal ambient temperatures due to heat stress on the operator. Furthermore, these welds are located in the very restricted lower containment area. Radiation exposures would increase as the examiner would spend more time applying penetrant for the PT as it dries out due to higher temperature. Similarly more time would be needed for UT due to the higher temperature.

In conclusion, Duke intends to perform PT and UT examinations with the accumulator injection system depressurized. By using modern inspection techniques developed in recent years for detection of integranular stress corrosion cracking, adequate assurance of weld integrity can be obtained with this system depressurized.


1"NM
℄ EL. 748'-7"
1"NM
℄ EL 749'-9"
2"NI ℄ EL 742'-0 3/8"
1NI 157
1NM187A
1"NM
℄ EL.750'-0"
1BB 93
℄ EL 754'-1 15/16"
1BB 21
℄ EL 748'-7 9/16"
2"
STEAM GENERATOR "1A"
1NC 39
1NC 69
1NM 22A
℄ EL. 740'-2 1/2"
16"CF
℄ EL 746'-10 9/16"
1BB22
℄ EL. 745'-3"
3"RTD LINE
℄ EL 742'-9"
1NI 60
℄ EL 743'-10 1/2"
2"
1NI 59
℄ EL 747'-5 3/4"
1NC 41
℄ EL. 734'-6"
℄ EL 750'-1 11/16"
℄ EL 746'-9"
1NC 114
10"NI
REACTOR
COOLANT
PUMP
"1A"


℄ EL. 748-7
¾ NM. ℄ EL 743-3 1/16"
1½" NI. ℄ EL 742'-3"
1" NM, ℄ EL. 738'-6"
℄ EL 738'-7"
℄ EL 750'-0"
℄ EL. 749'-9"
1" NM ℄ EL. 738'-3"
1NI 134
1 NM 197 B
8" NI, ℄ EL. 742'-0 3/8"
1 BB 94
℄ EL 754-1 15/16"
1 BB 24
℄ EL 748-7 9/16"
1 NC 8
1 NC 77
STEAM GENERATOR "1B"
2" BB
℄ EL 736'-0"
2"
1 NC 116
3" NC ℄ EL. 742'-9"
1 NI 347
1 NI 117
℄ EL. 742'-9"
1 NI 71
1 BB 23
℄ EL 745-10 9/16"
16" CF
℄ EL 746'-10
6" NI, ℄ EL 749'-6"
2"
1 NI 70
1 NC 10
1 NC 70
1 NC 72
10" NI ℄ EL 749'-6"
REACTOR
COOLANT
PUMP
1B


REACTOR COOLANT PUMP "1C"
10"NI, ℄ EL 746'-0"
1NI82
1NI81
2"
3" RTD LINE ℄ EL 742'-9"
10"CF ℄ EL 746'-10 11/16"
1EB26 ℄ EL 745'-7 9/16"
STEAM GENERATOR "1C"
1NC85
1NC11
1BB95 ℄ EL 754'-1 15/16"
1BB25 ℄ EL 748'-7 9/16"
8"NI, ℄ EL 742'-6"
1NI126
1"NM, ℄ EL 753'-3"
1NM207A
1"NM, ℄ EL. 743'-3 1/16"
1"NM, ℄ EL. 738'-6"
1"NM, ℄ EL. 738'-3"


1 NC 18
℄ EL 743'-0"
3"NC
℄ EL 745'-2½"
REACTOR
COOLANT
PUMP
"1D"
1 NI 93
1 NI 94
10"NI
℄ EL. 746'-0"
3"NC
℄ EL 742'
10" CF
℄ EL 746'-10 15/16"
2"
1 BB 27
℄ EL 745'-11"
1 NC
2"
1 EB 147
℄ EL 745'-3"
STEAM GENERATOR "1D"
1 NC 93
1 NC 16
1 BB 28
℄ EL. 748'-7 9/16"
1 BB 96
℄ EL 754'-1 15/16"
1 NI 160
2"NI, ℄ EL. 742'-0 3/8"
1 NM 217B
1 NC 112
1 NM 25A
℄ EL. 740'-11½"
1"NM
℄ EL. 749'-9"
1"NM
℄ EL 748'-7"