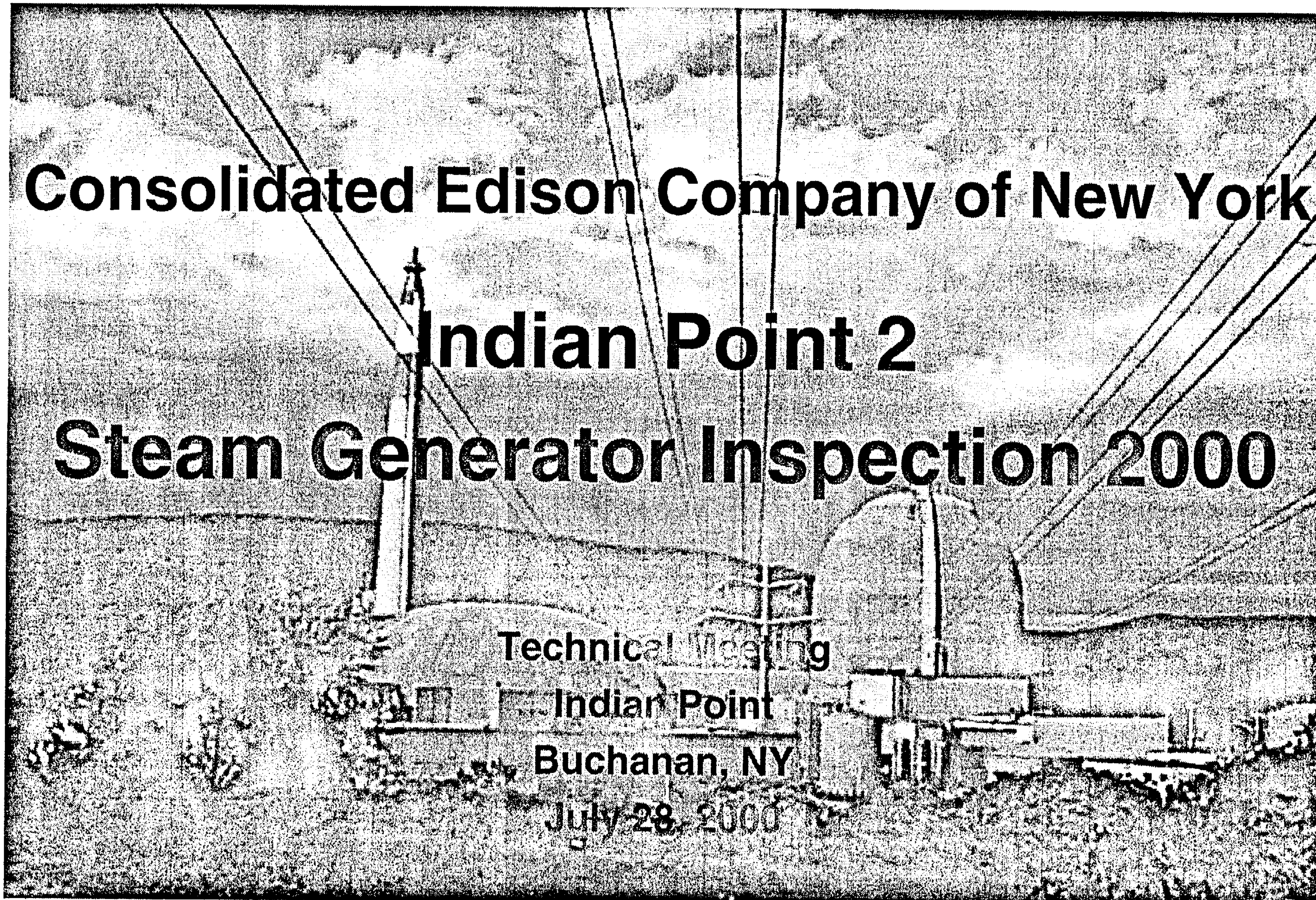

Consolidated Edison Company of New York
Indian Point 2
Steam Generator Inspection 2000
Technical Meeting
Indian Point
Buchanan, NY
July 28, 2000

# Overview

- CMOA based on row 2 in service (all row 2 plugged)
- Row 3 significantly less susceptible to PWSCC (time factor of at least 1.8)
- No cracks detected or expected in row 3 (consistent with industry experience)
- First use in industry of 800 kHz probe

# Topics

- Probability of Detection - Q 1, 2 & 3
- Eddy Current Data for Sizing - Q 4 &5
- Material Properties - Q6
- Supplemental Information
- Conclusions

# Conservative Elements in CMOA

- Row 2 cracks assumed to exist in row 3
- No credit taken for plugging all row 2
- Assumed the most susceptible material in row 3 is at the center of the flowslot
- Used 95% / 95% CL vs. 90% / 50% CL industry standard

# Supplement to CMOA

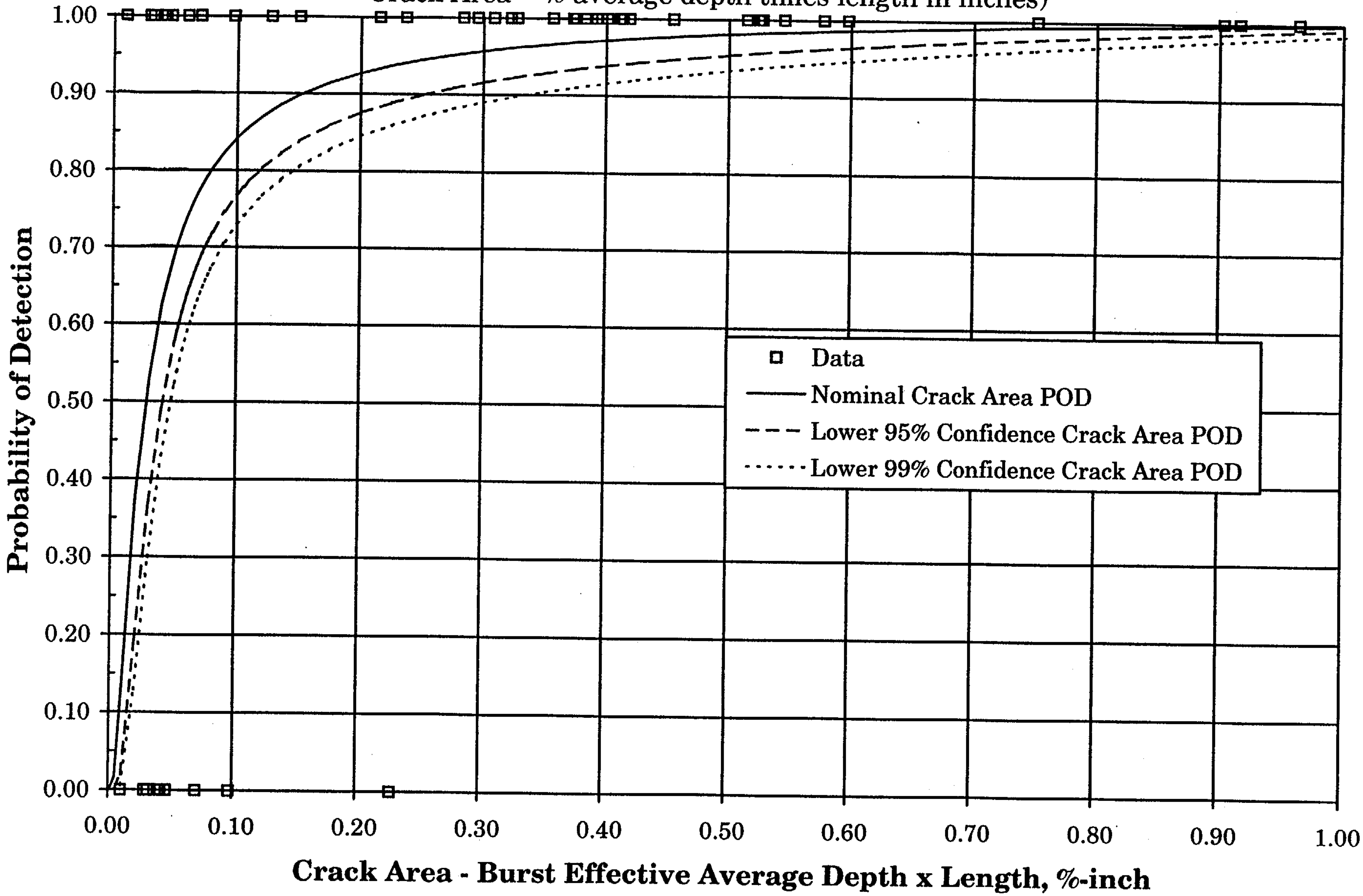
- Use of Burst Model due to ANO Tests
  - Revised to ANL Model
- Detection of Short Deep Cracks, 1 volt
  - Analyzed 0.3 in / Average Depth 45%, Potentially Undetected
  - Analysis Result - Could not grow enough in short cycle
- Use of crack area vs. crack depth POD

# Probability of Detection - Q1

- Provide a chart showing the 95% confidence bounds on POD fit to the crack area

**Figure RAI-1-1. Indian Point-2: POD vs. Burst Effective Crack Area Nominal, Lower 95% and Lower 99% Confidence Levels**

Crack Area = % average depth times length in inches)



# Probability of Detection - Q2

- What is the sensitivity of the CMOA to a 10% shift of the POD in % TW

**Figure RAI-2-1. Indian Point-2: POD vs. Average Crack Depth Including PODs at Lower Confidence Levels and with Depth Shifts**

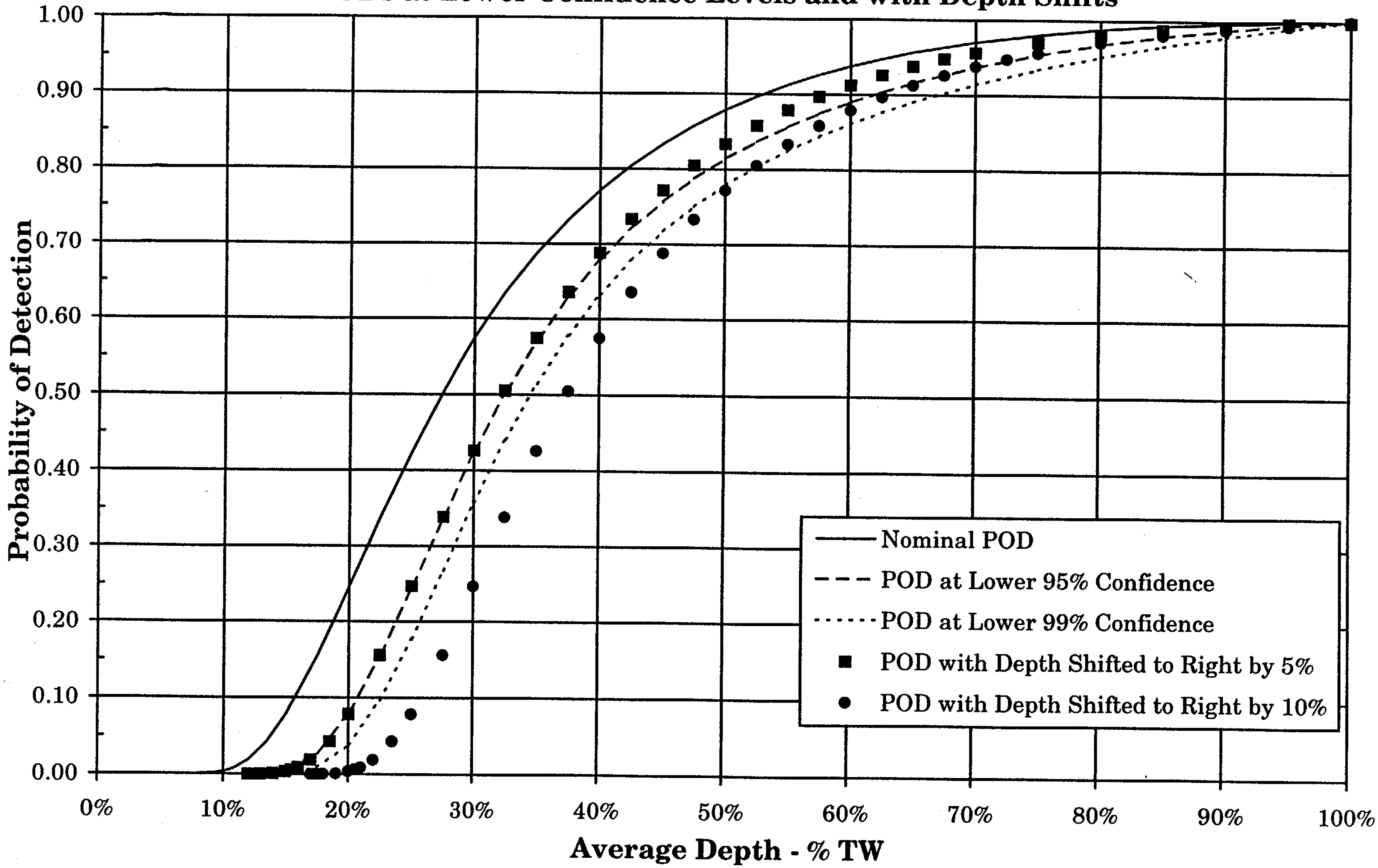
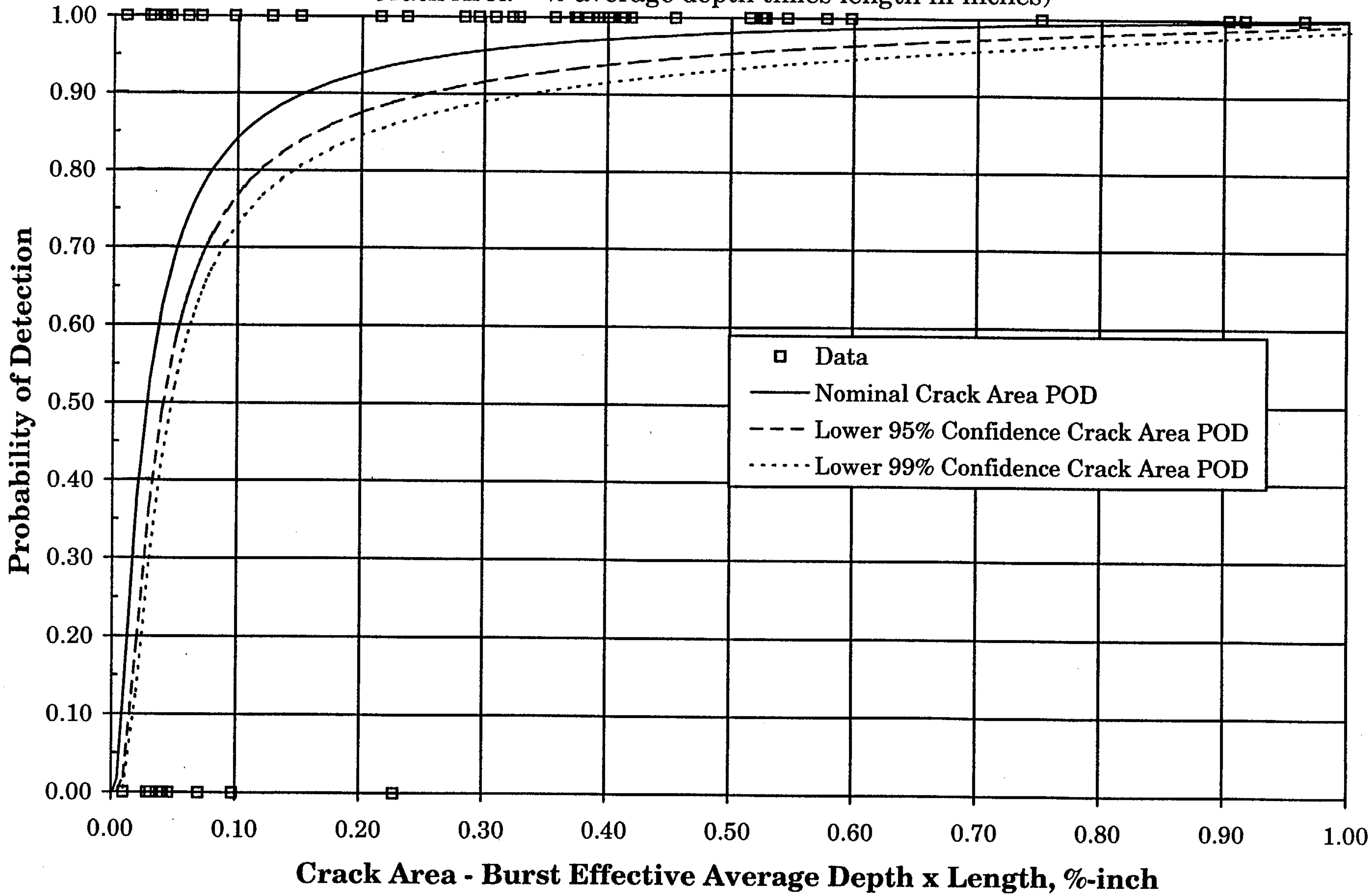


**Figure RAI-1-1. Indian Point-2: POD vs. Burst Effective Crack Area**
**Nominal, Lower 95% and Lower 99% Confidence Levels**
Crack Area = % average depth times length in inches)



| Table RAI 2-1. Indian Point-2 Cycle 15 SG Depth-Based POD Sensitivity Analyses Projected Burst Pressures and Leak Rate[1] for the Limiting SG 24 - 400 kHz Profiles | | | | | |
|---|---|---|---|---|---|
| **Operating EFPY** | **POD** | **Limiting Burst Pressure (psi)** | **SLB Leak Rate (gpm)** | **SLB Burst Probability** | **$3\Delta P_{NO}$ Burst Probability** |
| 1.0 | Reference Depth-Based POD Distribution | 4840 | 0.0 | $3.23 \times 10^{-3}$ | $4.10 \times 10^{-2}$ |
| | Reference POD with Uncertainty | 4800 | 0.0 | $4.18 \times 10^{-3}$ | $4.27 \times 10^{-2}$ |
| | POD Shift +5% | 4496 | 0.0 | $6.35 \times 10^{-3}$ | $6.01 \times 10^{-2}$ |
| | POD Shift +10% | 4137 | 0.0 | $1.08 \times 10^{-2}$ | $8.96 \times 10^{-2}$ |

1. Acceptance criteria: $3\Delta P_{NO} = 4668$ psi at operating temperature, SLB leak rate = 1 gpm summed over all degradation mechanisms. Burst probability guidelines: $\Delta P_{SLB} = 4 \times 10^{-2}$, $3\Delta P_{NO} = 8 \times 10^{-2}$ summed for all degradation mechanisms in limiting SG.

# Probability of Detection - Q3

- Provide sensitivity analysis to a 50% and 100% shift in area-based POD for a given POD value

**Figure RAI-3-1. Indian Point-2: POD vs. Burst Effective Crack Area Including PODs at Lower Confidence Levels and with Crack Area Shifts**

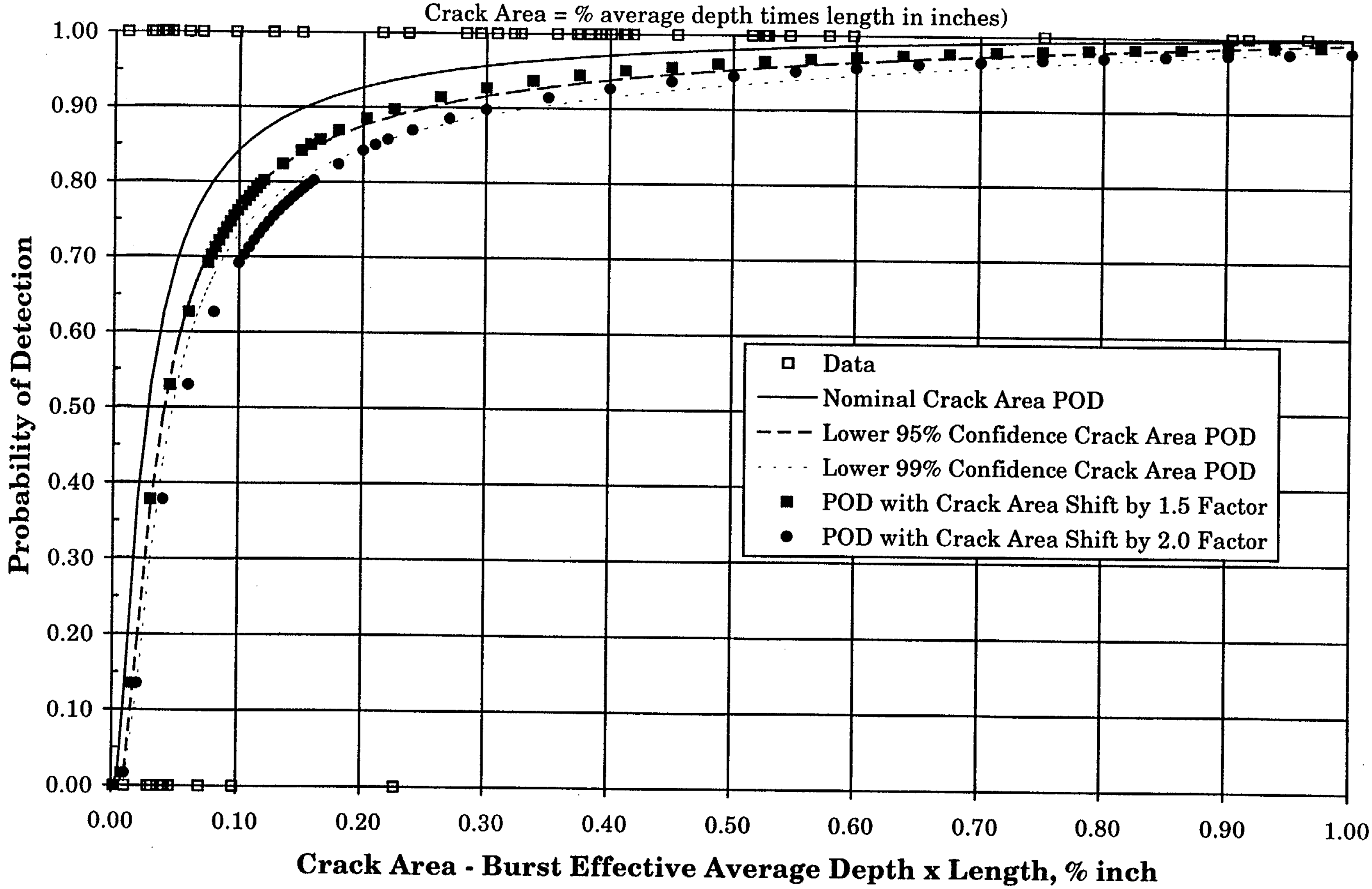


**Table RAI 3-1. Indian Point-2 Cycle 15 U-Bend Crack Area POD Sensitivity Analyses Projected Burst Pressures and Leak Rate[1] for the Limiting SG 24 - 400 kHz Profiles**

| Operating EFPY | POD | Limiting Burst Pressure 95%/95% (psi) | SLB Leak Rate 95%/95% (gpm) | SLB Burst Probability | $3\Delta P_{NO}$ Burst Probability |
|---|---|---|---|---|---|
| 0.85 | Reference Crack Area POD Distribution | 5676 | 0.0 | $1.35\times10^{-4}$ | $1.76\times10^{-2}$ |
| | Reference Crack Area POD Distribution with Uncertainty | 5543 | 0.0 | $1.87\times10^{-4}$ | $1.91\times10^{-2}$ |
| | Shifted with a 1.5 factor | 5035 | 0.0 | $1.82\times10^{-3}$ | $3.09\times10^{-2}$ |
| | Shifted with a 2.0 factor | 4731 | 0.0 | $1.44\times10^{-3}$ | $4.47\times10^{-2}$ |

1. Acceptance criteria: $3\Delta P_{NO}$ = 4668 psi at operating temperature, SLB leak rate = 1 gpm summed over all degradation mechanisms. Burst probability guidelines: $\Delta P_{SLB} = 4\text{x}10^{-2}$, $3\Delta P_{NO} = 8\text{x}10^{-2}$ summed for all degradation mechanisms in limiting SG.

# Eddy Current Sizing - Q4

- Describe the sensitivity of the analysis results to the assumed flaw size measurement error distributions. Consider a 50% and 100% increase in the standard deviation in WCAP-15128

# Eddy Current Sizing - Q4 Cont.

- Sizing of indications is a function of signal to noise
- Must be analyzed for each indication
- Uniform assignment of large uncertainties to all indications is not appropriate

**Table RAI 4-1. Indian Point-2 Cycle 15 U-Bend NDE Sizing Uncertainty Sensitivity Analyses Projected Burst Pressures and Leak Rate[1] Results for the Limiting SG 24 - 400 kHz Profiles**

**Uncertainties in POD included in the Monte Carlo analyses**

| Operating EFPY | NDE Sizing Uncertainty | Limiting Burst Pressure (psi) | Burst Pressure Margin Ratio[2] | SLB Leak Rate (gpm) | SLB Burst Probability | $3\Delta P_{NO}$ Burst Probability |
|---|---|---|---|---|---|---|
| 0.85 | Reference Depth Sizing Uncertainty[3] | 4894 | 1.05 | 0.0 | $3.18\times10^{-3}$ | $3.82\times10^{-2}$ |
| | 50% increase in WCAP-15128 standard deviation | 4799 | 1.02 | 0.0 | $4.02\times10^{-3}$ | $4.32\times10^{-2}$ |
| | 100% increase in WCAP-15128 standard deviation | 4623 | 0.99 | 0.0 | $5.11\times10^{-3}$ | $5.13\times10^{-2}$ |

1. Acceptance criteria: $3\Delta P_{NO}$ = 4668 psi at operating temperature, SLB leak rate = 1 gpm summed over all degradation mechanisms. Burst probability guidelines: $\Delta P_{SLB} = 4\times10^{-2}$, $3\Delta P_{NO} = 8\times10^{-2}$ summed for all degradation mechanisms in limiting SG.
2. Ratio of Calculated Limiting Burst Pressure to $3\Delta P_{NO}$ = 4668 psi acceptance criteria.
3. Includes 25% increase in WCAP-15128 NDE sizing uncertainties.

# Eddy Current Sizing - Q5

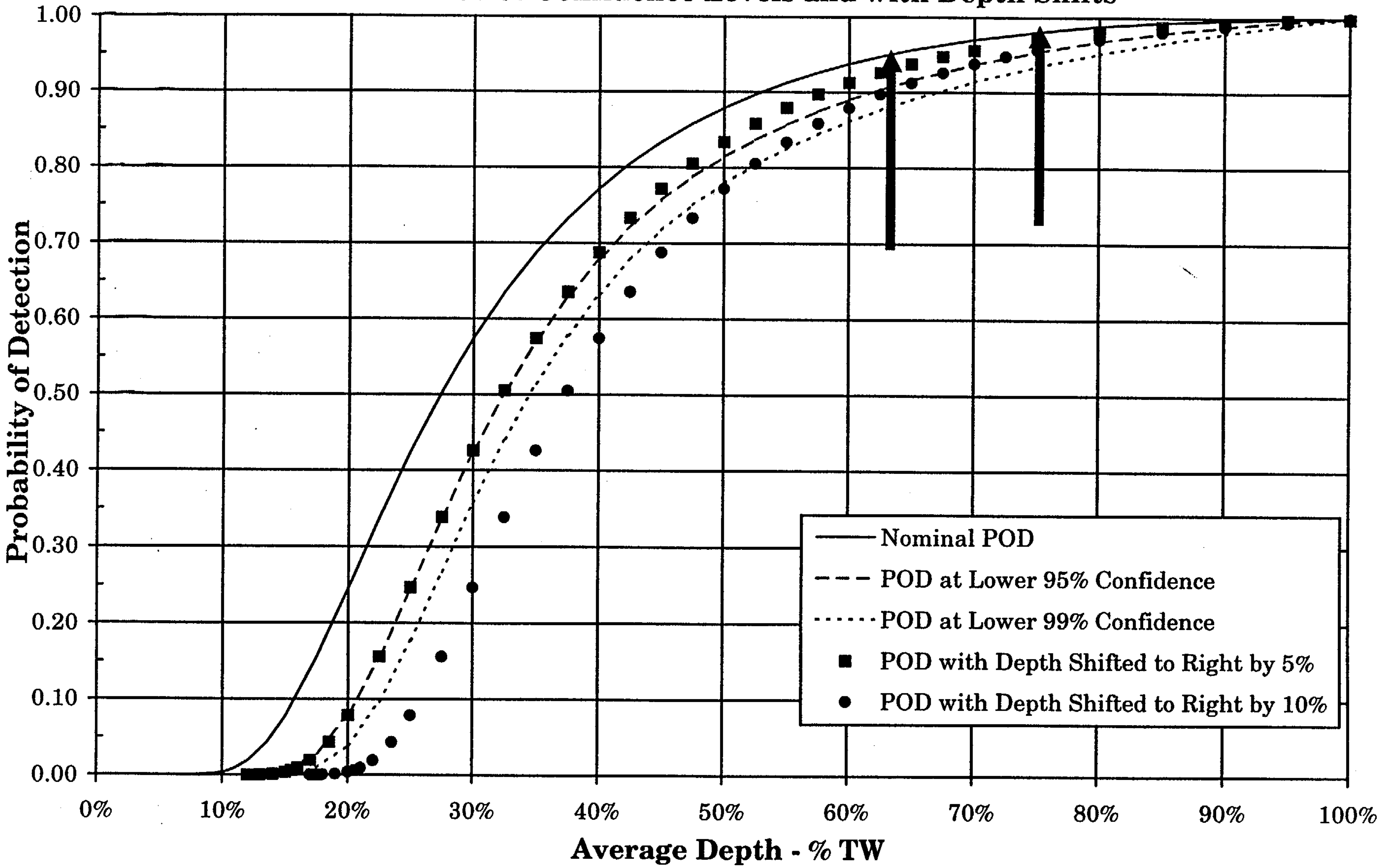
- Provide an explanation for an apparent discrepancy when calculating the EOC burst pressure from 400 kHz vs. 800 kHz data

# Eddy Current Sizing - Q5 Cont.

- Use of 400 kHz data is appropriate (NDE database)
- Greater 800 kHz depth offset by higher local POD for burst calculations
- Higher local POD impacts inverse POD relationship (1/POD-1)
- No significant impact on acceptable cycle length

| Indication | 400 kHz Profiles | | | | 800 kHz Profiles | | | | Ratio of 800 to 400 Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Burst Adjusted Average Depth (%) | Burst Adjusted Length (in) | (1/POD-1) Fraction Ratio | Indication 95/95 Burst Pressure (psi) (1) | Burst Adjusted Average Depth (%) | Burst Adjusted Length (in) | (1/POD-1) Fraction Ratio | Indication 95/95 Burst Pressure (psi) (1) | Burst Adjusted Average Depth Ratio | (1/POD-1) Fraction Ratio | 95/95 Burst Pressure Ratio(1) |
| R2C5 Crack 1 | 87.4 | 2.05 | 0.0048 | 1249 | 87.4(2) | 2.05(2) | 0.0048(2) | 1249 | 1 | 1 | 1 |
| **R2C71 Crack 1** | **64.0** | **0.57** | **0.0494** | **3744** | **75.6** | **0.58** | **0.0187** | **3226** | **1.182** | **0.379** | **0.862** |
| R2C72 Crack 1 | 59.8 | 0.54 | 0.0676 | 4084 | 62.8 | 0.56 | 0.054 | 3687 | 1.050 | 0.799 | 0.903 |
| R2C69 Crack 1 | 55.2 | 0.91 | 0.0942 | 3898 | 64.7 | 0.97 | 0.0468 | 2988 | 1.171 | 0.497 | 0.767 |
| R2C69 Crack 2 | 44.5 | 0.11 | 0.2073 | 7166 | 48.8 | 0.27 | 0.1508 | 5573 | 1.096 | 0.727 | 0.778 |
| R2C69 Crack 3 | 38.2 | 0.23 | 0.3444 | 6494 | 61.1 | 0.23 | 0.0613 | 5162 | 1.599 | 0.178 | 0.795 |
| R2C4 Crack 1 | 23.2 | 0.17 | 0.2323(3) | 7949 | 33.0 | 0.12 | 0.3517(4) | 7707 | 1.424 | 1.343 | 0.970 |
| R2C74 Crack 1 | 15.7 | 0.14 | 0(5) | 8077 | 39.4 | 0.16 | 0.3119 | 6929 | 2.509 | - | - |

**Figure RAI-2-1. Indian Point-2: POD vs. Average Crack Depth Including PODs at Lower Confidence Levels and with Depth Shifts**



# Material Properties - Q6

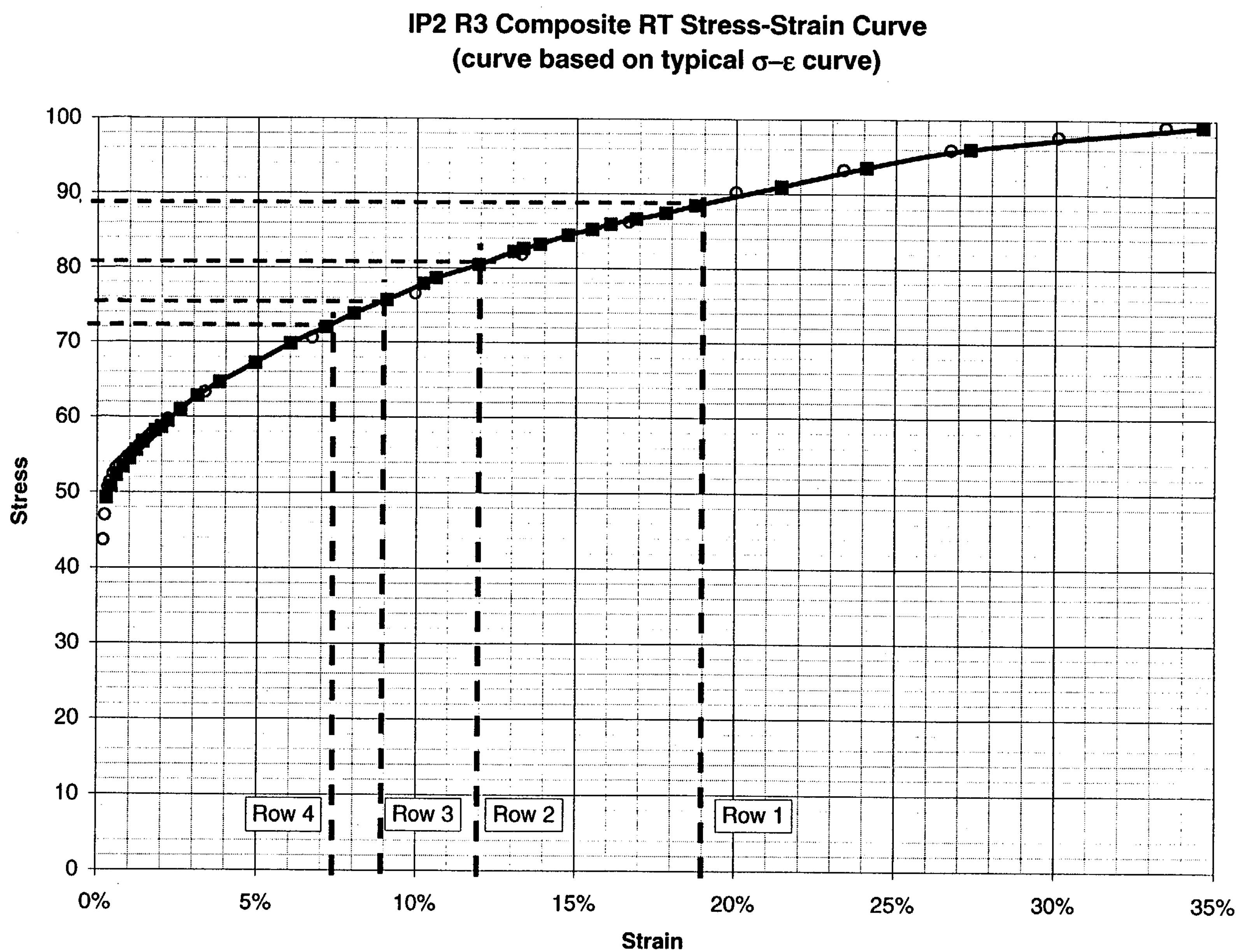
- Discuss the basis for the assumption that the material flow stress is invariant with the initial non-strain hardened material properties. Consider:
  - CMTR uncertainty distribution or 95 / 95 tolerance limit
  - Temperature and strain hardening

# Material Properties - Q6 Cont.

- CMOA uses an estimated lower bound flow stress
- CMOA is not dependent on the assumption that the flow stress is invariant
- Lower bound value yields more conservative burst pressure than CMTR material property distribution
  - Calculation provided to demonstrate conclusion

| Parameter | Reference 7/8" Westinghouse CMTR Tubing Distribution[1] | IP2 CMTRs Row 2 data only | IP2 CMTRs Row 2 U-bend (12% strain) | IP2 CMTRs Row 3 data only | IP2 CMTRs Row 3 U-bend (9% strain) |
|---|---|---|---|---|---|
| **U-Bend and Straight Leg Material Properties from CMTRs** | | | | | |
| $S_y$ (mean)-RT | 50.98 ksi | 48.5 ksi | 79.6 ksi | 49.3 ksi | 75.6 ksi |
| $S_u$ (mean)-RT | 99.96 ksi | 98.2 ksi | 98.2 ksi | 99.1 ksi | 99.1 ksi |
| $S_f$ (mean)-RT | 75.47 ksi | 73.3 ksi | 88.9 ksi[3] | 74.2 ksi | 87.3 ksi[3] |
| $\sigma_{Sf}$ – RT $S_f$ standard dev. | 3.50 ksi | 4.84 ksi | 4.53 ksi | 4.68 ksi | 4.42 ksi |
| Number of Heats | | 60 | | 44 | |
| Temp. Factor (Cold/Hot) | | | 1.07 | | 1.07 |
| $S_f$ (mean)- 590°F | | | 83.1 ksi | | 81.6 ksi |
| $\sigma_{Sf}$ – 590°F $S_f$ standard dev. | | | 4.23 ksi | | 4.13 ksi |
| | | | | | |
| **Lower Bound U-Bend Flow Stress Used in CMOA Analyses[2]** | | | | | |
| $S_f$ (lower bound)-RT | | NA | 85 ksi | | 81 ksi |
| $S_f$ (lower bound)-590°F | | NA | 79.4 ksi | | 75.7 ksi |

| Table RAI-6-2. Row 3 Burst Pressure Analysis Results for Alternate Flow Stress Distributions | | | | | |
|---|---|---|---|---|---|
| **EFPY** | **Flow Stress** | **Limiting BP (psi)** | **BP Margin Ratio** | **SLB Burst Probability** | **$3\Delta P_{NO}$ Burst Probability** |
| **Burst Correlation Applied** | | | | | |
| 0.85 | Reference constant $S_f = 75.7$ ksi | 4894 | 1.05 | $3.81 \times 10^{-3}$ | $3.82 \times 10^{-2}$ |
| 0.85 | IP2 CMTRs, Mean $S_f = 81.6$ ksi, 0.050" Wall | 5239 | 1.12 | $3.41 \times 10^{-3}$ | $2.67 \times 10^{-2}$ |
| 0.85 | IP2 CMTRs, Mean $S_f = 81.6$ ksi, 0.0475" Wall | 4928 | 1.06 | $3.78 \times 10^{-3}$ | $3.75 \times 10^{-2}$ |


IP2 R3 Composite RT Stress-Strain Curve
(curve based on typical σ–ε curve)
Stress
100
90
80
70
60
50
40
30
20
10
0
Row 4
Row 3
Row 2
Row 1
0%
5%
10%
15%
20%
25%
30%
35%
Strain

# Supplemental Information

- Material Properties
- Detectability assessment based on noise levels

# Overview

- CMOA based on row 2 in service (all row 2 plugged)
- ***Row 3 significantly less susceptible to PWSCC (time factor of at least 1.8)***
- No cracks detected or expected in row 3 (consistent with industry experience)
- First use in industry of 800 kHz probe

# Material Properties

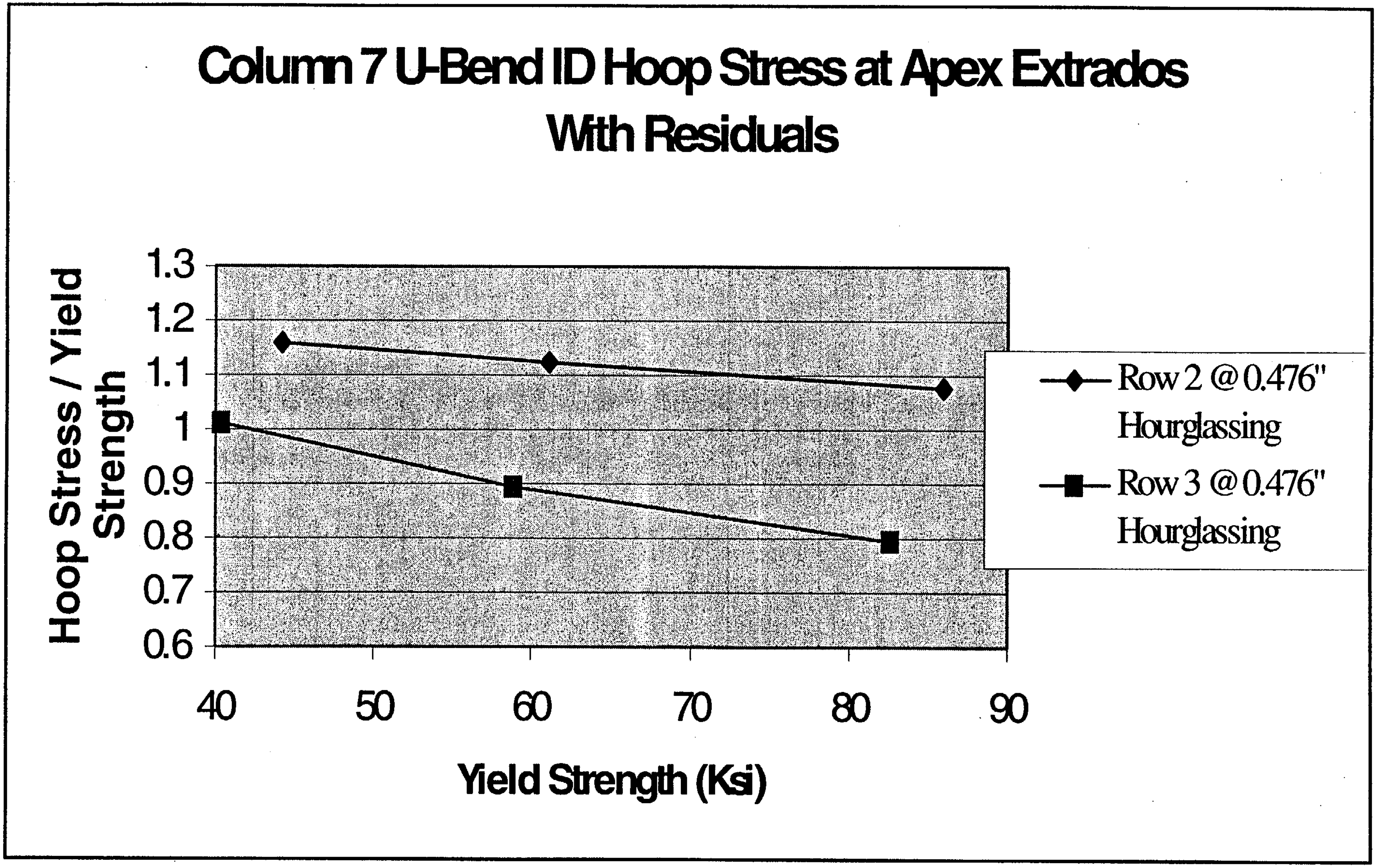
- The work performed provided an alternate and independent perspective on the acceptability of row 3
- Investigation of relative susceptibility of Row 3 to PWSCC including variation in material properties

# Approach

- Finite Element Analysis of top support plate to determine leg displacements
- Laboratory testing of similar Row 2 and Row 3 tubes to develop material stress-strain behavior, quantify residual stresses, and validate finite element model of U-bends

# Approach (cont.)

- Analysis of Row 2 and 3 U-bends to determine stress at apex due to TSP hour-glassing, temperature and pressure
- Determine relative time to crack initiation of Row 3 tubes to Row 2 based on NUREG/CR-5752 and other sources
- Perform statistical analysis of relative time to crack initiation considering the range of tube material yield strength in the generator


Column 7 U-Bend ID Hoop Stress at Apex Extrados
With Residuals
Hoop Stress / Yield Strength
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
40
50
60
70
80
90
Yield Strength (Ksi)
Row 2 @ 0.476" Hourglassing
Row 3 @ 0.476" Hourglassing

# Monte Carlo Statistical Analysis

- Included every Row 2 and Row 3 tube and the associated material properties based on the Certified Material Test Report data for IP2
- Included actual Row 2 plugged tubes at time of R2C5 leakage and present Row 3 plugged configurations

# Monte Carlo Statistical Analysis

- Considered five possible levels of hourglassing for each of the 24 flow slots: 0.1", 0.2", 0.3", 0.476" & 0.6"
- Tube stresses were calculated as a function of yield strength, position, and flow slot distortion for all 736 tubes
- The worst case stress/yield stress ratio was selected from both Row 2 and Row 3 and used to determine relative time to crack initiation using stress to the fourth relationship

# Monte Carlo Analysis Results

- Cases
  - All Flow Slots have 0.476" Hourglassing
  - Two flow slots are deformed 0.6", twelve are distorted 0.476", five are distorted 0.3", three 0.2", and two 0.1"
  - Flow Slots are all equally likely to be hourglassed 0.6", 0.476", 0.3", 0.2", and 0.1"
- Conclusion (95% probability)
  - Row 3 cracking will initiate at least 1.8 times later than Row 2 (No credit for reduced cold work)

# Conclusions of Stress Results

- Row 3 tubes significantly less susceptible than row 2 tubes
- Stress analysis supports Eddy Current results of no PWSCC in row 3
- More hourglassing than that measured (0.476”) does not change conclusions
- Row 3 tubes will take almost twice as long to initiate cracks than row 2 tubes

# Overview

- CMOA based on row 2 (all row 2 plugged)
- Row 3 significantly less susceptible to PWSCC (time factor of at least 1.8)
- No cracks detected or expected in row 3 (consistent with industry experience)
- First use in industry of 800 kHz probe
- *>1 EFPY with assumed 1.0 volt indication*

# Detectability Assessment Based on Noise Levels

- Noise Considerations:
  - RPC NDE detection principally based on strip chart and C-scan evaluations of vertical voltage component
  - Vertical amplitude noise evaluation performed to assess noise levels and detectable S/N ratio
  - Row 2, including indications, and row 3 noise levels evaluated

# Detectability Assessment Based on Noise Levels

- Conclusions
  - 800 kHz vertical amplitude noise levels very low
    - Row 3: approx. 0.14 volt average; range 0.09 to 0.19 volts
  - 800 kHz noise levels are lower than 400 kHz by factor of 2 to 3; results in lower detection threshold
  - CMOA POD based on data with noise levels similar to IP2 800 kHz data

**Table S-1. Noise Measurements – IP2 U-Bends, POD Database and NDE Sizing Database**

| Parameter | 800 kHz Vertmax | 800 kHz p-p | 400 kHz Vertmax | 400 kHz p-p |
|---|---|---|---|---|
| Row 3 Average | 0.14 | 1.10 | 0.37 | 0.54 |
| Row 3 Range | 0.09 to 0.19 | 0.74 to 1.36 | 0.25 to 0.52 | 0.41 to 0.91 |
| | | | | |
| Row 2 Average | 0.21 | 1.02 | 0.46 | 0.61 |
| Row 2 Range | 0.12 to 0.33 | 0.44 to 1.32 | 0.26 to 0.84 | 0.32 to 1.09 |
| | | | | |
| | **300 kHz Vertmax** | **300 kHz p-p** | | |
| POD Database[(1)] | 0.22 | 0.96 | | |
| | | | | |
| NDE Sizing Database[(2)] | 0.18 | 0.29 | | |

Notes:
1. Detection data for PWSCC in axial dents
2. Sizing data for PWSCC at dented TSP intersections

# POD Considerations

- POD function of S/N ratio
- From 400 kHz results, indications with S/N $\leq$ 1.43 not detected
- Detection expected for S/N > 1.5
  - Corresponds to flaw signal 800 kHz vertical amplitudes about 0.3 to 0.45 volts depending upon tube specific noise level
  - Corresponds to peak to peak indications of < 1.0 volt
- Expected size for 1 volt indications based on detected indications (documented in supplemental CMOA)
  - Less than 0.3 inch long and average depth < 45%
  - No challenge to structural or leakage integrity at 1.0 EFPY

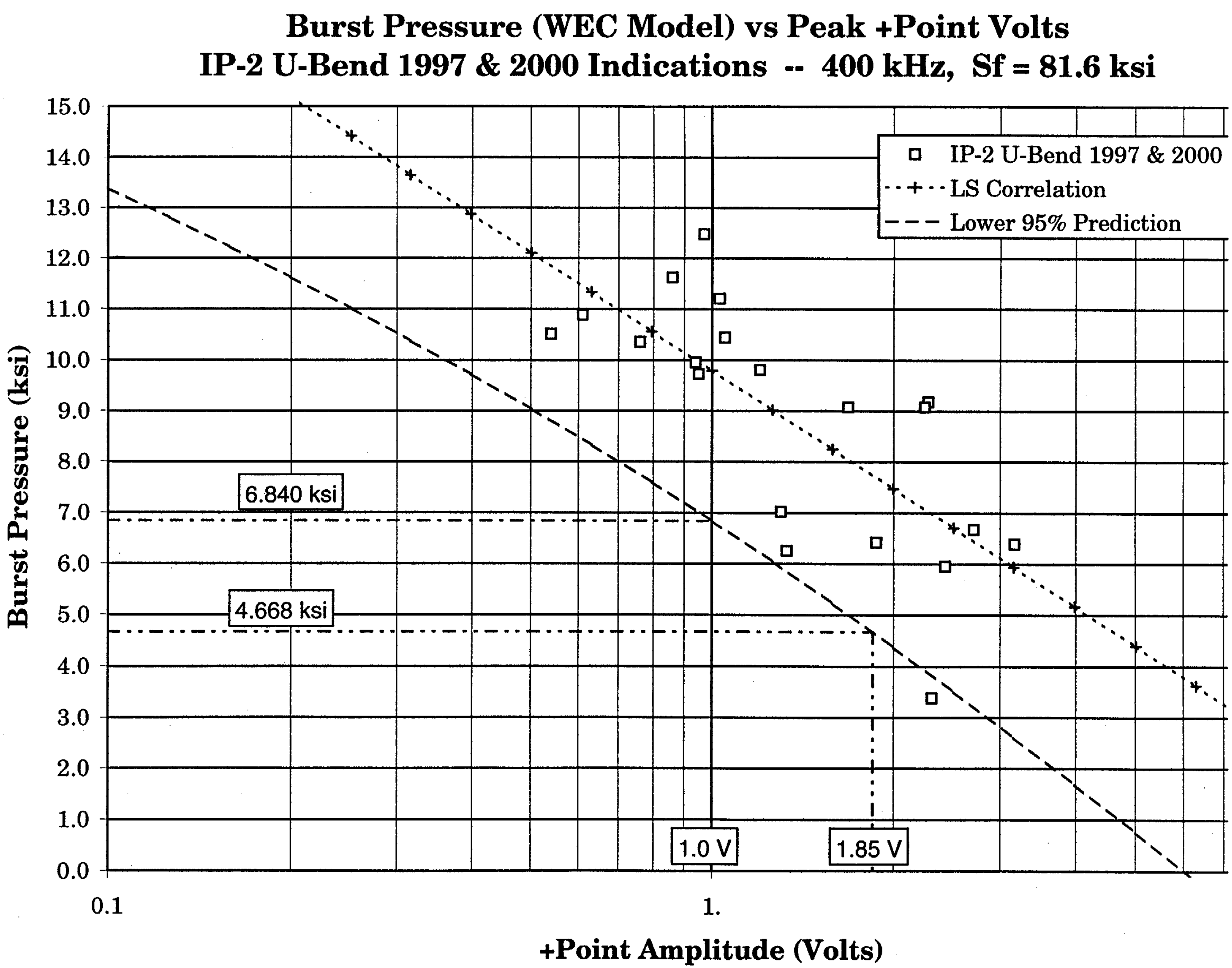
| Table S-2. Indian Point-2 U-bend Noise and Signal to Noise Ratio Measurements[1] | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tube** | **Noise Signal Measurements** | | | | **Flaw Signal Measurements** | | | | **Signal to Noise Ratio** | | | |
| | **800 kHz Vertmax** | **800 kHz p-p** | **400 kHz Vertmax** | **400 kHz p-p** | **800 kHz Vertmax** | **800 kHz p-p** | **400 kHz Vertmax** | **400 kHz p-p** | **800 kHz Vertmax** | **800 kHz p-p** | **400 kHz Vertmax** | **400 kHz p-p** |
| 2/71 | 0.22 | 0.79 | 0.40 | 0.89 | 1.00 | 2.25 | 1.14 | 2.2 | 4.55 | 2.85 | 2.85 | 2.47 |
| 2/72 | 0.33 | 0.52 | 0.28 | 0.32 | 1.62 | 3.58 | 1.58 | 3.09 | 4.91 | 6.88 | 5.64 | 9.66 |
| 2/69 | 0.22 | 1.22 | 0.62 | 0.7 | 1.59 | 4.37 | 1.14 | 3.59 | 7.23 | 3.58 | 1.84 | 5.13 |
| 2/87 | 0.27 | 0.90 | 0.57 | 0.92 | 1.30 | 2.89 | 1.08 | 2.54 | 4.81 | 3.21 | 1.89 | 2.76 |
| 2/4 | 0.29 | 0.44 | 0.31 | 0.57 | 0.48 | 0.99 | 0.41* | 0.86* | 1.66 | 2.25 | 1.32* | 1.51* |
| 2/74 | 0.21 | 1.12 | 0.26 | 0.67 | 0.34 | 1.42 | 0.31* | 0.97* | 1.62 | 1.27 | 1.19* | 1.45* |
| 2/85 | 0.23 | 0.73 | 0.30 | 0.52 | 0.48 | 1.41 | 0.31* | 1.20* | 2.09 | 1.93 | 1.03* | 2.31* |
| 2/5 | | | 0.84 | 1.14 | | | 1.20* | 2.47* | | | 1.43* | 2.17* |

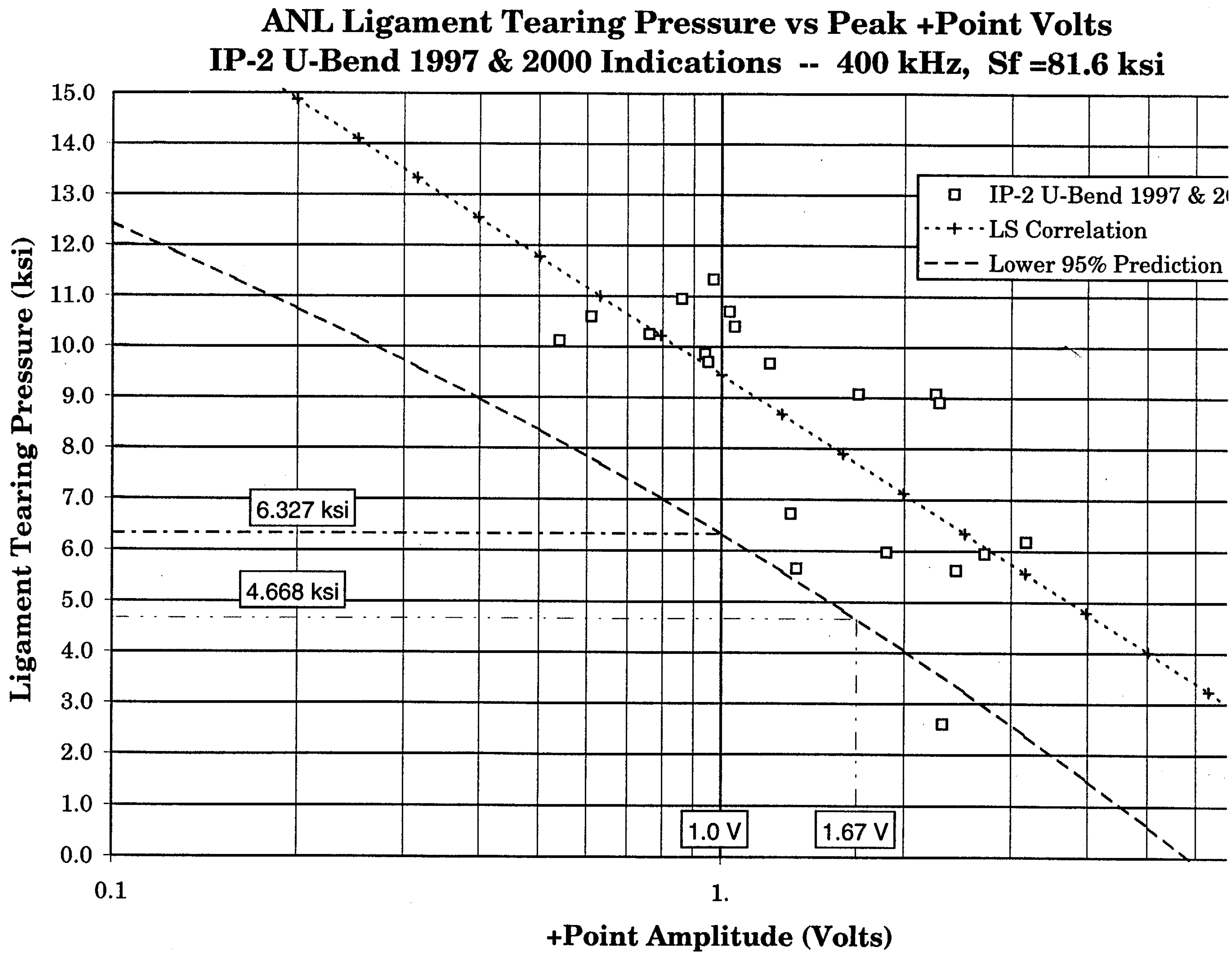
*Indications not detected by mid-range probe. Classified as bad data for mid-range probe.

1. Voltage measurements by separate analysis and differ by up to about 10% from depth profiling values in U-bend CMOA.

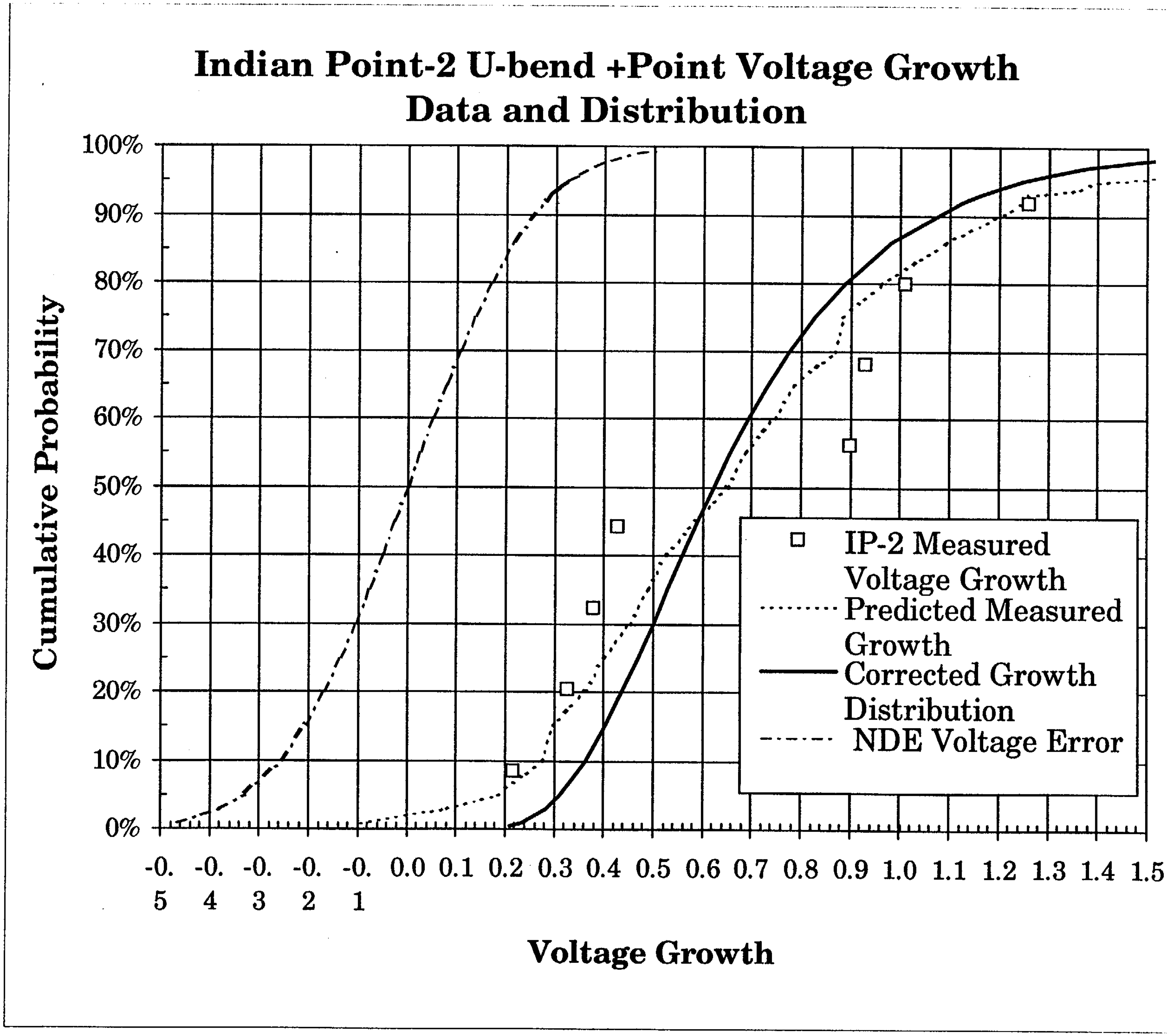
# 1.0 Volt Indication Assessment Based on Burst/Voltage Correlation

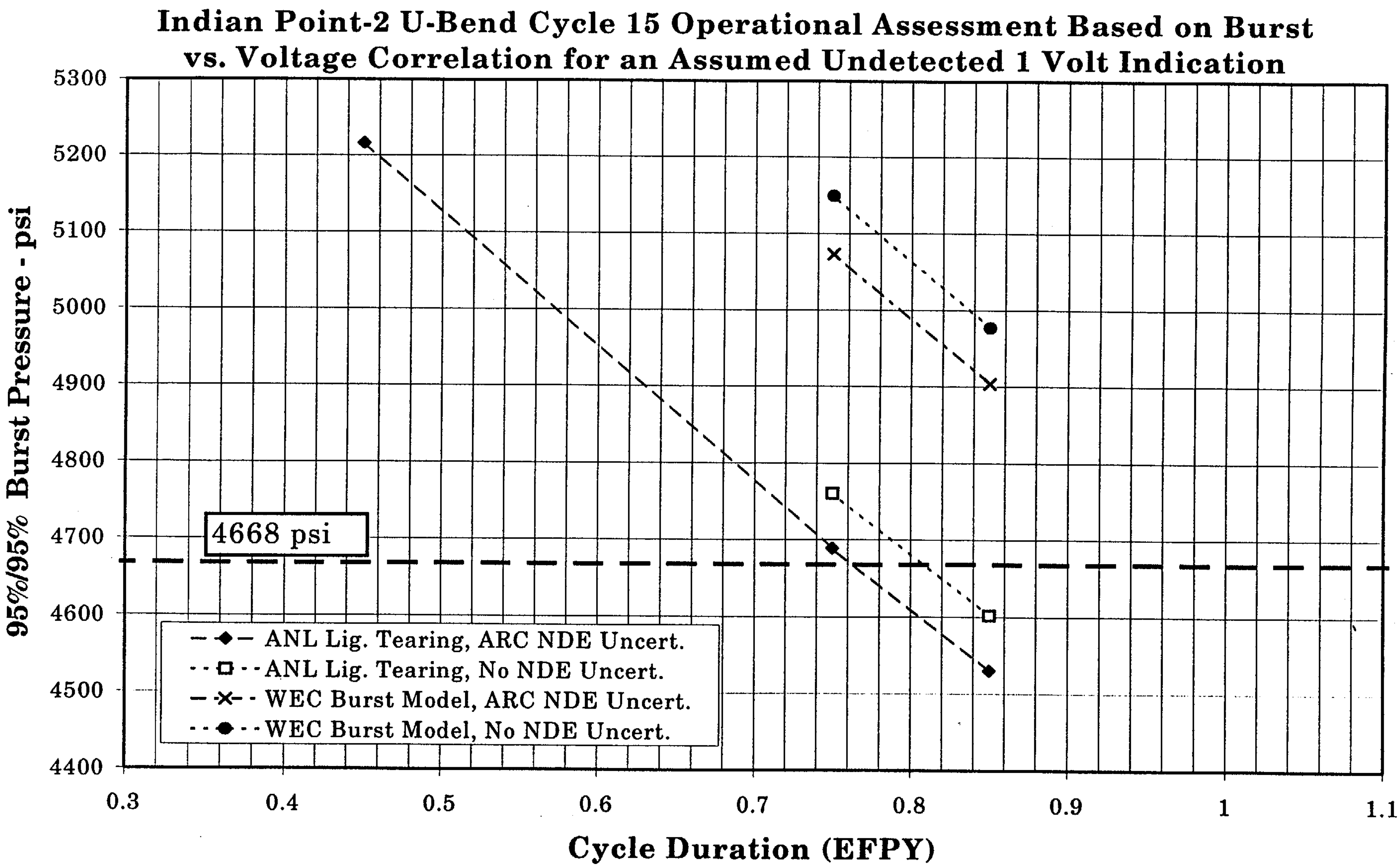
- NRC GL 95-05 ARC applies burst pressure versus voltage correlation for structural integrity evaluation
  - Provides an alternate, conservative analysis method
- Burst/Voltage Correlation Evaluation
  - Profiles (400 kHz) used to calculate burst pressures for +Point voltages
  - IP2 +Point voltage growth
  - GL 95-05 Monte Carlo methods to calculate 95/95 CL burst pressure
- Conclusion:
  - > 1.0 EFPY operation acceptable for assumed 1.0 volt indication left in service based on burst pressure model


Burst Pressure (WEC Model) vs Peak +Point Volts
IP-2 U-Bend 1997 & 2000 Indications -- 400 kHz, Sf = 81.6 ksi
IP-2 U-Bend 1997 & 2000
LS Correlation
Lower 95% Prediction
6.840 ksi
4.668 ksi
1.0 V
1.85 V
Burst Pressure (ksi)
+Point Amplitude (Volts)
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.1
1.



ANL Ligament Tearing Pressure vs Peak +Point Volts
IP-2 U-Bend 1997 & 2000 Indications -- 400 kHz, Sf =81.6 ksi
Ligament Tearing Pressure (ksi)
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
IP-2 U-Bend 1997 & 2(
LS Correlation
Lower 95% Prediction
6.327 ksi
4.668 ksi
1.0 V
1.67 V
0.1
1.
+Point Amplitude (Volts)

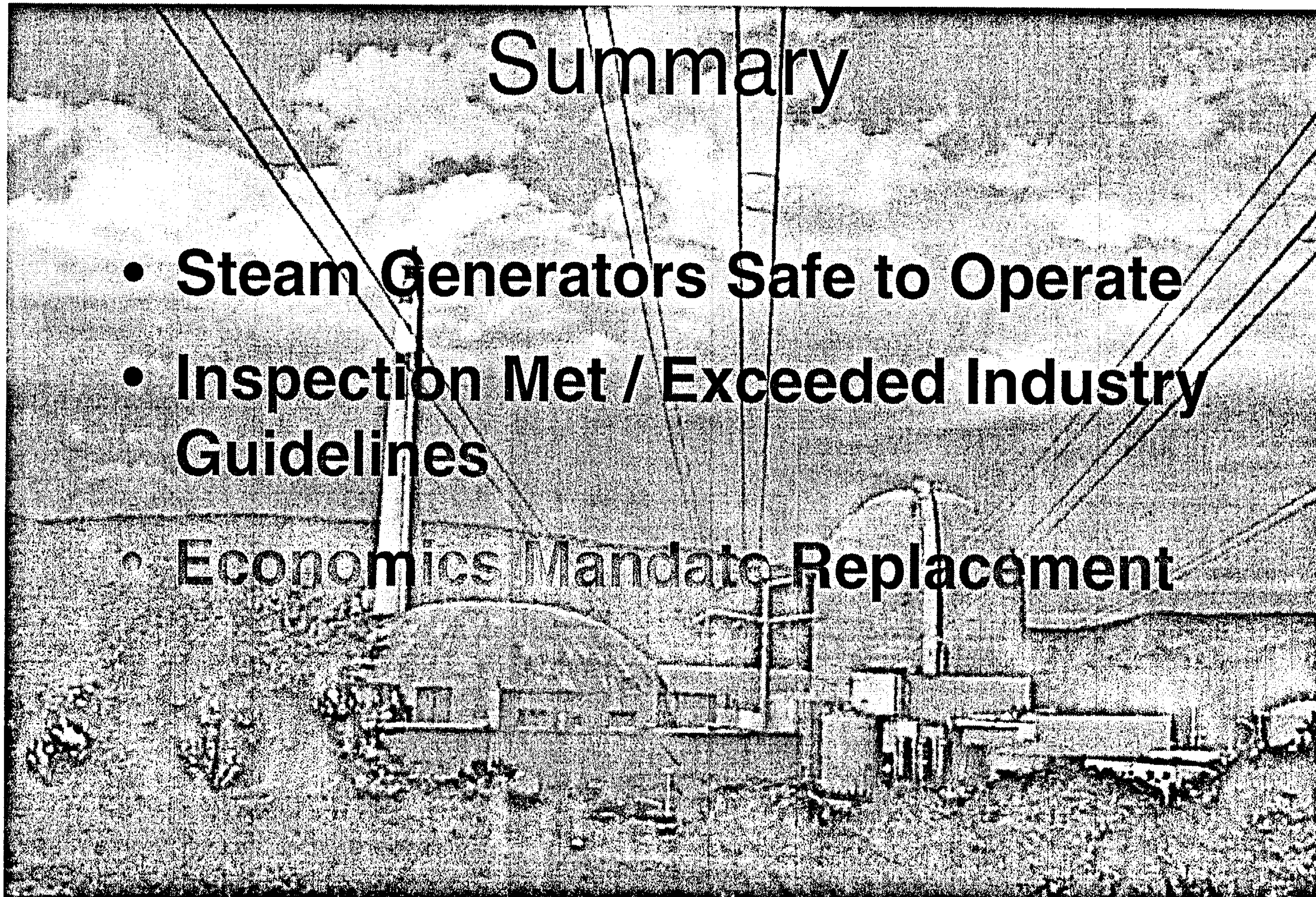

Indian Point-2 U-bend +Point Voltage Growth
Data and Distribution
Cumulative Probability
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
-0.5
-0.4
-0.3
-0.2
-0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
Voltage Growth
IP-2 Measured Voltage Growth
Predicted Measured Growth
Corrected Growth Distribution
NDE Voltage Error



Indian Point-2 U-Bend Cycle 15 Operational Assessment Based on Burst vs. Voltage Correlation for an Assumed Undetected 1 Volt Indication
95%/95% Burst Pressure - psi
5300
5200
5100
5000
4900
4800
4700
4600
4500
4400
4668 psi
ANL Lig. Tearing, ARC NDE Uncert.
ANL Lig. Tearing, No NDE Uncert.
WEC Burst Model, ARC NDE Uncert.
WEC Burst Model, No NDE Uncert.
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
Cycle Duration (EFPY)

# Overview

- CMOA based on row 2 in service (all row 2 plugged)
- Row 3 significantly less susceptible to PWSCC (time factor of at least 1.8)
- No cracks detected or expected in row 3 (consistent with industry experience)
- First use in industry of 800 kHz probe
- *>1 EFPY with assumed 1.0 volt indication*


Summary
• Steam Generators Safe to Operate
• Inspection Met / Exceeded Industry Guidelines
• Economics Mandate Replacement