

**Disposition of NCR 19269 March 3, 2006**

All of the indications were reviewed during a conference call on February 27 with EIO, PPPL, and ORNL. This review accepted all "as is" with the exception of a few areas for which we requested radiographic examination (reference NCR 19290 and 19291). Following the radiography these also were accepted "as is". Consequently, this NCR can now be considered closed.



**Approved by:**

**Phil  
Heitzenroeder**

Digitally signed by Phil Heitzenroeder  
DN: cn=Phil Heitzenroeder, c=US,  
o=PPPL, ou=Mech. Eng. Division  
Reason: I am the author of this  
document  
Date: 2006.03.03 17:19:35 -05'00'

**Technical representative**

**Brad  
Nelson**

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Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2006.03.07 10:46:31  
-05'00'

**Responsible line manager**

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**Customer: ENERGY INDUSTRIES OF OHIO**

Contact: NANCY HORTON  
E-Mail: NKHFlowen@aol.com

Telephone: 216-496-2314  
Fax: 216-328-2001

**Part: SE141-116 / MODULAR COIL WINDING FORM TYPE**

Drawing ID: SE141-116

Revision: 8

Customer P.O.: S005242-F/Ln:3  
Serial No./Qty: C3

Reported By: MIKE GRIFFITH

E-Mail: mGriffith@MajorTool.com

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: 15 areas of cluster indications (shrink, cold shuts, non-metallic inclusions) on finished machined surfaces. linear indications range from .062" to 1.200" in length (actual discontinuity size), many rounded "indications" exceeding the spec. requirements for level 1 surfaces. In addition, approx. 60 random single indications on level I & II surfaces. See field notes and photos for more details.

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**Proposed Disposition:**

SUBMIT TO CUSTOMER CONTINUE PROCESSING.

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Number of additional pages: \_\_\_\_\_

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**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

# C3 Liquid Penetrant Inspection Map of Indications

## Area #1

Linear indications (size of discontinuity not bleed-out)  
.080" to .500"

14 random rounded indications (size of bleed-out 30min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity



## C3 Liquid Penetrant Inspection Map of Indications

### Area #2

Linear indications (size of discontinuity not bleed-out)  
.085" to .200"

15 random rounded indications (size of bleed-out 30 min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity



## C3 Liquid Penetrant Inspection Map of Indications

### Area #3

Linear indications (size of discontinuity not bleed-out)  
.200" to .600"

17 random rounded indications (size of bleed-out 30min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity



## C3 Liquid Penetrant Inspection Map of Indications

### Area #4

Linear indications (size of discontinuity not bleed-out)  
.100" to .400"

29 random rounded indications (size of bleed-out 30min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity



## C3 Liquid Penetrant Inspection Map of Indications

### Area #5

Linear indications (size of discontinuity not bleed-out)

>3.00" non-metallic inclusion (size of bleed out 30min dwell time)



## C3 Liquid Penetrant Inspection Map of Indications

### Area #6

Linear indications (size of discontinuity not bleed-out)  
.075" to .700"

12 random rounded indications (size of bleed-out 30min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity





## C3 Liquid Penetrant Inspection Map of Indications

### Area #7

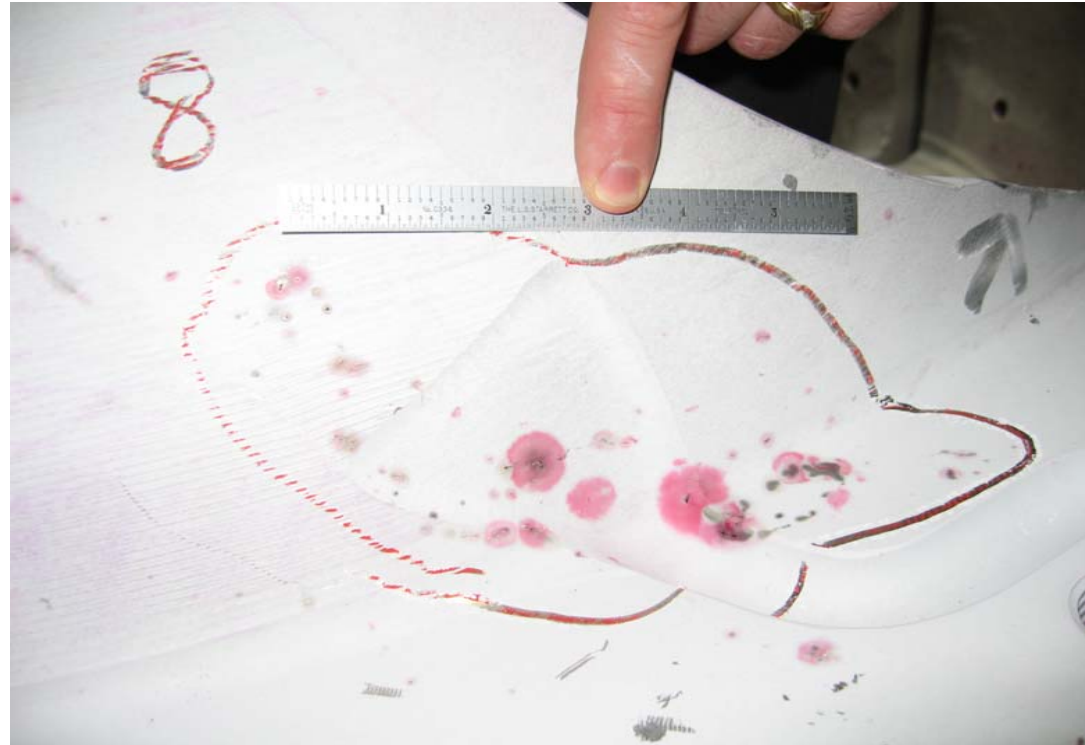
Linear indications (size of discontinuity not bleed-out)  
.200" to .500"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #8

Shrink, inclusion pocket, unable to determine individual size  
bleed-out ranges from .200" to 1.25"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #9a

Linear indications (size of discontinuity not bleed-out)  
.300" to .450"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #9b

Large defect passes through from machined surface to non-machined surface



## C3 Liquid Penetrant Inspection Map of Indications

### Area #10

Shrink pocket .600" x .700"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #11

Linear indications (size of discontinuity not bleed-out)  
.400" to 1.200"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #12

Linear indications (size of discontinuity not bleed-out)  
.100" to .800"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #13

Linear indications (size of discontinuity not bleed-out)  
.200" to .350"

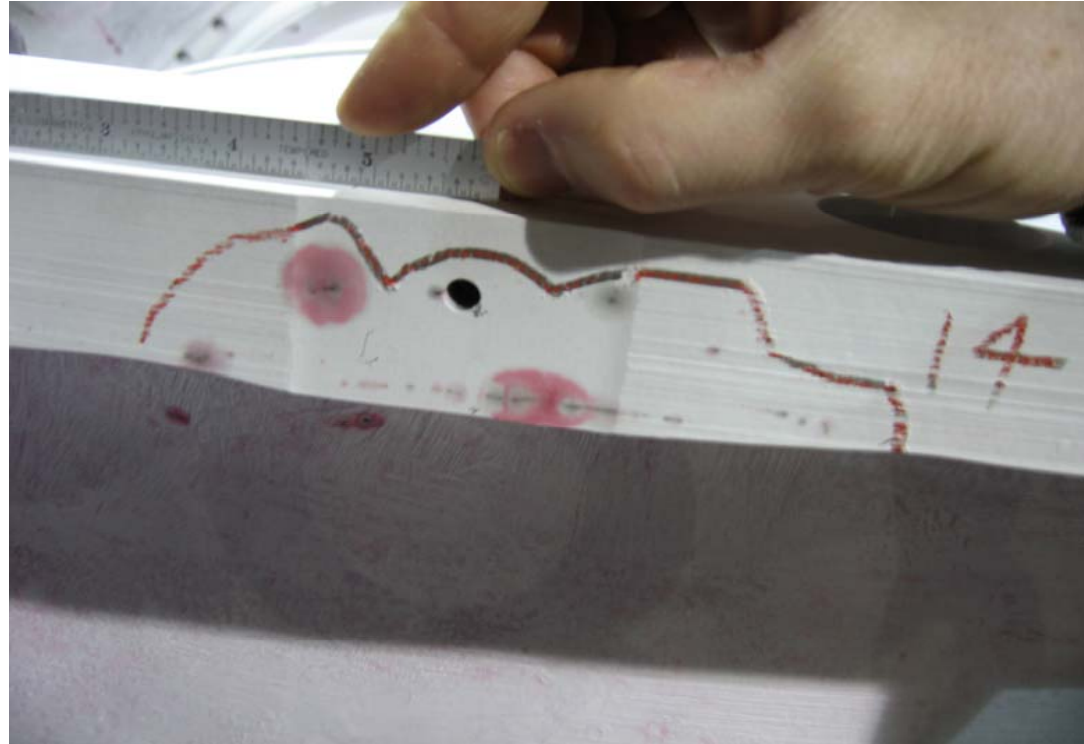




## C3 Liquid Penetrant Inspection Map of Indications

### Area #14

Linear indications (size of discontinuity not bleed-out)  
.100" to 1.250"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #15

Linear indications (size of discontinuity not bleed-out)  
.100" to .300"



## C3 Liquid Penetrant Inspection Map of Indications

### Area #16

Linear indications (size of discontinuity not bleed-out)  
.100" to .250"



**From:** Phil Heitzenroeder  
**Sent:** Tuesday, March 21, 2006 2:24 PM  
**To:** Frank Malinowski (fmalinowski@pppl.gov)  
**Subject:** NC 19269: acceptance of a linear indication after minor grinding

Re:19269

refer to the indication pointed to below. This indication was clearly more visible and the others, prompting more investigation. After discussions between EIO and in NCSX, Major Tool was asked to grind to a depth not to exceed 0.040 inches to see if it would remove the indication. It did not completely remove it, and after some discussions, it was decided to accept as it is based on the relatively low stress in this area and also balancing risks if we continue to grind to the extent that a weld repair was necessary.

Phil

Indication

**Area #4**

Linear indications (size of discontinuity not bleed-out)  
.100" to .400"

29 random rounded indications (size of bleed-out 30min dwell time)  
>.125" inspected with pin gage  
estimated 50% of rounds would not be rejected based on the size of the discontinuity



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