AUGMENTED INSERVICE INSPECTIONS

Augmented Inservice Inspections (AISI) are not ASME Section XI Code requirements but are 1) additional examination area requirements, or 2) increased inspection frequency requirements or combinations of both which are requested by the Nuclear Regulatory Commission. When components fall into the scheduled testing of both ISI and AISI, credit for both requirements is taken (no double testing).

There are presently 4 types of Augmented Inservice Inspections required at LaSalle County Nuclear Stations:

Type	Description
1A	The ASME Category B-F and B-J welds of the high energy line break exclusion regions as identified in the FSAR and requested by the NRC. See response to FSAR Q111.72.
1B	Examinations of the Feedwater Nozzle Inner Radii, Nozzles Bores, Nozzle Safe Ends, and Spargers, as requested by the NRC in NUREG-0619.
1C	Examinations of the High and Low Pressure Core Spray Spargers and the associated piping inside the RPV each refueling outage, as requested by the NRC in IE Bulletin No. 80-13.
2A	Examinations of the Reactor Core Isolation Coolant lines that are exempted by ASME Section XI, IWC-1220(b), but are examined due to the NRC requesting this system be treated as an essential system.

Augmented Inservice Inspection Type 1A

The following ASME Category B-F and B-J welds receive 100% volumetric examination each inspection interval, except as noted. Those welds marked by asterisk(s) receive alternate examinations as follows:

* See RI-05 for alternate examination.
** See RI-11 for alternate examination.

For further information on a component, such as configuration, material, cal. std., etc., see Tab 11 "ASME Category B-F", or Tab 15 "ASME Category B-J".

Feedwater

IFW-1001-10
IFW-1001-10LD
IFW-1001-13
IFW-1001-13LD
IFW-1001-13LU
IFW-1001-16
IFW-1001-16LU
IFW-1001-18*
IFW-1001-18LD*
IFW-1001-20
IFW-1001-20LU

IFW-1002-10
IFW-1002-10LD
IFW-1002-12
IFW-1002-12LD
IFW-1002-12LU
IFW-1002-15
IFW-1002-15LU
IFW-1002-17*
IFW-1002-17LD*
IFW-1002-20
IFW-1002-20LU

High Pressure Core Spray

IHP-1001-2
IHP-1001-8
IHP-1001-10
IHP-1001-13
IHP-1001-15
IHP-1001-16
IHP-1001-17
IHP-1001-19
IHP-1001-20
IHP-1001-21
rHP-1001-22
IHP-1001-28

Low Pressure Core Spray

ILP-1001-2
ILP-1001-2A
ILP-1001-8
ILP-1001-9
ILP-1001-12
ILP-1001-14
ILP-1001-15
ILP-1001-16
ILP-1001-17
ILP-1001-18
ILP-1001-19
ILP-1001-21

Main Steam

IMS-1051-15
IMS-1051-15LD
IMS-1051-16*
IMS-1051-16LU*
IMS-1051-18
IMS-1051-18LD
IMS-1051-26
IMS-1051-26LU

IMS-1052-17
IMS-1052-17LD
IMS-1052-18*
IMS-1052-18LU*
IMS-1052-20
IMS-1052-22LD
IMS-1052-28
IMS-1052-26LU

IMS-1053-15
IMS-1053-15LD
IMS-1053-16*
IMS-1053-16LU*
IMS-1053-18
IMS-1053-19LD
IMS-1053-26
IMS-1053-26LU

Main Steam

IMS-1054-18
IMS-1054-18LD
IMS-1054-19*
IMS-1054-19LU*
IMS-1054-21
IMS-1054-21LD
IMS-1054-26
IMS-1054-25LU

IMS-0014A-13
IMS-0014A-14

Residual Heat Removal

IRH-1001-2
IRH-1001-7
IRH-1001-10
IRH-1001-12
IRH-1001-13
IRH-1001-14
IRH-1001-17
IRH-1001-18
IRH-1001-19
IRH-1001-20
IRH-1001-21
IRH-1001-24

IRH-1002-2
IRH-1002-5
IRH-1002-6
IRH-1002-12
IRH-1002-14
IRH-1002-15
IRH-1002-19
IRH-1002-20
IRH-1002-22
IRH-1002-23

Augmented Inservice Inspection Type 1A (Cont'd)

Residual Heat Removal (Cont'd)

IRH-1003-2
IRH-1003-9
IRH-1003-10
IRH-1003-12
IRH-1003-13
IRH-1003-15
IRH-1003-16
IRH-1003-19
IRH-1003-20
IRH-1003-21
IRH-1003-22
IRH-1003-24
IRH-1003-25

IRH-1004-2
IRH-1004-3
IRH-1004-9
IRH-1004-11
IRH-1004-12
IRH-1004-16
IRH-1004-17
IRH-1004-19
IRH-1004-20

IRH-1005-2
IRH-1005-8
IRH-1005-10
IRH-1005-13
IRH-1005-15
IRH-1005-16
IRH-1005-17
IRH-1005-18
IRH-1005-20

IRH-1031-9
IRH-1031-12
IRH-1031-12ALD
IRH-1031-12BLD
IRH-1031-17
IRH-1031-17ALU
IRH-1031-17BLU
IRH-1031-20

Residual Heat Removal (Cont'd)

IRH-1031-20ALD
IRH-1031-20BLD
IRH-1031-25
IRH-1031-25ALU
IRH-1031-25BLU
IRH-1031-27
IRH-1031-29
IRH-1031-31
IRH-1031-31ALD
IRH-1031-31BLD
IRH-1031-32
IRH-1031-32ALU
IRH-1031-32BLU
IRH-1031-40
IRH-1031-43

Reactor Core Isolation Coolant

IRI-1001-1
IRI-1001-2
IRI-1001-3
IRI-1001-4
IRI-1001-5
IRI-1001-6
IRI-1001-7
IRI-1001-7A
IRI-1001-8
IRI-1001-9
IRI-1001-9A**
IRI-1001-15
IRI-1001-16
IRI-1001-16A
IRI-1001-18
IRI-1001-19
IRI-1001-20
IRI-1001-21
IRI-1001-24
IRI-1001-25
IRI-1001-26
IRI-1001-27
IRI-1001-28

Reactor Core Isolation Coolant

IRI-1002-1
IRI-1002-3
IRI-1002-4
IRI-1002-5
IRI-1002-6
IRI-1002-8
IRI-1002-9

IRI-1003-9
IRI-1003-10
IRI-1003-11
IRI-1003-13C
IRI-1003-14
IRI-1003-15
IRI-1003-17
IRI-1003-18
IRI-1003-19
IRI-1003-20
IRI-1003-22
IRI-1003-23
IRI-1003-24
IRI-1003-25
IRI-1003-27
IRI-1003-28
IRI-1003-29
IRI-1003-30
IRI-1003-31
IRI-1003-32

Reactor Water Clean-Up

IRT-1001-24
IRT-1001-25
IRT-1001-26
IRT-1001-27
IRT-1001-28
IRT-1001-29
IRT-1001-30
IRT-1001-31
IRT-1001-32
IRT-1001-33
IRT-1001-37
IRT-1001-38

Augmented Inservice Inspection Type 1B

The feedwater components listed in Table 1 receive examination per Section 4.3.2.3 of NUREG-0619 and Table 2. As required by Section 4.4.3.1 of NUREG-0619, within 6 months of completing an outage at which an inspection was performed in accordance with Table 2, the licensee must submit a detailed report discussing the inspection(s) performed. Information required includes:

(a) Number of startup/shutdown cycles since the previous inspection, and the total number of cycles. This will include cycles accumulated during the initial startup and testing of the plant.

(b) Summary of methods used and results of previous inspections, including maximum crack depth and number of cracks found in previous PT-and-grind operations, and number of startup/shutdown cylces between such inspections.

(c) Description of any additional system changes or changes in operating procedures that will affect feedwater flow or temperature and that should be considered in predicting future cracking tendencies based on past history.

(d) A detailed discussion of the inspection results, including a complete description of cracking location, dimensions, and profile, if cracking was found. Drawings and photographs, if available, are requested.

(e) Information regarding the results of leakage monitoring. However, the staff must be informed immediately if on-line leakage monitoring during operation discloses any leakage on welded spargers or leakage on the order of 0.3 gpm through single-sleeve/single-piston-ring spargers or triple-sleeve spargers.

(f) Information regarding all UT crack-like indications and any subsequent PT indications. Information regarding UT techniques should be as precise and as extensive as possible in order that it may be of benefit in future inspections.

(g) The above information is to be submitted to the Regional Director, IE, with copies to Director, IE, and Director, NRR.

Table 1
Components Receiving Examination

Exam./Component I.D. No.	For Further Information[1] See:
1 - NIR - 4A (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - NIR - 4B (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - NIR - 4C (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - NIR - 4D (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - NIR - 4E (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - NIR - 4F (and Nozzle Bore)	Tab 9 "ASME Category B-D"
1 - Feedwater Spargers	Tab 21 "ASME Category B-N-1"
IFW-1001-71A	Tab 11 "ASME Category B-F"
IFW-1001-81A	Tab 11 "ASME Category B-F"
IFW-1001-89A	Tab 11 "ASME Category B-F"
IFW-1002-53A	Tab 11 "ASME Category B-F"
IFW-1002-63A	Tab 11 "ASME Category B-F"
IFW-1002-72A	Tab 11 "ASME Category B-F"

[1]Further information such as: examination type, material specification, calibration standard, etc.

Table 2

Routine Inspection Intervals

Configuration	Inspection Interval-Refueling Cycles (or Startup/shutdown Cycles)		
	UT	Visual Inspection of Sparger[1]	Routine PT[2,3]
Triple-sleeve spargers with two piston-ring seals, clad removed.	2	4	9 (or 135)

[1]Visual inspection of flow holes and welds in sparger arms and sparger tees.

[2]To be performed even if the UT and leak test results are satisfactory.

[3]The routine PT consists of removal of a sparger from one nozzle followed by flapper wheel grinding of the nozzle and PT examination of both the nozzle and the accessible portions of the other feedwater nozzles.

[4]The UT examination consists of external UT examination of all feedwater nozzle safe ends, nozzles bores, and nozzle blend radii.

[5]If UT recordable indications are interpreted to be cracks in any nozzle(s), remove the sparger(s) from the nozzle(s), perform PT examination on the nozzle bore and nozzle blend radius, and repair. Also, perform PT examination on the accessible portions of the remaining nozzles.

Augmented Inservice Inspection Type 1C

Visual examination of the High and Low Pressure Core Spray Spargers and the associated piping inside the RPV is performed each refueling outage, as requested by the NRC in IE Bulletin No. 80-13. The visual examination is performed using LaSalle County Station Procedure LTS 600-8.

Augmented Inservice Inspection Type 2A

The components of the Reactor Core Isolation Coolant piping lines listed in Table 3 are exempt from examination by ASME Section XI, IWC-1220(b). Due to the NRC requesting this system be treated as an essential system, the components are scheduled for examination using ASME Section XI selection criteria. For further information, see Tab 5 "Component and Piping Line Number Table: CPLN". The type and number of components requiring examination are listed in the CPLN.

Table 3
RCIC System AISI Piping Lines

1RI02A
1RI02B
1RI02C
1RI12A
1RI16A
1RI16B
1RI17A
1RI24A
1RI40B
1RI43B

Tab 4L

NDE PROCEDURES

The NDE procedures used to perform the Inservice Inspection examinations are listed in Table 1. The NDE procedures are contained in the LaSalle County Station Inservice Inspection Nondestructive Examination Procedures Manual and are available for review at the LaSalle County Station.

The NDE procedures are written in accordance with the ASME Boiler and Pressure Vessel Code, 1980 Edition thru Winter 1980 Addenda. The ISI examinations are performed using the revision of the NDE procedure in effect at the time of the examination.

TABLE 1

NDE Procedure No.	Title
APUN-W801	Automated Ultrasonic Testing of Nozzle to Vessel Welds
APUV-W801	Automated Ultrasonic Testing of RPV Welds and Base Material
MPUB-W801	Ultrasonic Inspection of Pressure Retaining Greater Than Two Inches in Diameter
MPUD-W801	Manual UT Examination of Full Penetration Piping Welds (Half-Vee Technique)
MPUL-W801	Manual UT Examination of Flange Ligaments
MPUP-W801	Manual UT Examination of Full Penetration Piping Welds
MPURHX-W801	Manual Ultrasonic Testing of RHR Heat Exchanger Welds
MPUV-W801	Manual Ultrasonic Testing of RPV Welds
NIRRHX-W801	Ultrasonic Examination of RHR Heat Exchanger Nozzle Inner Radius
NIRZ1-W801	Procedure for Nozzle Inner Radius Zone 1 Ultrasonic Examination
NIRZ2-W801	Procedure for Nozzle Inner Radius Zone 2 Ultrasonic Examination
NIRZ2-N9-W801	Ultrasonic Examination for Nozzle Inner Radius Zone 2 on LaSalle Unit 1 Jet Pump Instrumentation Nozzles
PP-W801	Liquid Penetrant Examination of Nuclear Power Plant Components
PV1-W801	Visual Examination VT-1
PV2-W801	Visual Examination VT-2
PV3-W801	Visual Examination VT-3
PV4-W801	Visual Examination VT-4

INSERVICE

INSPECTION

LA SALLE

Volume I