EXAMINATION RESULTS SUMMARY

- COMPARISON OF VOLUMETRIC EXAMINATION RESULTS
  - SEMI-AUTOMATED ENCODED PHASED ARRAY EXAMINATION
    - PSL SAFETY NOZZLE ‘A’
      - 9 EMBEDDED FABRICATION FLAWS IDENTIFIED
        - » ATTRIBUTED TO SLAG, POROSITY, AND/OR LACK OF FUSION
        - » CLUSTERED AS WELL AS INDIVIDUAL INDICATIONS
      - NO SURFACE CONNECTED FLAWS IDENTIFIED
    - PSL SAFETY NOZZLE ‘B’
      - 5 EMBEDDED FABRICATION FLAWS IDENTIFIED
        - » ATTRIBUTED TO SLAG, POROSITY, AND/OR LACK OF FUSION
        - » CLUSTERED AS WELL AS INDIVIDUAL INDICATIONS
      - NO SURFACE CONNECTED FLAWS IDENTIFIED
    - PSL SAFETY NOZZLE ‘C’
      - 7 EMBEDDED FABRICATION FLAWS IDENTIFIED
        - » ATTRIBUTED TO SLAG, POROSITY, AND/OR LACK OF FUSION
        - » CLUSTERED AS WELL AS INDIVIDUAL INDICATIONS
      - NO SURFACE CONNECTED FLAWS IDENTIFIED

EXAMINATION RESULTS SUMMARY

- DOUBLE WALL EXPOSURE RADIOGRAPH EXAMINATION
  - PSL SAFETY NOZZLE ‘A’
    - 7 EMBEDDED FABRICATION FLAWS IDENTIFIED
      - » 5 ATTRIBUTED TO SLAG
      - » 2 ATTRIBUTED TO POROSITY
    - NO SURFACE CONNECTED FLAWS IDENTIFIED
  - PSL SAFETY NOZZLE ‘B’
    - 5 EMBEDDED FABRICATION FLAWS IDENTIFIED
      - » ALL ATTRIBUTED TO SLAG
    - NO SURFACE CONNECTED FLAWS IDENTIFIED
  - PSL SAFETY NOZZLE ‘C’
    - 5 EMBEDDED FABRICATION FLAWS IDENTIFIED
      - » 3 ATTRIBUTED TO SLAG / POROSITY
      - » 2 ATTRIBUTED TO POROSITY
    - 1 LINEAR ID SURFACE INDICATION

EXAMINATION RESULTS SUMMARY

- SINGLE WALL EXPOSURE RADIOGRAPH EXAMINATION
  - PSL SAFETY NOZZLE ‘A’
    - ONLY NOZLE EXAMINED WITH SINGLE WALL EXPOSURE TECHNIQUE
      - » EXAM LIMITATION FROM 10.5” THRU 12” AS MEASURED FROM OD
      - » 7 EMBEDDED FABRICATION FLAWS IDENTIFIED
      - » 6 ATTRIBUTED TO SLAG
      - » 1 ATTRIBUTED TO POROSITY
      - » 3 LINEAR ID SURFACE INDICATIONS

- ENCODED EDDY CURRENT ID EXAMINATION
  - PSL SAFETY NOZZLE ‘A’
    - 4 INDICATIONS IDENTIFIED
      - » ALL INDICATIONS AT OR NEAR THE INSIDE SURFACE
  - PSL SAFETY NOZZLE ‘B’
    - NO INDICATIONS IDENTIFIED
  - PSL SAFETY NOZZLE ‘C’
    - 4 INDICATIONS IDENTIFIED
      - » ALL INDICATIONS AT OR NEAR THE INSIDE SURFACE

EXAMINATION RESULTS SUMMARY

PSL FIELD REMOVED PZR SAFETY NOZZLES

VOLUMETRIC EXAMINATION METHOD COMPARISON

VOLUMETRIC EXAMINATION METHODS						
NOZZLE IDENTIFICATION	INDICATION	ENCODED PA			RADIOGRAPHY	COMMENTS
		START	STOP	LENGTH	LOCATION	
PSL SAFETY 'A'	1	22	32	10		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	2	41	67	26	50.8 / 60.3	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	229	262	33	234.9	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	4	290	304	14	304.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	5	282	331	49	323.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	6	384	423	39		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	7	447	477	30		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	8	360° INTERMITTENT				EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	9	127	138	11	139.7	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
					355.6	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
PSL SAFETY 'B'	1	210	233	23	215.9	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	2	337	417	80	368.3	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	394	410	16		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	4	373	398	25		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	5	445	460	15	444.5	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
					276.2	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
PSL SAFETY 'C'	1	49	67	18	38.1	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	2	192	205	13	196.8	EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY AND RADIOGRAPHY
	3	246	265	20		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	4	330	342	12		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	5	375	391	16		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	6	414	455	41		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
	7	354	360	6		EMBEDDED FABRICATION FLAWS RECORDED WITH ENCODED PHASED ARRAY ONLY
					355.6 / 381	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
					88.9	EMBEDDED FABRICATION FLAWS RECORDED WITH RADIOGRAPHY ONLY
					254	LINEAR ID SURFACE INDICATION RECORDED WITH RADIOGRAPHY ONLY

NOTES:

1. *RADIOGRAPHY EXAMINATION RESULTS ONLY GIVE FLAW LOCATION IN THE CIRCUMFERENTIAL PLANE. NO THRU-WALL OR LENGTH DIMENSION DATA PROVIDED. ALL INDICATIONS RECORDED WITH RADIOGRAPHY ARE WITHIN THE APPLICABLE ASME CODE ACCEPTANCE CRITERIA.MAXIMUM ALLOWABLE FLAW LENGTH = 0.53"*

Examination Results Summary

PSL FIELD REMOVED PZR SAFETY NOZZLES

SUIRFACE EXAMINATION METHOD COMPARISON

SURFACE EXAMINATION METHODS								
NOZZLE IDENTIFICATION	INDICATION	DYE PENETRANT			EDDY CURRENT			COMMENTS
		START	STOP	LENGTH	START	STOP	LENGTH	
PSL SAFETY 'A'	1	6.30	0.26	3.16				
	2	2.66	3.84	1.28				
	3	3.64	3.84	0.30	3.798213	4.055118	0.255906	
	4	4.82	5.34	0.42				
	5	5.77	6.00	0.23				
					0.569055	0.917323	0.358268	
					1.606299	2.066929	0.46063	
					5.566929	5.925197	0.358268	
PSL SAFETY 'B'	1	6.99	0.15	2.38				
	2	0.18	0.38	0.22				
	3	0.84	0.95	0.11				
	4	3.20	3.32	0.12				
	5	6.08	6.18	0.10				
	6	6.27	6.35	0.08				
	7	6.40	6.50	0.10				
PSL SAFETY 'C'	1	7.80	0.15	1.76				
	2	0.63	0.74	0.11				
	3	0.96	1.06	0.11				
	4	1.66	1.88	0.11				
	5	3.08	3.38	0.30				
	6	5.96	6.21	0.26				
	7	7.07	7.18	0.11				
					0.408449	0.611811	0.102362	
					2.346457	2.5	0.153543	
					5.261969	5.466693	0.204724	
					5.559055	5.661417	0.102362	