

June 24, 1991

MEMORANDUM FOR: Brian K. Grimes, Director
Division of Reactor Inspection
and Safeguards

THRU: Leif J. Norrholm, Chief
Vendor Inspection Branch
Division of Reactor Inspection
and Safeguards

FROM: Gregory C. Cwalina, Chief
Special Projects Section
Vendor Inspection Branch

SUBJECT: MEETING WITH ARIZONA PUBLIC SERVICE

On May 13, 1991, I met with several representatives of the Arizona Public Service Company (APS) at their corporate headquarters in Phoenix. The purpose of the meeting was to discuss APS involvement with their diesel generator supplier, Cooper-Bessemer Reciprocating (C-B) and NRC's inspection of C-B in August of 1990. APS was concerned that the NRC's inspection report did not properly characterize the extent of APS's involvement in improving C-B's quality assurance, parts classification and commercial-grade dedication programs.

APS personnel presented a description of their interactions with C-B over the past several years. In addition, the APS representatives provided copies of several audit reports and summaries of their experiences with C-B. The enclosed trip report provides a more detailed description of the meeting. I have also included the APS experience summaries as an attachment to the trip report.

[original signed by]

Gregory C. Cwalina, Chief
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cc. C. Trammell
S. Richards, RV
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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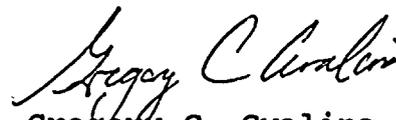
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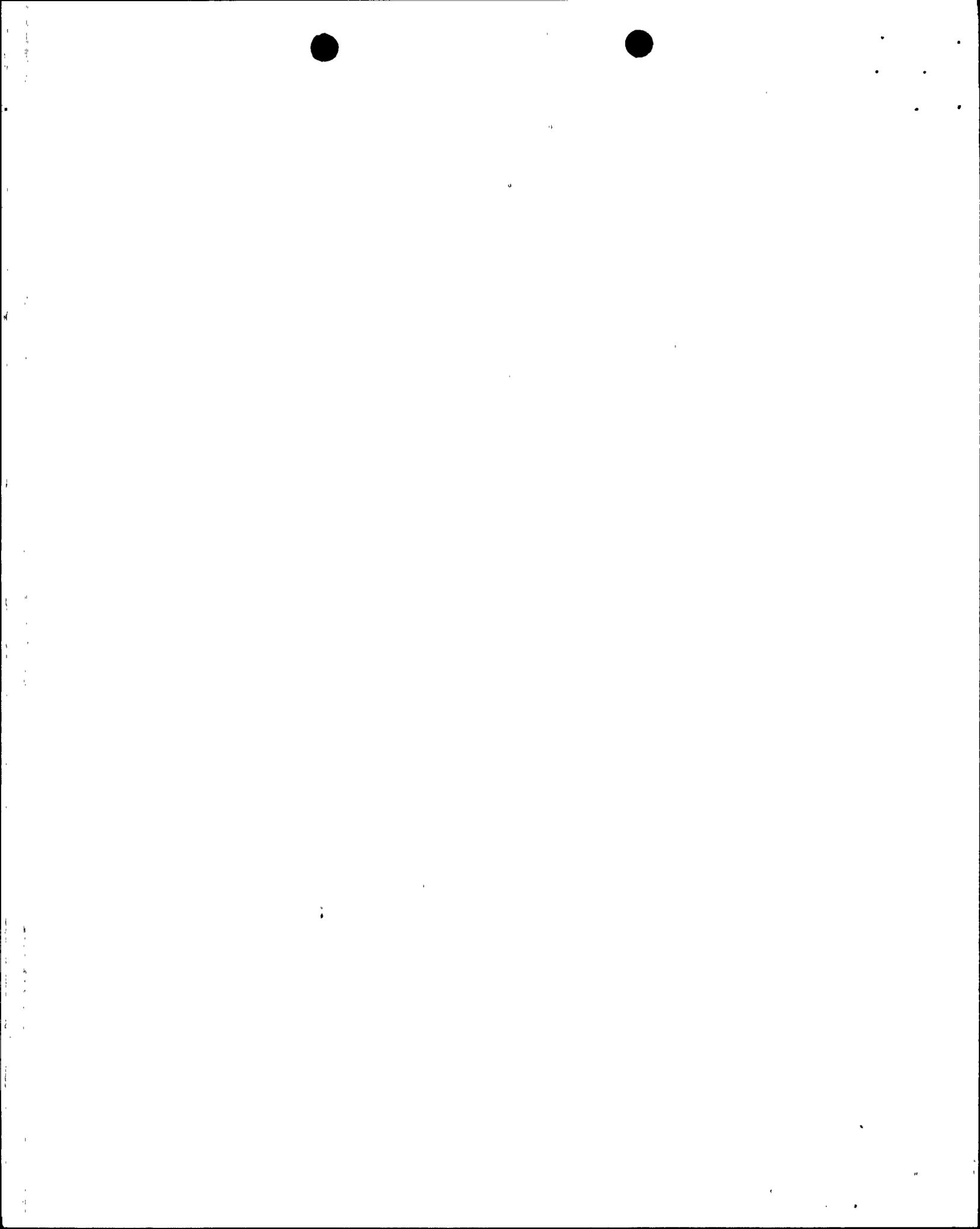
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ENCLOSURE

TRIP REPORT
MEETING WITH ARIZONA PUBLIC SERVICE
MAY 13, 1991

Prepared by: Gregory C. Cwalina, Chief
Special Projects Section
Vendor Inspection Branch

1 BACKGROUND

On August 27-30, 1990, the Vendor Inspection Branch (VIB) conducted an inspection of the Cooper-Bessemer Reciprocating (C-B) company. In November 1990, the staff issued the inspection report which subsequently appeared in the NRC White Book, "Licensee Contractor and Vendor Inspection Status Report" (NUREG-0040, Vol. 14, No. 4). The Arizona Public Service Company (APS) reviewed the inspection report and had concerns with some of the conclusions of the report.

The general conclusion of the report, as stated in a letter from Uldis Potapovs to Mr. W. H. A. Lambert dated November 13, 1990, was that "C-B has established and is implementing a generally effective dedication program for supplying qualified spare and replacement parts..."

The primary concern of APS regards the report section that deals with their audits of C-B. The NRC inspectors reviewed two audits of C-B by APS and one by the Commonwealth Edison Company. Based upon the review of those audit reports, the inspectors concluded that the licensees' audits did not address the adequacy of the classification of parts nor the process for dedicating commercial-grade items for safety-related service.

In April 1991, APS representatives Stephen Guthrie and Pat Purcell contacted Greg Cwalina of the Vendor Inspection Branch to express their concerns and request a meeting to discuss the report and their interactions with C-B. The meeting was held on May 13, 1991 at the APS offices in Phoenix, Arizona.

2 PURPOSE

APS requested the meeting to discuss its concerns regarding the inspection report. In particular, APS was concerned that the NRC inspectors lacked the historical perspective of APS's interactions with C-B and, therefore, the report's conclusions in some areas may not properly represent C-B's performance.

In addition, the APS representatives felt that the NRC conclusions in the area of licensee audits improperly characterized the degree and depth of APS audits of C-B. APS stated that the NRC's inspection report did not recognize the extent of APS's involvement in improving C-B's programs for quality assurance, parts

classification and commercial-grade dedication. In the inspection report, the staff stated "licensees in their audits did not address the adequacy of C-B's classification of parts nor the process for dedication of commercial-grade items for safety-related service." APS felt this conclusion, which was based upon a limited sample of audit reports, could result in other NRC officials doubting the adequacy of APS's audit program. However, the report also stated, "the audits were comprehensive in scope and thoroughness..."

APS representatives made a formal presentation summarizing their interactions with C-B over the past several years. A copy of some of the presentation materials is attached to this report. The information shows that APS interacted extensively with C-B since 1986, when APS took full responsibility for procurement and auditing from their architect engineering firm.

3 RESULTS

In June 1986, APS performed their first audit of C-B and found six areas of nonconformance. More importantly, APS felt the deficiencies indicated a larger problem and placed a hold on all shipments from C-B. As a result, C-B did not ship any safety-related parts to APS during 1986. Further, APS decided to require 100 percent source surveillance on all parts procured from C-B.

In November 1987, APS performed its second audit of C-B, issuing 12 findings and closing 1 previous finding. Of particular interest was the finding that C-B failed to pass Part 21 requirements down to subtier vendors. This finding identified to APS that C-B was not classifying its parts consistent with the engineering parts classification delineated by APS. The finding resulted in APS sending members of its vendor quality staff to C-B in 1988 to assist C-B in developing a quality assurance program that was consistent with the industry's. APS worked closely with C-B to facilitate its understanding of the differences between commercial-grade and safety-related procurement requirements and the process for dedicating commercial-grade items for safety-related applications. It was not until February of 1990 that APS was able to close this finding.

During the same audit, APS found that C-B could not substantiate product quality using its existing methods for qualifying subtier vendors. APS also found that materials supplied to C-B for APS purchase orders did not comply with C-B's material design requirements. This finding prompted C-B to initiate a major change in its method for dealing with subtier vendors. APS closed this finding in October of 1988.

In addition to the audits, APS conducted 80 source surveillances related to 51 purchase orders during 1987 which resulted in a 25% rejection rate. APS rejected a part if its review identified any hardware problems or deficiencies in the part's dedication packages. APS concluded that C-B did have an adequate commercial



quality assurance program for parts that it manufactured. However, that program would require significant improvement to satisfy the requirements of ANSI-N45.2.

Throughout 1988, APS continued to closely interact with C-B. In December 1988, APS performed an audit at the Cooper Industries, Rotating Division (Rotating) to assess the adequacy of Rotating's quality assurance program and determine if it could be placed on the APS approved vendors list (AVL). APS identified 15 areas of noncompliance with its quality program. As a result, the Rotating division was not placed on the AVL, and C-B Reciprocating remained accountable for product verification.

In December 1988, APS also performed a full scope audit of C-B to evaluate corrective actions and re-assess the C-B quality program. The audit resulted in issuing another eight findings.

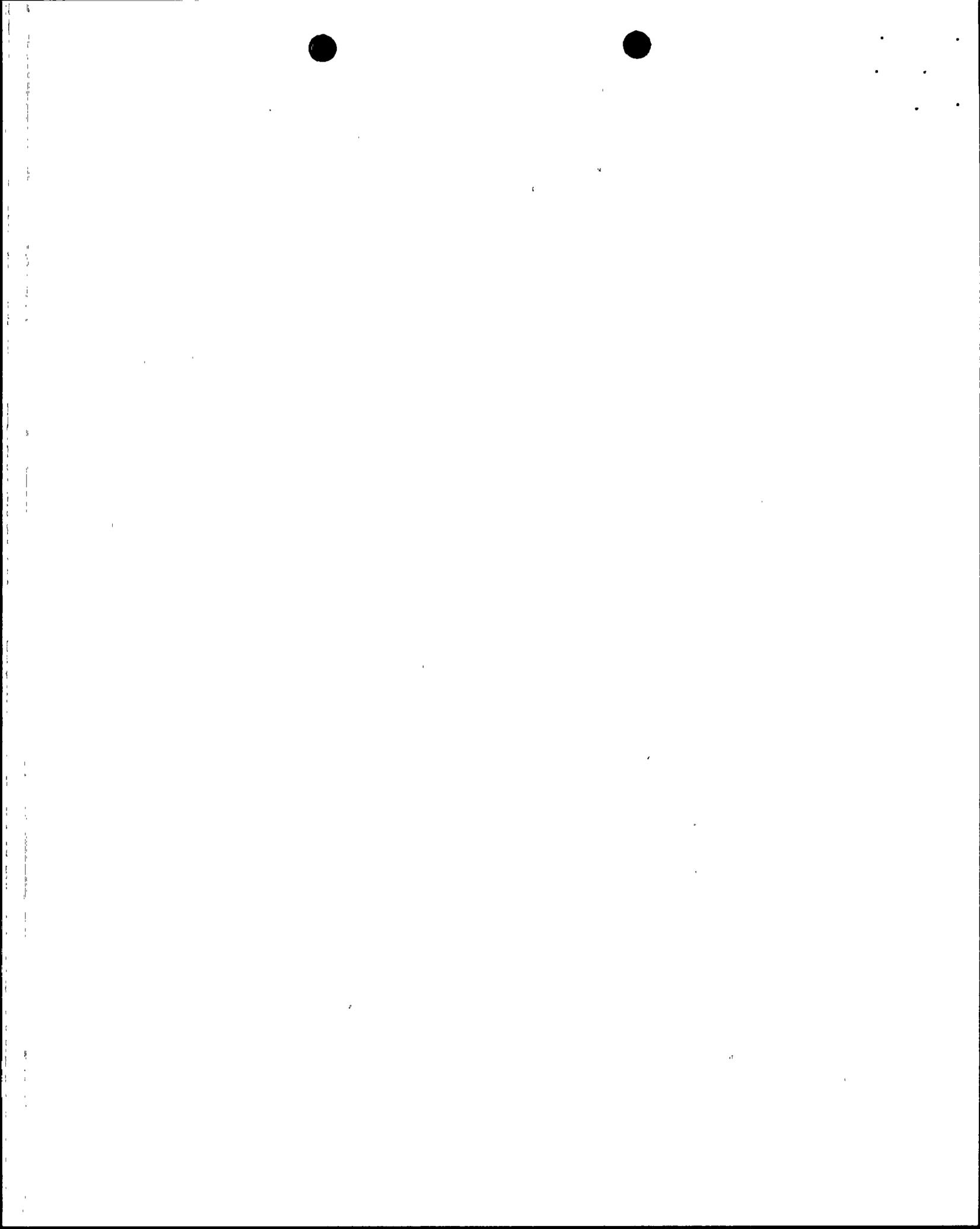
In 1988, APS conducted approximately 15 source surveillances relating to 12 purchase orders. A 40 percent rejection rate resulted with the same concerns as were identified in 1987.

In 1989, APS re-audited both C-B Rotating and C-B Reciprocating. The Rotating audit showed sufficient progress to allow APS to place it on the AVL with source inspection restrictions. The audit of Reciprocating showed that it had made some progress, but several corrective actions had not been completed. In addition, APS conducted 21 source surveillances relating to 17 purchase orders resulting in a rejection rate of 19 percent.

APS expanded their interactions with C-B in 1989 when they audited ESG Cooper - En-tronics Controls, the supplier of diesel generator instrumentation and control systems and replacement parts. APS identified five areas of nonconformance and placed En-tronics on the AVL with source inspection restrictions.

A re-audit was performed at all three facilities in 1990. The re-audit of Reciprocating showed that adequate corrective actions had not been completed to resolve two deficiencies. Since this was the third audit that indicated C-B had not resolved the deficiencies, APS requested a meeting with C-B senior management. The audits at Rotating and En-tronics had yielded similar results. In both cases, APS determined that the vendor had not implemented adequate corrective actions. APS imposed 100 percent source surveillance at both facilities.

In 1990, APS completed approximately 23 source surveillances relating to 21 purchase orders with a rejection rate of 61 percent. However, APS noted that the source surveillances reflected significant improvement in procurement, vendor qualification, and dedication activities. At this time, APS waived 100 percent surveillance requirements on certain items. During the meeting, the APS representative stated that C-B had reached its peak performance during this time and that it was considering removing all restrictions pending the results of its audits. However, as



noted above, the audits did not demonstrate the existence of an adequate quality program.

In 1991, APS has performed approximately 9 source surveillances relating to 7 purchase orders. These surveillances have resulted in a 44 percent rejection rate. APS also plans to re-audit all three C-B divisions in September 1991. These audits will be conducted with representatives of the Commonwealth Edison Company.

4 CONCLUSIONS

Based upon a review of the audits performed by APS of the three C-B divisions, it can be concluded that APS's oversight of the procurement process with C-B has been comprehensive. The licensee identified numerous deficiencies in the vendor's quality assurance program and worked closely with the vendor to resolve the issues. The issues of primary interest include parts classification, the dedication of commercial-grade items, and C-B's oversight of its subtier vendors. All of these issues have been addressed by APS in its interactions with C-B.

In the NRC's inspection report for Cooper-Bessemer, the staff stated, "the inspectors concluded that the licensees in their audits did not address the adequacy of C-Bs classification of parts nor the process for dedication of commercial-grade items for safety-related service." The NRC inspection of C-B included a sampling of audit reports from licensees. In the report, the inspectors identified the specific audit reports that the NRC reviewed. Although APS addressed parts classification and dedication in some of its audits, they were not addressed in those audits sampled by the NRC. The staff informed APS that the NRC reviews audit reports on a sampling basis and cannot review all audits because of limited time and resources. Although the APS representatives understood the limitations of the NRC inspection, they stated that all readers would not understand that the statement in the inspection report is intended to only address the audits reviewed during the inspection and does not apply to all of the licensee's audits.

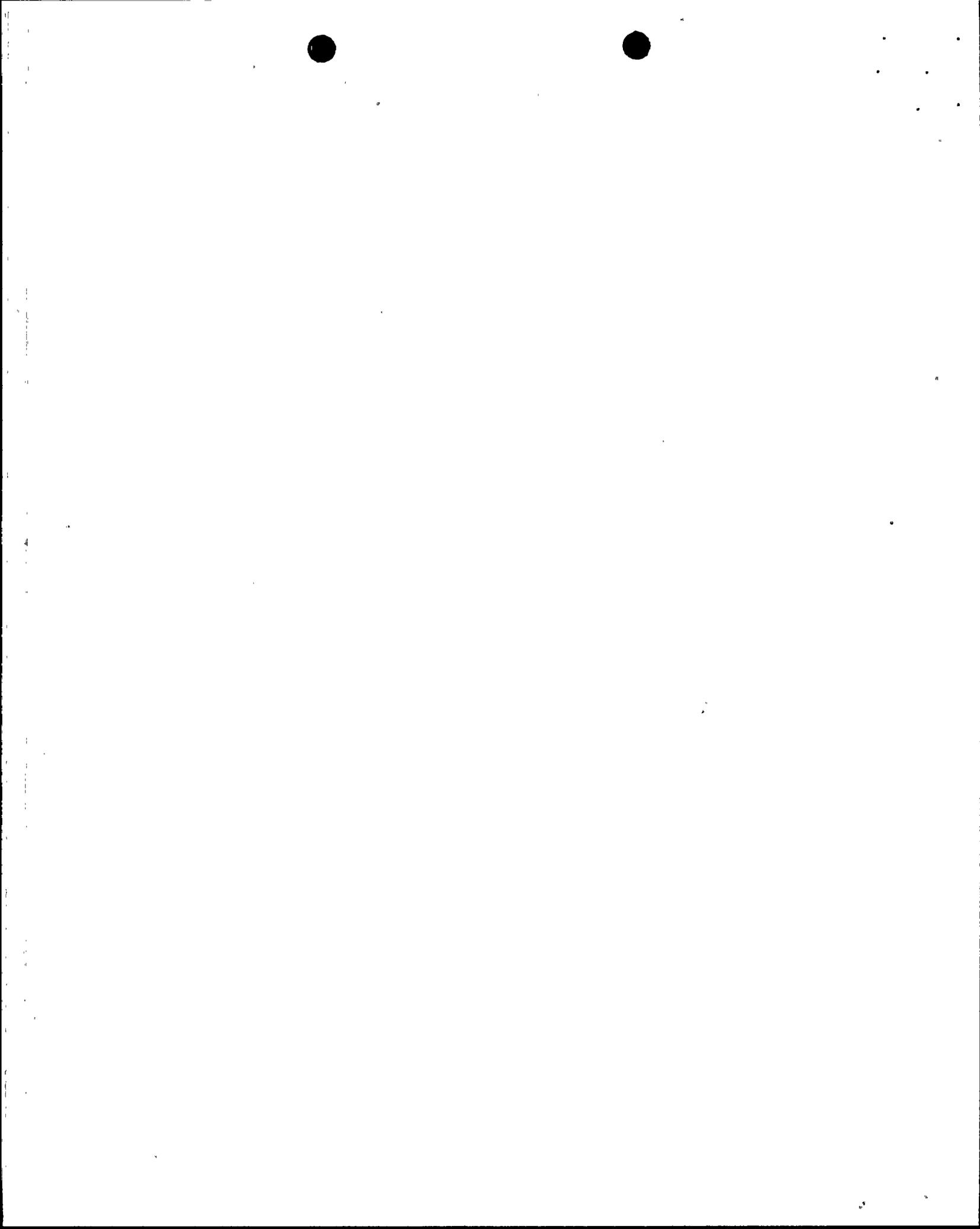
The NRC also concluded that C-B has established and is implementing a generally effective dedication program. APS also expressed concern that C-B would use the NRC report as evidence of an adequate program and be less responsive to recommendations from APS. It was pointed out to APS that the NRC inspection of C-B was performed at about the same time that APS was considering removing all restrictions regarding C-B procurements. Generally, the NRC inspection findings seemed to agree with APS' perceptions of C-B at the time of the inspection. Unfortunately, the NRC does not have the resources to routinely inspect all vendors to ensure that their quality programs do not decline. The APS representatives recognized the NRC constraints and explained that they were merely describing problems that may arise as a result of NRC vendor inspection activities.

Since the NRC inspection of C-B is really a "snapshot" of C-B's programs in effect at the time of the inspection, there is no reason to question the report's conclusions. However, it is important to note that APS has spent significant time and resources interfacing with C-B. These interactions have prompted C-B to significantly improve its procurement programs and are partly responsible for the adequacy of the program reviewed by the NRC.

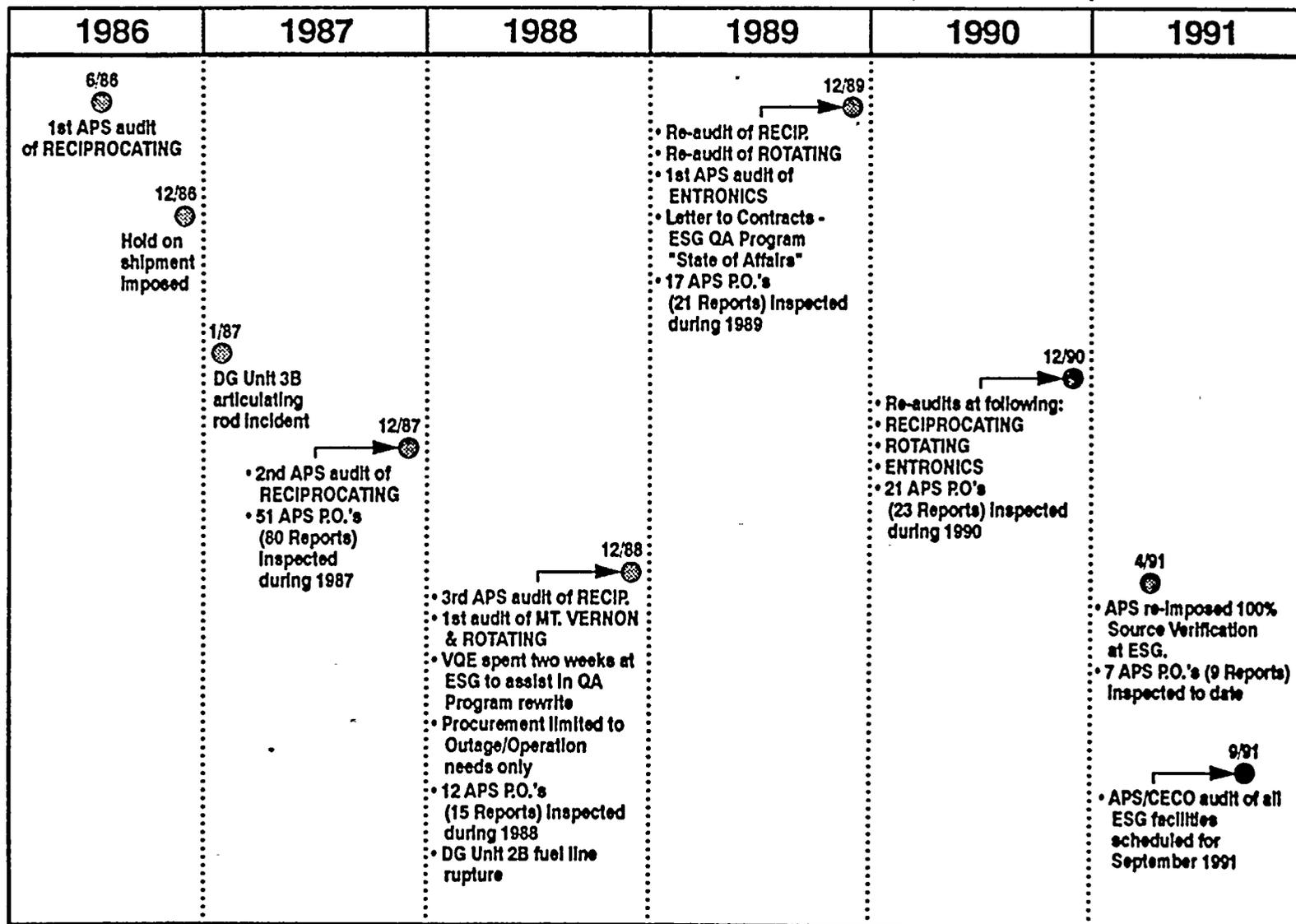
5 PERSONS CONTACTED

The following members of the APS organization attended the meeting:

<u>Name</u>	<u>Title</u>
Ram N. Prabhakar	Manager - Quality Engineering
Rosemary C. Fullmer	Manager - Quality Audits and Monitoring
Bob Gordon	Procurement Engineer
Michael Ferguson	Sr. Vendor Quality Engineer
W. P. Purcell, Jr.	Supervisor - Vendor Quality Engineering
Stephen Guthrie	Deputy Director - Nuclear Safety
Ali Fakhar	Supervisor - Procurement Engineering



APS Vendor Quality Assurance Engineering Major Vendor Audits and Significant Events (1986 - 1991)



SECTION IV

Overview of APS activities - 1986

1. Audits

A. June 10-12, 1986:

First APS Audit of Cooper Reciprocating. This resulted in four corrective action reports and a hold on shipment.

- o CAR CP86-0121 was the most significant finding. This CAR identified that Cooper processed a part (heater element) as commercial grade and not as safety-related per APS purchase order requisite.

This finding was closed on 02/26/88 based on issuance of CAR CP87-0112.

- o CAR CP86-0122 identified that the Cooper QA Manual was not kept current with business operation practices. The QA organization and interface controls between Mt. Vernon and Grove City were not as depicted in the QAM.

This finding was closed 10/16/87 with Mt. Vernon/Entronics being added to Grove City AVL.

- o CAR CP86-0123 identified program implementation weaknesses in the M&TE process.

This finding was closed 02/19/88 based on issuance of CAR CP87-0116.

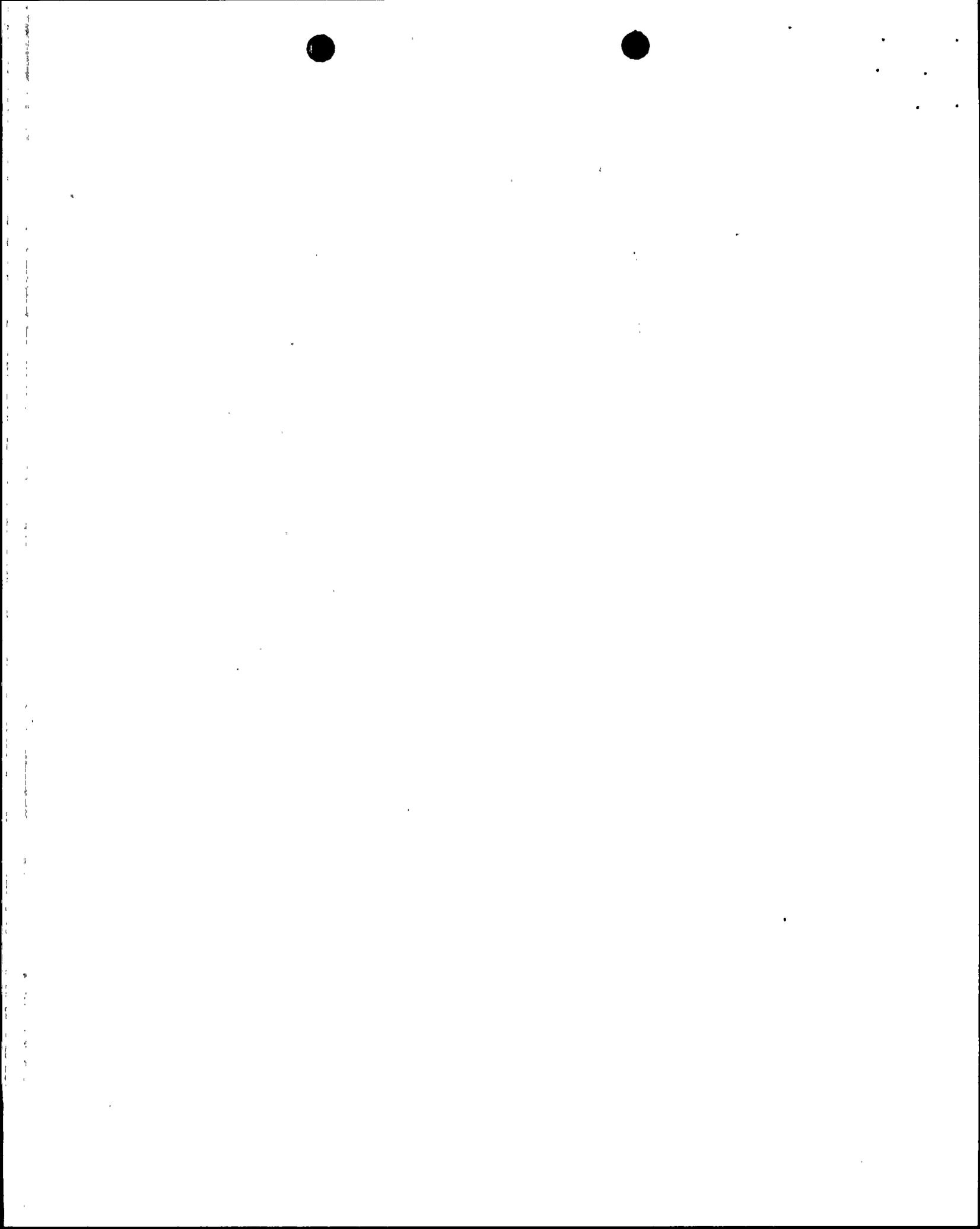
- o CAR CP86-0124 was considered significant in that Cooper was not performing shipping inspections prior to hardware shipment. Cooper was procuring parts from sub-tier vendors and not inspecting them prior to shipment.

This CAR was closed 10/15/87 by corrective action verification.

At this point in time APS Vendor Quality felt the deficiencies identified symptoms of a larger problem. A hold-on-shipment was issued to prevent Cooper from shipping parts to APS until we could get a better understanding of what was transpiring.

2. Source Surveillances

No safety-related material/parts were shipped to APS in 1986.



SECTION V

Overview of APS activities - 1987

1. Audits

A. November 16-19, 1987:

This was the second audit of Cooper-Reciprocating. The intent of the audit was twofold: (1) to obtain a better understanding of what was happening at Cooper, and (2) to assess corrective action implementation and effectiveness of the 1986 findings. Twelve findings were issued; one 1986 finding was closed.

- o CAR CP87-0110 highlighted that the overall APS audit results indicated a severe weakness in the indoctrination/training of Cooper personnel.

This finding was closed 10/04/88.

- o CAR CP87-0111 identified weakness in the administrative portions of Cooper's Design Control program.

This finding was closed 01/03/89.

- o CAR CP87-0112 identified a recurring deficiency with Cooper failing to pass down 10CFR21 to sub-tiers. This issue was identified on CAR CP86-0121, VDN 87-046 and VDN 87-050. The VDNs were a result of source inspection activities at Cooper.

Note: This finding was very critical in that APS told Cooper that the classification of their parts were not consistent with the engineering parts classification delineated by APS. It took Cooper from 11/87 until 10/88 to understand commercial grade vs. safety-related terminology, dedication and effective supplier controls. VQE spent two weeks at Cooper to assist in developing a QA program consistent with the procurement initiatives at that time.

This finding was closed 02/19/90.

- o CAR CP87-0113 identified that implementing procedures either did not exist or were weak to provide quantitative, qualitative criteria to ensure compliance with the commitments delineated in the QA manual.

This finding was closed 10/17/88.

- o CAR CP87-0114 This finding complimented CAR CP87-0112 by identifying that: (1) the methods implemented to qualify sub-tier vendors could not substantiate product quality verification, and (2) that materials supplied for APS purchase orders did not comply with Cooper's material design requirements.

This finding was very critical because it caused Cooper to:

- o Re-orient their philosophy on supplier qualification.
- o Revamp their quality program.
- o Undertake a major effort to adequately and effectively assess their vendors.

This finding perpetuated the issuance of QCP-10-16 which is their dedication program.

This finding was closed 10/17/88.

- o CAR CP87-0115 identified concerns with Cooper's inspection and test status program.

This finding was closed 10/04/88.

- o CAR CP87-0116 identified numerous deficiencies in Cooper's control of M&TE.

This finding was closed 01/03/89.

- o CAR CP87-0117 identified a serious weaknesses with Cooper's Corrective Action program.

This finding was closed 05/10/88.

- o CAR CP87-0118 identified Cooper's lack of control of QA Records, as demonstrated by APS audit results

This finding was closed 10/04/88.

- o CAR CP87-0119 identified an overall ineffectiveness in Cooper's internal assessment system.

This finding was closed out 10/17/88.

- o CAR CP87-0120 identified that Cooper did not implement the reporting requirements of 10CFR21 in a timely manner.

This finding was closed on 10/04/88.



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2. Source Surveillances

Fifty-one APS safety-related purchase orders were subjected to source surveillance at Cooper facilities. Approximately 80 trips were taken to support the project in obtaining parts for plant outage/operation. Rejection statistics are reflected on the performance trend. Our surveillances pointed our typical problems in the area of:

1. Design compliance.
2. Procurement process.
3. Vendor qualification.
4. Inspection anomalies.
5. Parts substitution.

It is important to mention that no item could be shipped from Cooper until APS Vendor Quality could substantiate that the part:

1. Met design characteristics.
2. Was procured properly.
3. Inspected upon receipt and prior to shipment.

A conclusion one can draw was that Cooper did have an adequate/effective commercial program which required significant improvements to satisfy ANSI-N45.2 requirements.

*in parts LB
: mfg id*

SECTION VI

Overview of APS activities - 1988

1. Audits

A. December 6-9, 1988:

This was the first audit of Cooper-Rotating. The purpose was to assess the adequacy, implementation and effectiveness of their quality program for placement on the APS Approved Vendors List. Fifteen areas were identified which did not comply with the quality program.

- o VDN 89-001 identified that Cooper-Rotating was procuring parts/services from unapproved vendors and was not implementing their dedication program (QCP 10-16) as required.

This finding was closed 03/17/89.

- o VDN 89-002 identified that the QC Inspectors did not document, on the QC/IP, the M&TE used during inspection activities.

This finding was closed 03/17/89.

- o VDN 89-003 identified that QC Inspectors did not perform all of the dimensional inspections required by the quality program.

This finding was closed 05/23/89.

- o VDN 89-004 identified that Cooper-Rotating procurement documents failed to pass down either APS and/or Cooper quality requirements to sub-tier vendors.

This finding was closed 05/23/89.

- o VDN 89-005 identified procedure inadequacies (this deficiency parallels the concerns identified on CAR CP87-113).

This finding was closed 07/06/89.

- o VDN 89-006 identified that a required test procedure was not listed on the associated drawing to provide quantitative/qualitative acceptance criteria to QC.

This finding was closed 03/05/91.

Note: As a result of this VDN, Cooper committed to review all of their drawings for technical adequacy. This resulted in the reclassification of turbocharger parts.

- o VDN 89-007 identified that heat treatment strip charts received from a sub-tier vendor indicated that the temperature cooling rate exceeded specification requirements.

This finding was closed 03/17/89.

- o VDN 89-008 identified that the turbocharger test stand M&TE was calibrated by an unapproved source. No MRR was written to identify this nor to evaluate turbocharger acceptance.

This finding was closed 03/17/89.

- o VDN 89-009 identified the fact that twenty-one MRRs were either dispositioned incorrectly or provided inadequate engineering justification for the use-as-is disposition, and that Cooper failed to initiate an internal CAR to document this trend.

This finding was closed 10/17/90.

- o VDN 89-010 identified that Cooper was not documenting training of employees.

This finding was closed 05/23/89.

- o VDN 89-011 identified administrative concerns with the control of internal procedures.

This finding was closed 05/23/89.

- o VDN 89-012 documents that Cooper had an ineffective CAR program.

This finding was closed 05/23/89.

- o VDN 89-013 identified that Cooper's audit program was deficient/inadequate.

This finding was closed 08/24/90.

As a result, Rotating was not added to the APS AVL and Reciprocating was held accountable for product verification and C of C signature.

B. December 14-16, 1989:

Based on the results of the 1987 audit and source surveillances performed during 1988 at the Reciprocating facility, a full scope audit was performed to assess the implementation of corrective actions and re-evaluate the Reciprocating quality program. As a result of this audit an additional eight findings were issued.

- o VDN 89-014 identified that training and qualification records were not maintained in accordance with procedural requirements.

This finding was closed 02/19/90.

- o VDN 89-015 identified that lead auditor certifications did not comply with quality program requirements.

This finding was closed 04/20/89.

- o VDN 89-016 identified that no document control measures were established for inspection and audit procedures.

This finding was closed 04/20/89.

- o VDN 89-017 identified that the corrective action program was inadequate to ensure timely resolution and implementation verification of adverse conditions.

This finding was closed 04/20/89.

- o VDN 89-018 identified that the audit program was inadequate to ensure the effectiveness and implementation of the quality program.

This finding was closed 08/24/90.

- o VDN 89-019 identified that Cooper Engineering had established two different sets of critical characteristics for dedication of the same part.

This finding was closed 04/20/89.

- o VDN 89-020 identified that the vendor qualification files lacked sufficient documented objective evidence to substantiate placement of vendors on the Cooper NAVL.

This finding was closed 01/12/90.

- o VDN 89-021 identified several MRRs which were improperly dispositioned and/or did not contain sufficient justifications for use-as-is or repair dispositions.

This finding was closed 05/25/90.

2. Source Surveillances

Twelve APS safety-related purchase orders were subjected to source surveillance at Cooper facilities. Approximately 15 trips were taken to support the project. Rejection statistics are reflected on the performance trend. Our surveillances pointed out the same concerns identified in 1987.

SECTION VII

Overview of Activities - 1989

1. Audits

A. July 17-19, 1989:

A reaudit was performed at the Rotating facility to evaluate the corrective actions implemented to resolve the findings issued during the 1988 qualification survey. The audit team determined that the corrective actions for VDNs 89-01 thru 05 and 07 thru 12 had been effectively implemented and were adequate to resolve the deficiencies. The corrective actions for VDNs 89-06 and 13 had not been implemented and remained open. Based on the efforts to resolve these deficiencies, Rotating was placed on the APS AVL with source inspection restrictions.

B. July 19-21, 1989:

Initial qualification survey of the En-Tronics facility. Five areas of non-compliance were identified which resulted in the issuance of three findings.

CAR CE89-057

Equipment configuration changes were not evaluated to determine impact on equipment qualifications. Additionally, parts and components being supplied by En-Tronics for safety/quality related use were not being procured on a quality basis from approved suppliers.

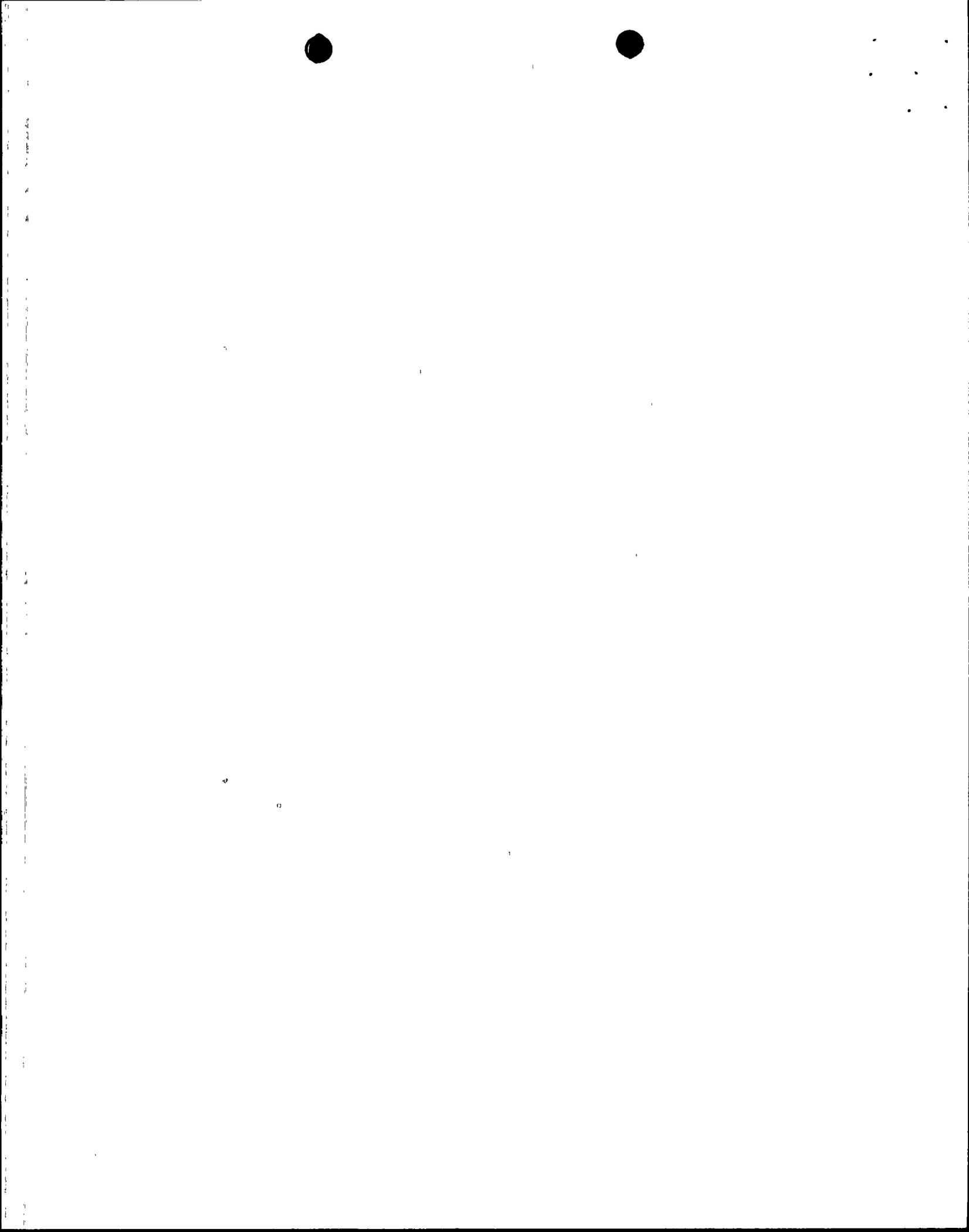
VDN 89-139

The organizational chart depicted in the current quality program did not reflect the reporting relationship of test personnel to the quality organization when performing acceptance tests of quality related equipment.

VDN 89-142

The audit program was found inadequate to ensure that the effectiveness and implementation of the quality program was evaluated (this parallels the findings issued at Reciprocating and Rotating).

The audit team also identified that En-tronics was revising the current quality program to comply with APS requirements; however, implementation of the program could not be assessed due to a lack of nuclear orders. Based on the survey and the revised quality program En-Tronics was placed on the APS AVL with source inspection restrictions. This restriction was to remain in effect until En-tronics could demonstrate an ability to control the supply of quality related equipment.



C. December 12-13, 1989:

A reaudit was performed at the Reciprocating facility to evaluate the implementation and effectiveness of the corrective actions for CAR CP87-112 and VDNs 89-014, 018, 020 and 021. The audit team concluded that sufficient corrective actions had been implemented to resolve VDN 89-020; however, the proposed corrective actions for CAR CP87-112 and VDNs 89-014, 018 and 021 had not been completed.

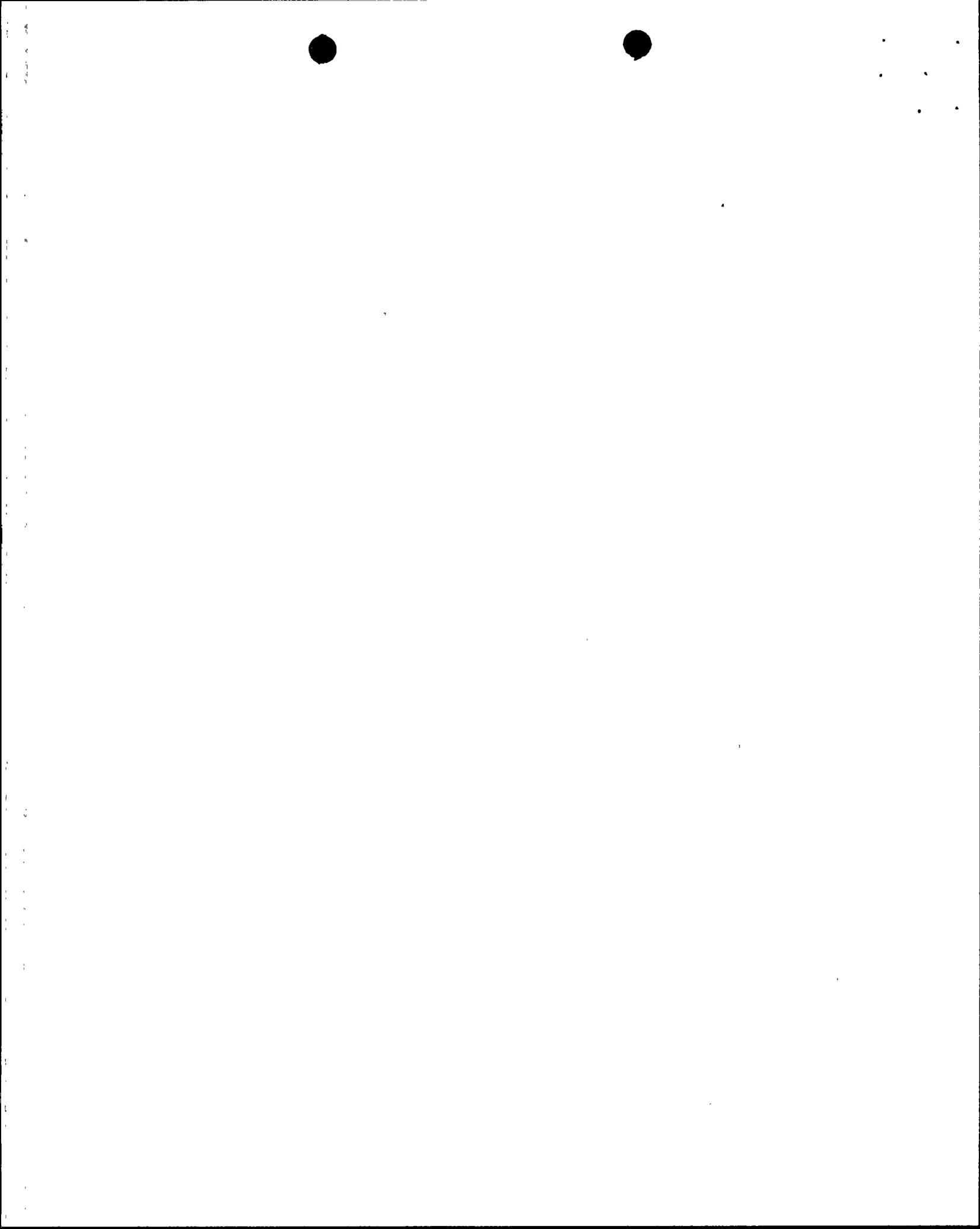
Revised responses for the CAR and VDNs 89-014 and 018 were required and Vendor Quality requested that a reaudit be scheduled for March 1990.

2. Source Surveillance

Seventeen safety-related purchase orders were subjected to source surveillance in 1989. Approximately twenty-one trips were taken to support the project. Rejection statistics are reflected on the performance trend.

Our surveillances pointed out problems in the following areas:

1. Lack of design evaluation for critical characteristics.
2. Inconsistency with critical characteristic application.
3. Vendor qualification in the area of Commercial Grade Surveys.
4. Parts substitution.
5. Inspection anomalies.



SECTION VIII

Status of Cooper's QA Programs

Letter 028-01604 Purcell to Howard, dated July 31, 1989, provided a summary to APS management of the current status of Cooper.

1. Rotating

Two findings remained open.

- o VDN 89-006 required the performance of an Engineering review of turbocharger parts classification (i.e.; critical/noncritical).
- o VDN 89-013 identified deficiencies in the implementation of the internal audit program.

Conclusion: QA Program was considered adequate. Note 14 (Release for Shipment) still imposed.

2. Entronics

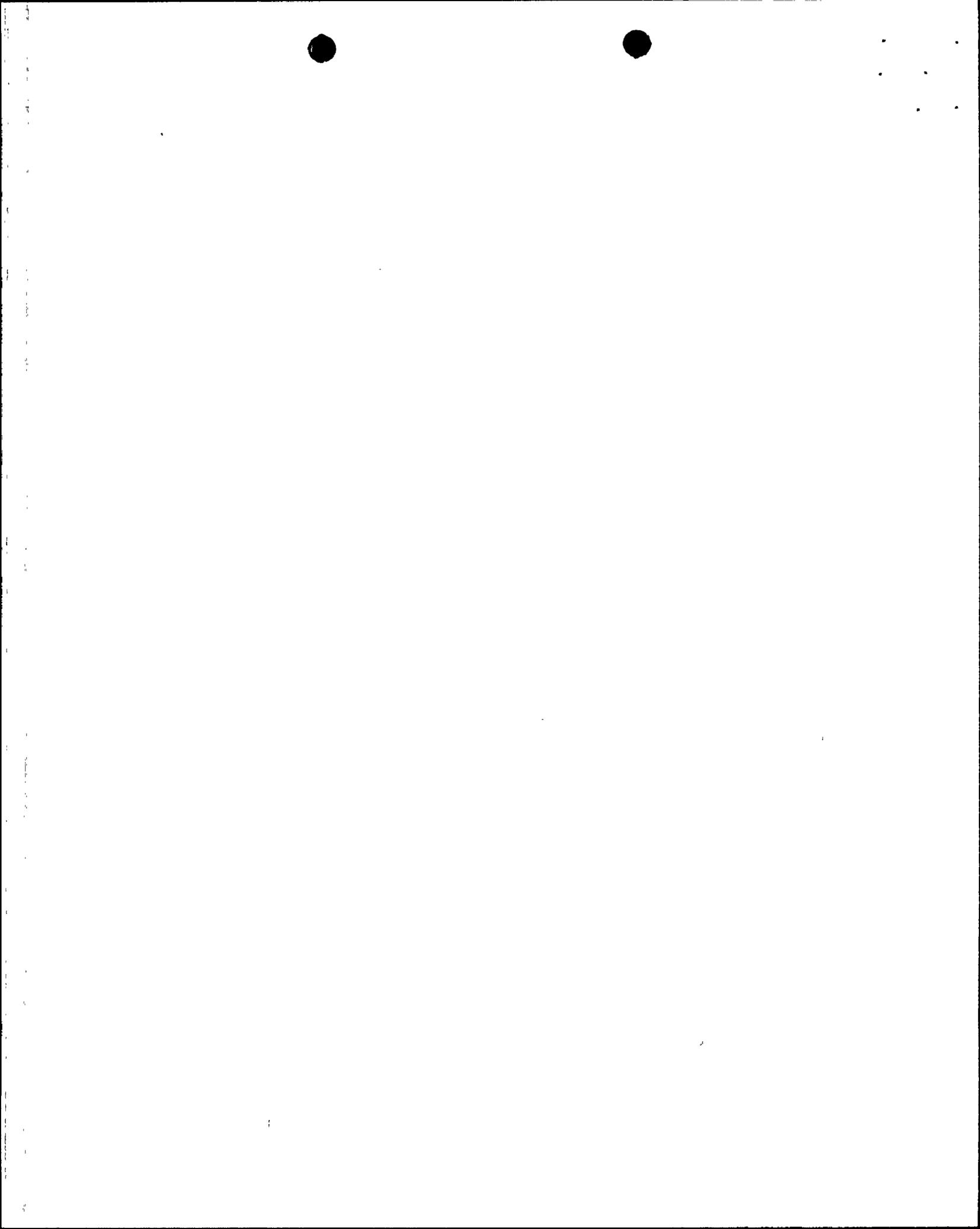
Survey conducted in July revealed several weaknesses in design/procurement areas. Program was re-written to prevent recurrence.

Conclusion: QA Program was considered adequate. Note 14 still imposed.

3. Rotating

- o CAR CP87-0112 remained open. Cooper to that date failed to adequately resolve issue addressing passing down 10CFR21 to sub-tier vendors.

Conclusion: QA Program considered adequate. Note 14 still imposed.



SECTION IX

Overview of Activities - 1990

1. Audits

A. March 20-21, 1990:

A reaudit was performed at Reciprocating to re-evaluate the corrective actions for VDNs 89-018 and 021. The auditor concluded that adequate corrective actions had not been implemented to resolve VDN 89-021 and that the proposed corrective actions for VDN 89-018 had not been completed. This was the third verification attempt for these VDNs. Cooper management was informed that APS considered their actions to be ineffective and untimely to resolve the deficiencies. At the conclusion of the reaudit Vendor Quality requested that a meeting with senior Cooper management be scheduled in an attempt to expedite closure of the deficiencies.

B. June 26-27, 1990:

A reaudit was conducted at the En-Tronics facility to evaluate the corrective actions implemented to resolve the findings issued during the qualification survey. During the reaudit the audit team was unsuccessful in obtaining sufficient documented evidence to support closure of the findings. The audit team determined that insufficient corrective actions had been implemented, and identified the need for Cooper management to intensify the efforts required to resolve the deficiencies. Based on this reaudit 100% source inspection requirements were imposed at the En-tronics facility.

C. June 28-29, 1990:

A reaudit was performed at the Rotating facility to re-assess the implementation of corrective actions for VDNs 89-06 and 013. This was the third attempt to close these findings and again Vendor Quality determined that Cooper had not implemented adequate actions to correct the deficiencies. Based on the results of this reaudit, the amount of time the deficiencies had remained open, and recent source inspections performed, 100% source inspection requirements were also imposed at the Rotating facility.

2. Source Surveillance

Twenty-one safety-related purchase orders were subject to source surveillance in 1990. Approximately 23 trips were taken to support the project. Rejection statistics are reflected on the performance trend.

Surveillances in this year reflected a significant improvement in Coopers procurement, vendor qualification, dedication and inspection controls. APS waived surveillance on selective items such as nuts, bolts, o-rings, couplings gaskets, strainers.

SECTION X

Overview of Activities - 1991

1. Audits

A joint audit of Cooper Divisions is scheduled for September 1991.

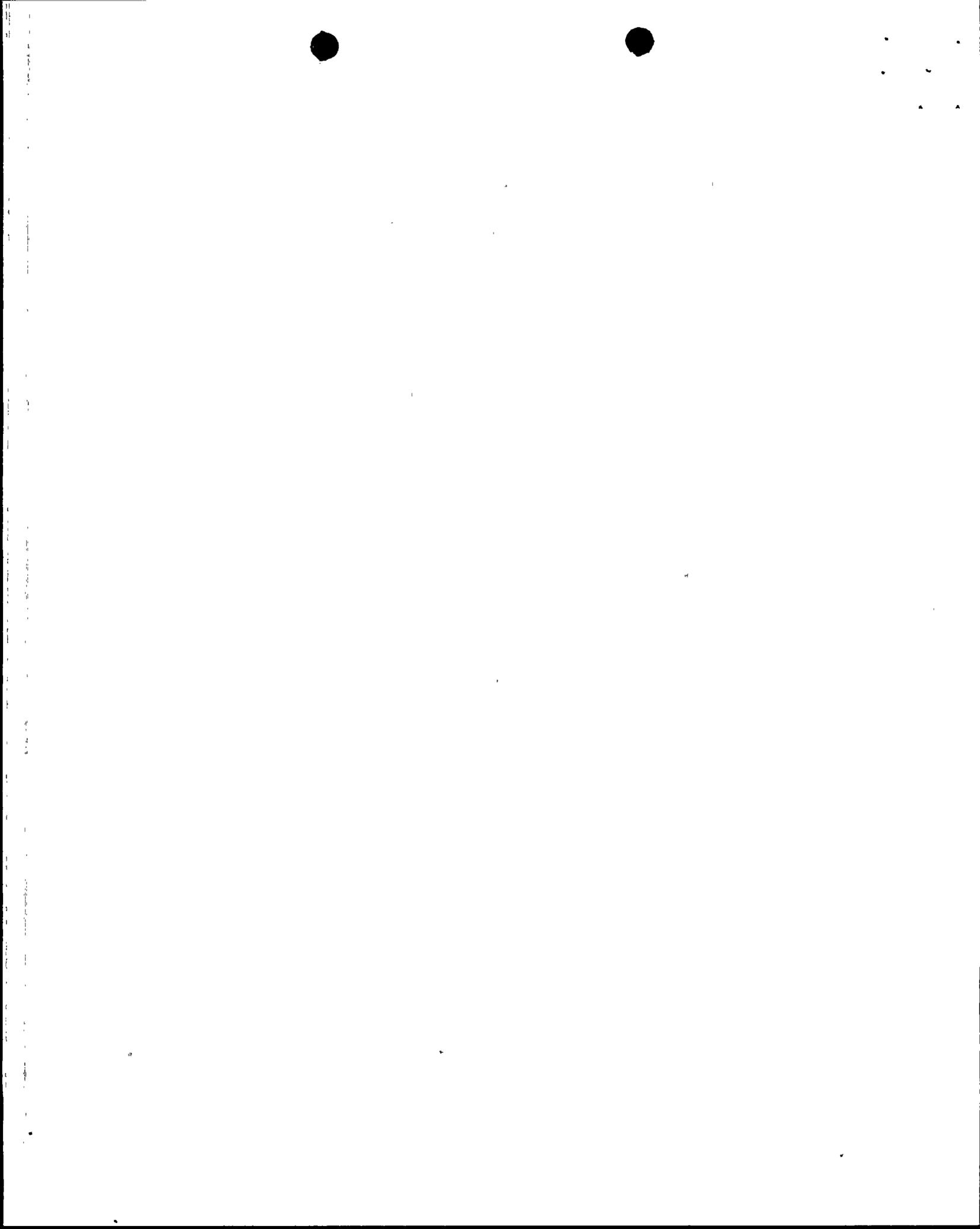
- o Entronics
- o Reciprocating
- o Rotating

APS Vendor Quality Engineering will be leading the audit and Commonwealth Edison will participate.

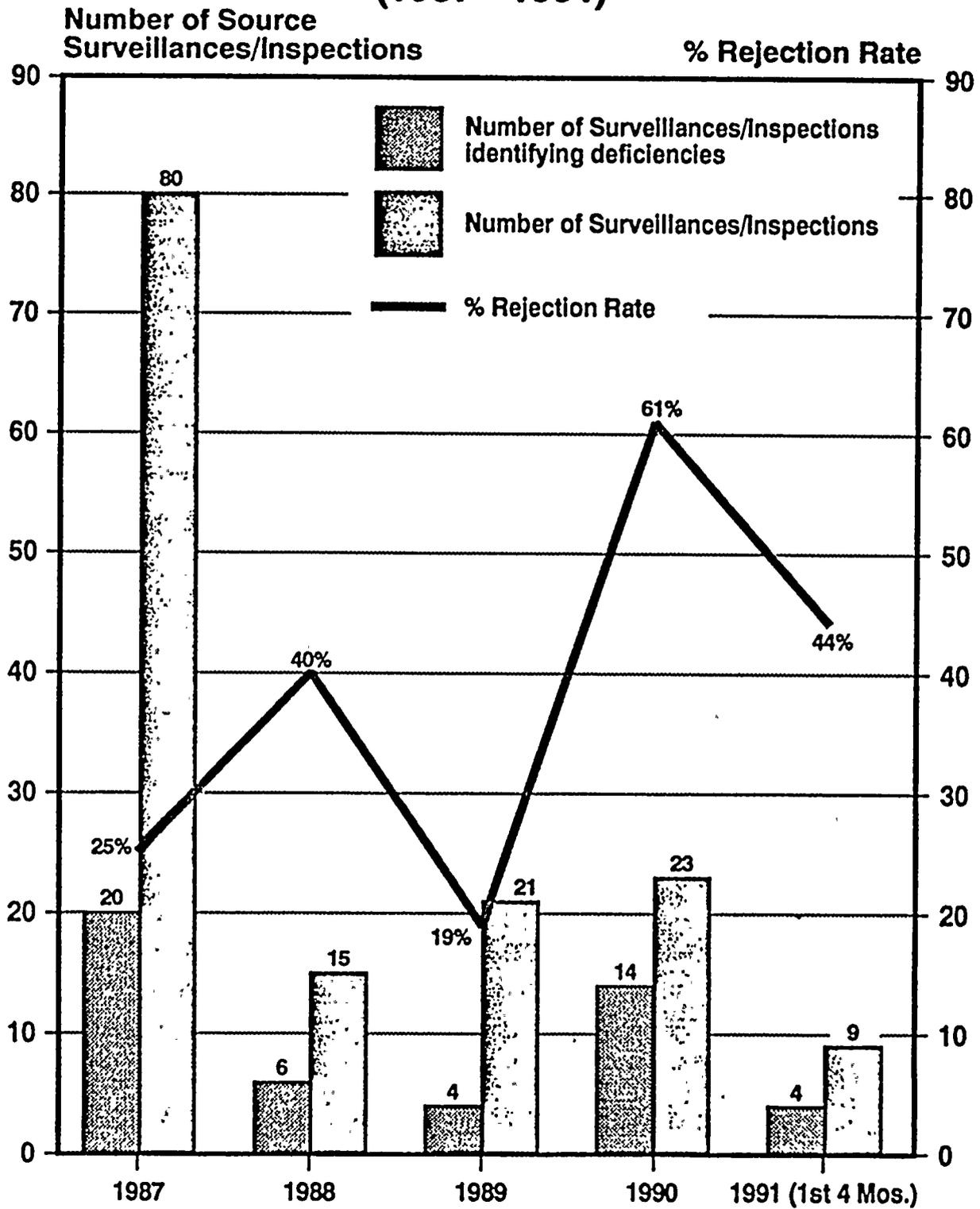
2. Source Surveillance

As of April 30, 1991 seven safety-related purchase orders were subjected to source surveillance by APS. Approximately nine trips were taken to support the project. Rejection statistics are reflected on the performance trend.

Our surveillances to date have indicated a downward trend in parts acceptability. APS has re-imposed 100% surveillance.



ESG Supplier Performance Trend (1987 - 1991)





SECTION XI

CONCLUSIONS

1. By overview of audits/reaudits and 100% surveillance activities that APS has been involved at the Cooper facilities to ensure items received comply with requirements.
2. Commercial dedication was a concern and was identified to Cooper in June 1986:
 - o Audits conducted in 1986, 1987, and 1988.
 - o Surveillance activities since 1987.
 - o VQE assistance in development of Coopers current program.
3. Parts classification was addressed to Cooper:
 - o December 1987 audit of Reciprocating.
 - o December 1988 audit of Rotating.
 - o Surveillance activities since 1987.
4. APS has had positive controls in place to ensure product quality.
5. That the proactiveness exhibited here is our philosophy of how we interact with all of our vendors. This was confirmed by the 1990 NRC diagnostic report which stated that Vendor Quality was a strength of the quality organization.

