Jeffrey T. Gasser
Executive Vice President
and Chief Nuclear Officer

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SOUTHERN COMPANY
Energy to Serve Your World℠

November 14, 2007

Docket Nos.: 50-348
50-364

NL-07-1959

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant
10 CFR 21 Report
AREVA Model MA-VR-350 4160 V Circuit Breakers

Ladies and Gentlemen:

In accordance with 10 CFR 21.21(d)(3), Southern Nuclear Operating Company (SNC) is making notification of a defect in a basic component supplied to Joseph M. Farley Nuclear Plant (Farley). Accordingly, Enclosure 1 contains a 10 CFR 21 report regarding a defect associated with Model MA-VR-350 4160 V circuit breakers supplied by AREVA. Enclosure 2 contains a copy of AREVA's 10 CFR 21.21(b) notification to SNC dated October 3, 2007, indicating that a potential defect in a basic component exists. Enclosures 3 and 4, contain additional letters from AREVA dated February 23, 2007, and April 23, 2007, respectively, related to this issue, indicating at that time that the breaker concern represented an isolated event.

This letter satisfies both the 2-day and 30-day reporting requirements contained in 10 CFR 21.21(d)(3). This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

J. T. Gasser
Executive Vice President

JTG/TMM/PHR

Distribution and Enclosure listing on next page

JE19

NRR

Enclosures:

1. 10 CFR 21 Report-AREVA Model MA-VR-350 4160 V Circuit Breakers
2. AREVA Notification Letter to SNC of Potential Defect dated October 3, 2007
3. AREVA Letter to SNC dated February 23, 2007
4. AREVA Letter to SNC dated April 23, 2007

cc: Southern Nuclear Operating Company
Mr. L. M. Stinson, Vice President Fleet Operations Support
Mr. J. R. Johnson, Vice President – Farley
Mr. D. H. Jones, Vice President – Engineering
RTYPE: CFA04.054; LC# 14657

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Ms. K. R. Cotton, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley

Joseph M. Farley Nuclear Plant

Enclosure 1

10 CFR 21 Report
AREVA Model MA-VR-350 4160 V Circuit Breakers

Enclosure 1

10 CFR 21 Report
AREVA Model MA-VR-350 4160 V Circuit Breakers

The following 10 CFR 21 written report is provided by Southern Nuclear Operating Company (SNC) for Joseph M. Farley Nuclear Plant. The contents are in accordance with 10 CFR 21.21(d)(4).

(i) Name and address of the individual or individuals informing the Commission.

Mr. J. T. Gasser
Executive Vice President
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, AL 35201

(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

AREVA Model MA-VR-350 4160 V Circuit Breakers

(iii) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.

AREVA NP
200 West Kensinger Drive, Suite 600
Cranberry Township, PA 16066

(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

By letter dated October 3, 2007, AREVA issued a 10 CFR 21.21(b) notification to SNC regarding a potential defect regarding the manufacture of Model MA-VR-350 4160 V Circuit Breakers (Refer to Enclosure 2). This letter was determined by SNC to represent a 10 CFR 21.21(b) transfer of information vendor notification based on discussions with AREVA on October 5, 2007. The Model MA-VR-350 4160 V circuit breaker design incorporates the use of a C-clip that secures its main link assembly together. The concern is that the C-clip can become dislodged from its groove on the main link following an operation. The C-clip serves to secure retaining washers that hold the main link assembly roller and banana link in place. In the event the main link assembly becomes unsecured and fails following a trip, it will leave the breaker in a "trip-free" condition.

The Model MA-VR-350 4160 V circuit breakers are used in the plant safety related 4160 V switchgear and serve as pump motor supply breakers for multiple safety related applications, e.g., component cooling water, low-head and high-head safety injection, containment spray, auxiliary feedwater, as well as the emergency diesel generator output breakers. Currently, there are breakers in stock and installed. Consequently, their postulated failure in these critical applications could create a substantial safety hazard.

(v) The date on which the information of such defect or failure to comply was obtained.

AREVA's October 3, 2007, letter was received by SNC on October 4, 2007. Discussions between AREVA and SNC on October 5, 2007, confirmed that the letter represented a 10 CFR 21.21(b) notification that a potential defect exists. The February 23, 2007, and March 23, 2007, letters from AREVA to SNC referenced in the October 3, letter are provided in Enclosures 3 and 4, respectively. Note that the reference to the March 23, 2007, was incorrect and should have been April 23, 2007, instead. SNC has confirmed this error with AREVA. The letters from AREVA dated February 23, 2007, and April 23, 2007, indicated at that time that the breaker concern represented an isolated event.

(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

As stated in item (iv) above, the Model MA-VR-350 4160 V circuit breakers are used in the plant safety related 4160 V switchgear and serve as pump motor supply breakers for multiple safety related applications, e.g., component cooling water, low-head and high-head safety injection, containment spray, auxiliary feedwater, as well as the emergency diesel generator output breakers. Currently, there are breakers in stock and installed.

(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

Existing plant procedures already included pre-installation inspection steps for the Model MA-VR-350 4160 V circuit breakers to identify loose nuts, bolts, retaining rings, or other hardware. In response to this concern, SNC revised plant procedures to add the C-clips to the inspection list to verify they are properly seated on the main link. Given the multiple examinations that were being conducted on the breakers in accordance with existing procedures, and the subsequent procedure enhancements that have been made to examine the C-clips, SNC determined that the installed breakers would continue to operate as designed on demand.

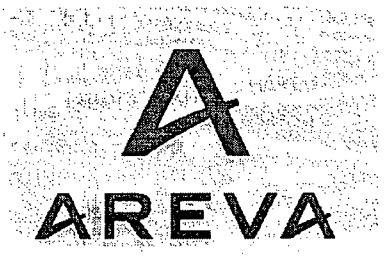
(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

As recommended by AREVA in Enclosure 2, a visual inspection of the Model MA-VR-350 4160 V circuit breakers should be performed at regular maintenance intervals to insure proper installation of the C-clip on the main link assembly.

Joseph M. Farley Nuclear Plant

Enclosure 2

AREVA Notification Letter to SNC of Potential Defect dated October 3, 2007



AREVA NP
200 West Kensinger Drive, Suite 600
Cranberry Township, PA 16066

LTR07333

October 3rd, 2007

Southern Nuclear Operating Company
Corporate Headquarters
P. O. Box 1295
40 Inverness Center Parkway
Birmingham, AL 35201
Attention: Herb Beacher

Subject: Medium Voltage – Vacuum Replacement Circuit Breaker Failure Notification

Reference: MA-VR-350 Vacuum Replacement Medium Voltage Circuit Breakers procured under SNOC Purchase Orders: QP010541, QP060536, QP070023/002

AREVA CR-2007-4419

Dear Mr. Beacher:

The purpose of this letter is to provide notification to Southern Nuclear Operating Company that equipment of the type purchased under the referenced procurement documents failed to operate properly while undergoing testing at the manufacturer's facility following the completion of warranty repairs.

During testing of a Medium Voltage – Vacuum Replacement Circuit Breaker, MA-VR-350, 1200 Amp, the breaker became "trip-free" following one (1) electrically controlled operation of a planned five (5) operational cycle test. The cover was removed from the circuit breaker and it was readily observed that the Main Link Assembly had become partially disassembled.

The C-clip had become dislodged from the groove in the Main Link Assembly pin and washers that retain the Banana Link and Roller were missing from the Main Link Assembly. The Banana Link had fallen off of the Main Link Assembly, leaving the breaker in a "trip-free" condition.

As part of the AREVA NP Corrective Action Program, an investigation is underway. The results of this investigation will be distributed at its conclusion. As a part of this process, a Deviation Determination has been performed and it has been determined that a deviation does exist.

Whether the issue has the potential to be a defect is completely dependent upon the application. This determination can only be made by the equipment owner as AREVA NP does not possess sufficient application information to make the determination. For this reason, a defect determination by AREVA NP is not possible and the appropriate disposition of the issue is being turned over to the affected utility customers.

As additional information, a similar failure occurred in 2006 and was documented in a notification letter to you dated on or about February 23rd, 2007. In a following letter dated March 23rd, 2007, it was recommended that a visual inspection to insure proper installation of the C-clip on the Main Link Assembly be performed at regular maintenance intervals.

Should you have any questions regarding this offer please contact Walter R. Senchesen at (724) 779-9800 on Extension 1320. Technical questions should be directed to Dave Garbulinski at (724) 779-9800 on Extension 1331.

Sincerely,

Harry Medsger

Engineering Manager
Electrical Products
AREVA NP Inc.
Fax: 724-779-9844
Office : 724-779-9800 x1314
Mobil: 724-272-2803
E-mail: **harry.medsger@areva.com**

Joseph M. Farley Nuclear Plant

Enclosure 3

AREVA Letter to SNC dated February 23, 2007

LTR 07073

February 23, 2007

Southern Nuclear Operating Company
Corporate Headquarters
P. O. Box 1295
40 Inverness Center Parkway
Birmingham, AL 35201

Attention: Mr. Eddie Dixon, Jr.

Subject: Notification of Medium Voltage – Vacuum Replacement Circuit Breaker Failure (Reference OE-24137)

Dear Mr. Dixon:

The purpose of this letter is to inform you of a Medium Voltage Vacuum Replacement Circuit Breaker failure that occurred on December 21st, 2006 at the Susquehanna nuclear plant in Luzerne County, Pennsylvania.

You are being notified of this event due to equipment purchased by Southern Nuclear Operating Company for the Farley nuclear plant under your Purchase Order #QP060536 for a quantity of (16) MAVR350 Circuit Breakers purchased in 2006, and Purchase Order #P010541 for a quantity of (9) MAVR350C circuit breakers purchased in 2001.

The breaker model 50DHP-VR250U was manufactured by Eaton Electrical and supplied to PPL Susquehanna LLC by AREVA NP. This breaker had been operated through 279 cycles since it was installed in May of 2004. Details of the failure have been reported in OE 24137, *"4kv Vacuum Circuit Breaker Tripped Due to Internal Mechanical Failure of Operating Mechanism – Preliminary (Susquehanna)."* Please refer to this report to obtain specific information regarding the circumstances of the event.

Following initial examinations and evaluations of the failed circuit breaker it has been confirmed that an internal mechanical failure did occur, most likely due to improper assembly at the time of manufacture. As a result of the failure, the breaker could not be reset and closed.

AREVA NP, Electrical Products
200 Kensinger Drive, Suite 600, Cranberry Twp., PA 16066
Fax: 724-779-9844

This failure has been determined to be an isolated occurrence and there is no corrective action required.

This conclusion has been determined by the lack of history of similar failure modes and an evaluation of the circuit breaker following the event.

The manufacturer has recommended a visual inspection of the main link assembly be performed at regular maintenance intervals. The inspection methods will be available upon request at no charge within sixty (60) days of this notification.

Should there be any questions regarding this matter please contact Harry Medsger at (724) 779-9800 on extension 1314 or Walt Senchesen at (724) 779-9800 on extension 1320.

Sincerely,

Walt Senchesen

Walt Senchesen
Manager, Electrical Product Development

Harry Medsger

Harry Medsger
Engineering Manager
Electrical Products

AREVA NP, Electrical Products
200 Kensinger Drive, Suite 600, Cranberry Twp., PA 16066
Fax: 724-779-9844

Joseph M. Farley Nuclear Plant

Enclosure 4

AREVA Letter to SNC dated April 23, 2007

AREVA

LTR007145

April 23, 2007

Southern Nuclear Operating Company
Corporate Headquarters
P. O. Box 1295
40 Inverness Center Parkway
Birmingham, AL 35201

Attention: Mr. Eddie Dixon, Jr.

Subject: MV-VR Circuit Breaker Main Link Assembly Failure
PO# QP060536 Quantity (16) MAVR350 Circuit Breakers 2006
PO# QP010541 Quantity (9) MAVR350C Circuit breakers 2001

Dear Mr. Dixon:

On December 21st, 2006 (1) 50DHP-VR250 Medium Voltage Circuit Breaker owned by the PP&L Susquehanna Plant failed while in use. After the breaker was removed from service, it was observed that the Banana Link on the main Link Assembly had become disengaged from the Main Link Assembly pin and was resting on the trip shaft. In this condition, the breaker would charge but not close. It has been concluded that the retaining ring, which holds the Banana Link on to the Main Link Assembly pin, had not been properly installed at the time of manufacture. This has been confirmed to be an isolated incident.

AREVA and the OEM recommend that an inspection to confirm that the retaining ring is fully seated in the groove of the Main Link Assembly pin is performed on all MV-VR equipment at the next regular maintenance interval.

As a follow-up to the previously distributed notification, please find attached the inspection instructions and associated visual aids.

Please contact either Walter Senchesen on extension 1320 or Harry Medsger on extension 1314 at 724-779-9800 with comments or questions about this information.

Sincerely,

Walter Senchesen
Walter Senchesen
Manager, Electrical Product Development
Walter.Senchesen@areva.com

Harry Medsger
Harry Medsger
Engineering Manager
Harry.Medsger@areva.com

Attachments: Inspection Instructions, Graphic Aids, Photo

AREVA NP, Inc.
200 Kensinger Drive, Suite 600, Cranberry Twp., PA 16066
Fax: 724-779-9844

MV-VR Main Link Assembly Inspection Instructions

AREVA

The purpose of this inspection is to provide confirmation that the retaining ring that holds the Main Link Assembly together is in place and fully seated in the groove of the pin.

1. Remove MV-VR breaker from cell.

2. Ensure MV-VR is in the "open" position.

3. Remove the front cover by completely removing the (4) 5/16-18 x ¾" long hex head bolts that attach the front cover to the vacuum breaker element.

4. Look above the "Push To Open" clapper and behind the main mechanism shaft to locate the Main Link Assembly.

5. Remove excess grease with a dry rag to obtain a clear view of the retaining ring on the Main Link Assembly.

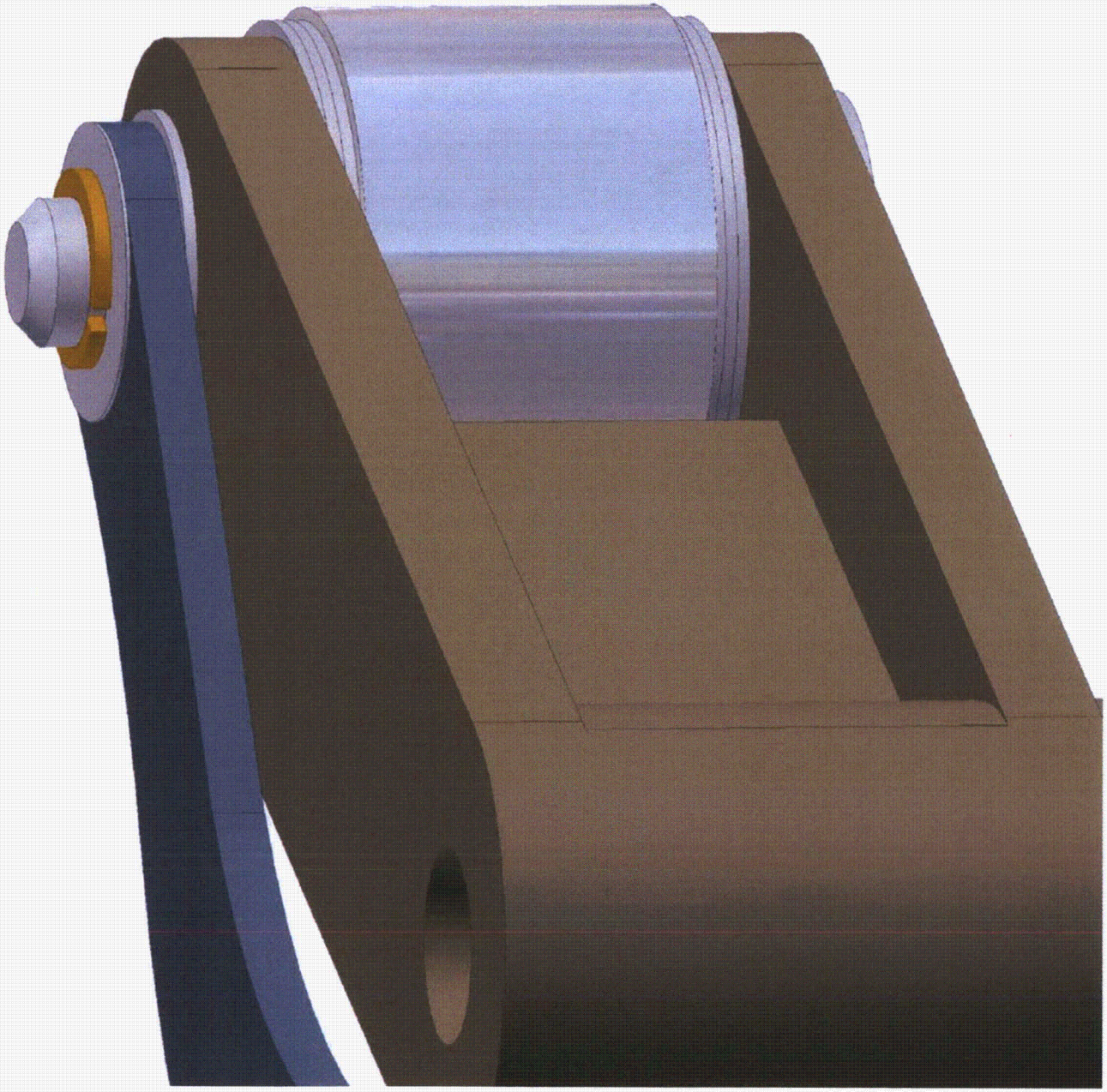
6. If needed, use a mirror and properly placed lighting to visually verify that the retaining ring is fully seated in the groove of the Main Link Assembly pin. Observe that no aspect of the inner diameter of retaining ring side facing the end of the Main Link Assembly pin is visible outside the pin groove.

7. See attached photo and drawings for example.

   Two views of a graphical representation of a properly assembled Main Link Assembly.

   Photograph of a Main Link Assembly that was purposely assembled improperly for demonstration purposes. The retaining ring is not seated in the groove of the pin.

“C” Ring properly in the pin groove



“C” Ring properly in the pin groove

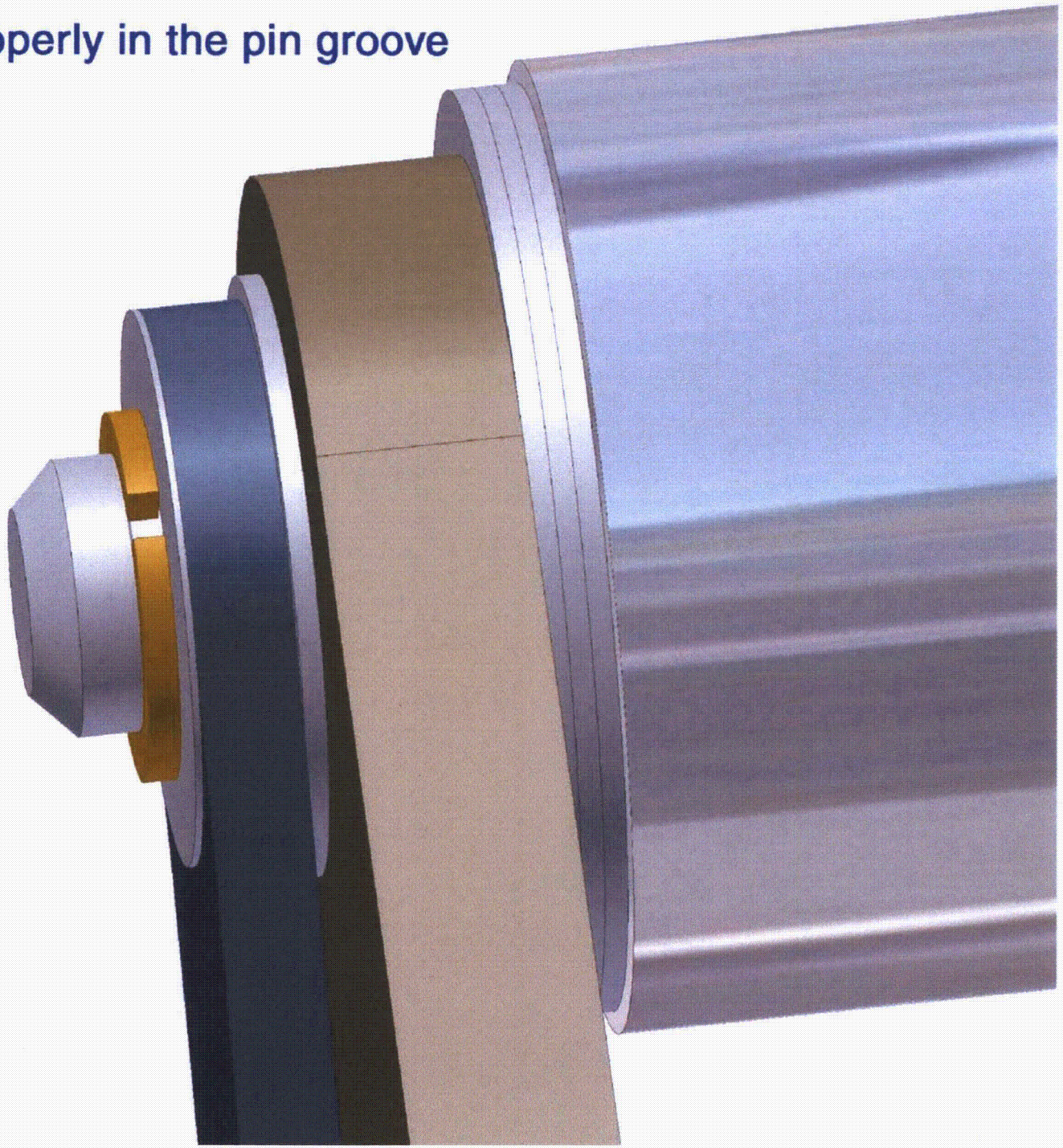
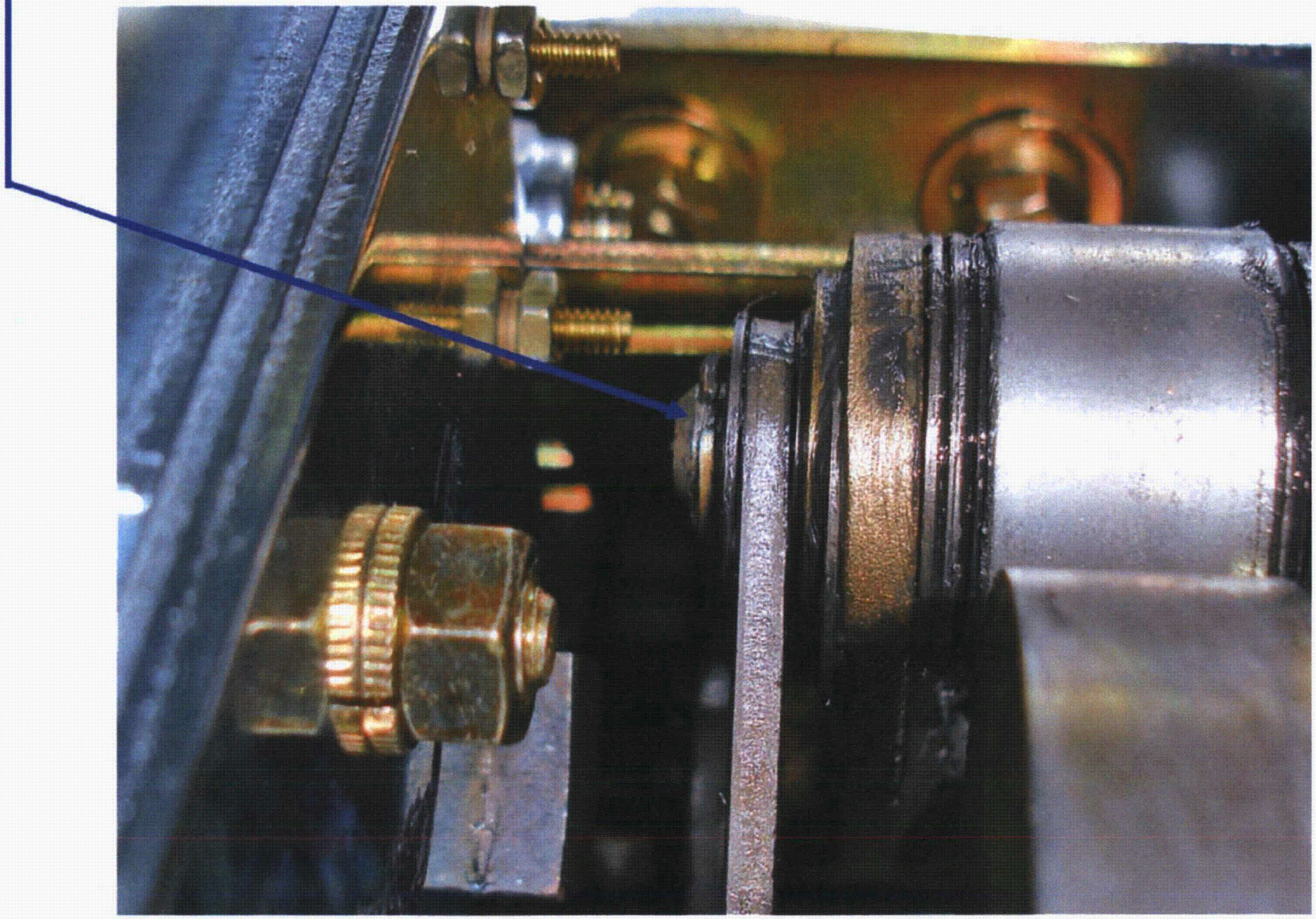



Illustration of “C” ring out of the groo