

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
 Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
 Interview of: STEVE DOTY

Docket No.

LOCATION: Scriba, New York

DATE: Tuesday, August 20, 1991

PAGES: 1 - 15

ANN RILEY & ASSOCIATES, LTD.
 1612 K St. N.W., Suite 300
 Washington, D.C. 20006
 (202) 293-3950.

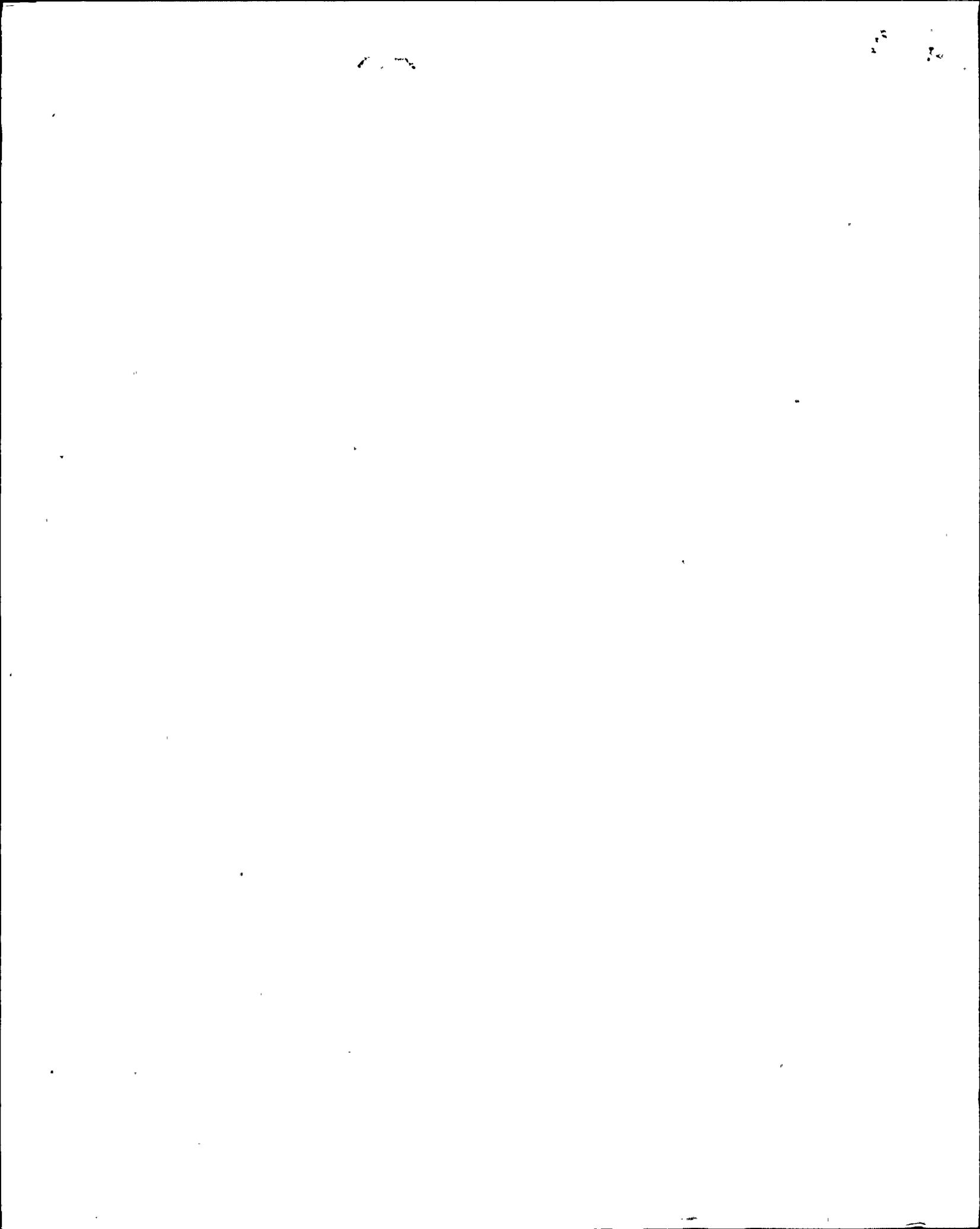
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ADDENDUM

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6	12	delete they tie in to a, classification
6	13	add are crimped, classification
6	13	double inserted, misspelling
6	14	tap, misspelling
6	16	tap, misspelling

Date 10-2-91 Signature ~~John S. Daly~~



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
INCIDENT INVESTIGATION TEAM

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Interview of :
STEVE DOTY :
(Closed) :

Conference Room A
Administration Building
Nine Mile Point Nuclear
Power Plant, Unit Two
Lake Road
Scriba, New York 13093
Tuesday, August 20, 1991

The interview commenced, pursuant to notice,
at 1:16 p.m.

PRESENT FOR THE IIT:
Jose Ibarra, NRC
Frank Ashe, NRC

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P R O C E E D I N G S

[1:16 p.m.]

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2
3
4 MR. IBARRA: I'm Jose Ibarra from the NRC and I'm
5 a member of the IIT. We will be interviewing Steve Doty
6 from Niagara Mohawk.

7 With me, I have Frank Ashe, also from the NRC
8 team. Steve, if you would please identify yourself, your
9 employer, your job title and a brief history of your
10 employment history here with Niagara Mohawk.

11 MR. DOTY: This is Steve Doty. I am the general
12 supervisor of electrical maintenance at Unit Two. I work
13 for Niagara Mohawk. I have been with the company about
14 eight years. I started at the Unit One facility in
15 maintenance as well. I worked in the maintenance planning
16 area and then into the maintenance engineering area and then
17 approximately three, three and a half years ago I was
18 promoted to the supervisor at Unit Two.

19 MR. IBARRA: Steve, can you go ahead and tell us
20 about the recent operating history with this main
21 transformer that you have discovered so far?

22 MR. DOTY: Yes. The records that we have reviewed
23 indicate no abnormalities with B phase compared to the other
24 two. And the things that we've looked at we have a refuel
25 cycle PM that is a general cleaning and inspection. We've



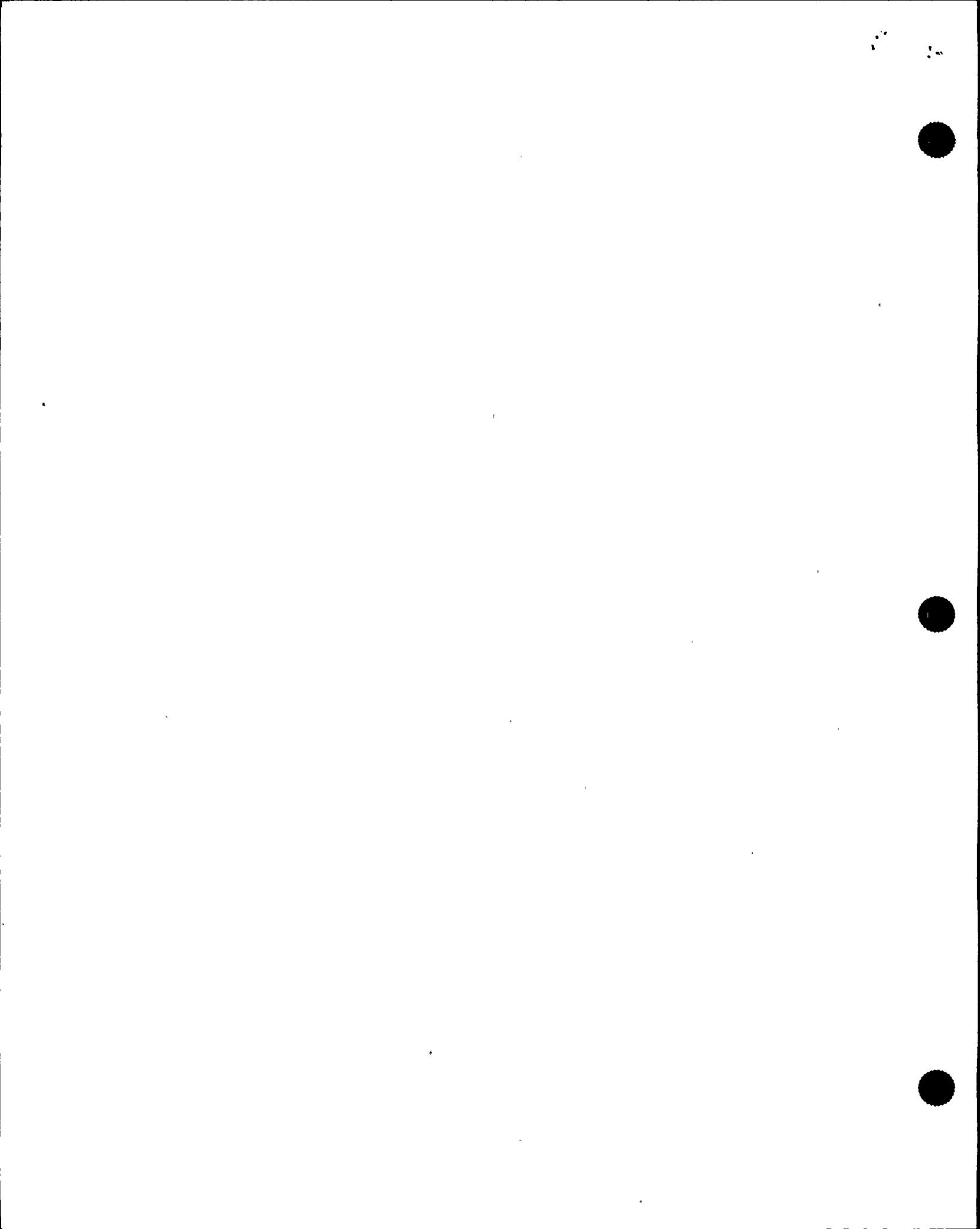
1 looked at that and found no problems. The electrical
2 maintenance department has a daily yard readings procedure -
3 - we go out and record. Again, it's a visual that records
4 set points of the temperature windings, gas temperature, gas
5 pressures or transformer pressure, excuse me, basic general
6 operating characteristics that the fans are running et
7 cetera. And we've reviewed those records and found no
8 abnormal trends in any of the A, B or C phases.

9 Also, we looked at those -- in, I would say the
10 last month and the OEA group that are helping us with the
11 root cause, they're trending that from the installation all
12 the way up to the present, so that's being worked on.

13 Also, I looked, in the last week, the operator
14 rounds and they checked some similar indications and saw no
15 abnormal readings there. We also have a quarterly
16 preventative maintenance procedure that we take oil and gas
17 samples, or oil samples to do gas and oil analysis. Again,
18 saw no adverse trends with any of the three main
19 transformers.

20 MR. IBARRA: This type of surveillance that you're
21 talking about, the quarterly, how far back did you all go
22 in looking into it?

23 MR. DOTY: Again, the root cause group is going,
24 back to startup to trend that from the beginning. Myself
25 and one of the engineers are helping with the investigation,



1 we've looked back to the last year or two and saw no
2 abnormalities there.

3 MR. IBARRA: It was Phase B of what transformer?
4 Can you specify a little bit more as to what we know was --
5 what transformer, what phase of that?

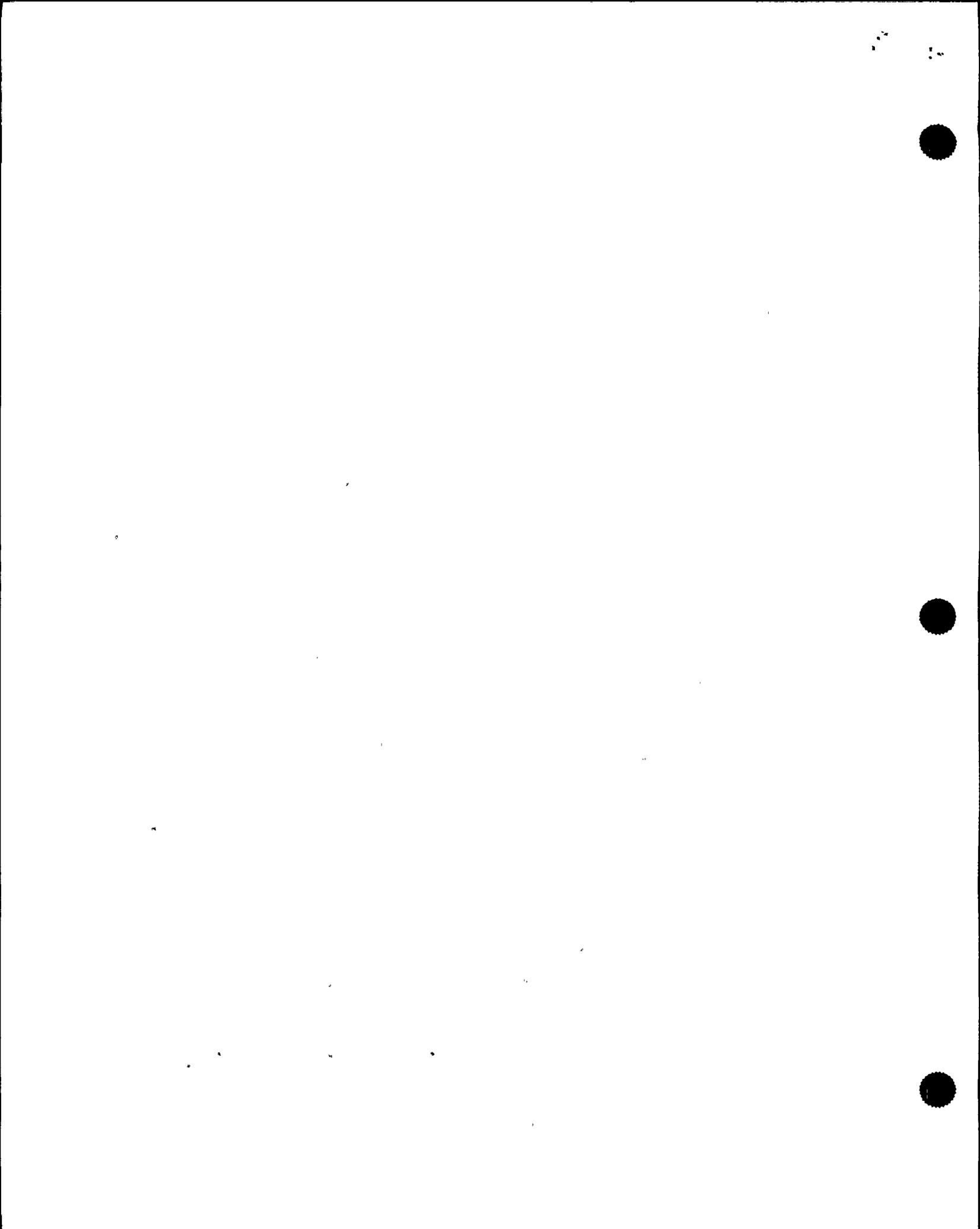
6 MR. DOTY: Yes. We have three independent
7 transformers, one for each phase; and we have an installed
8 spare; A, B, C and D transformers. The B Phase is the phase
9 that failed.

10 MR. IBARRA: Okay. What consultants do you have
11 and what other vendors have looked at that and can you tell
12 me what they have found so far?

13 MR. DOTY: We have contacted McGraw Edison, who is
14 the manufacturer of this transformer and they have been on
15 site. Also, as I understand it, Cooper Industries, has
16 bought out McGraw and a representative from their company
17 has been on site.

18 We also have had Harold Light who is a Niagara
19 Mohawk employee who is a specialist with the transformers
20 and not just nuclear, but systemwide, he's been on site and
21 is still on site helping in the investigation. We've also
22 contacted Failure Prevention which is a root cause
23 organization and they have done some preliminary fact
24 finding information.

25 We've also had an individual from General



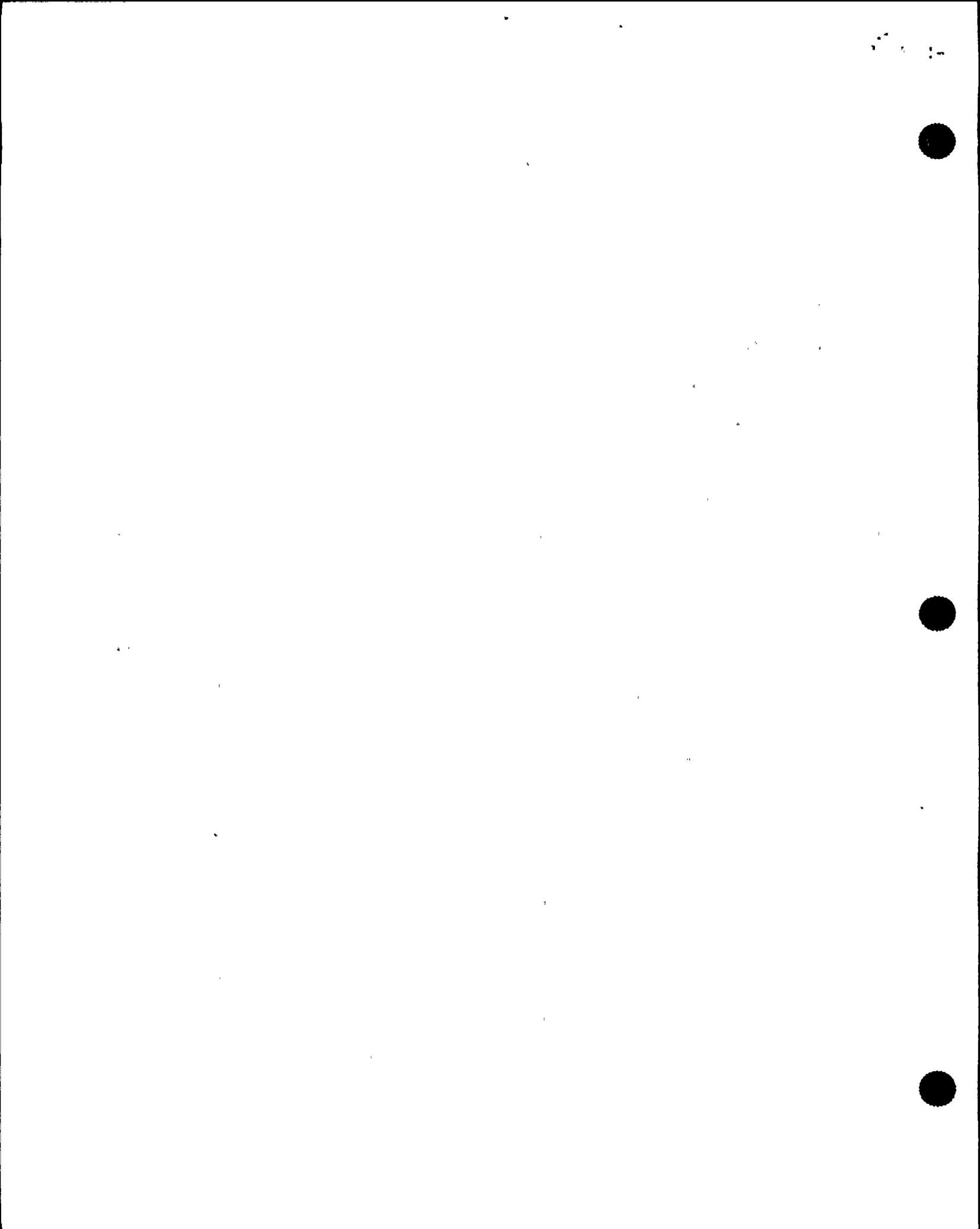
1 Electric here who has reviewed some of our operating
2 history and inspected the transformer externally. And we
3 also had an individual here from Stone and Webster who came
4 to the site for a day to assist in looking at the recent
5 trending data. The general consensus, even before we opened
6 the tank to do an inspection was that there was a failure
7 and that was based on the gas and oil analysis and then once
8 we opened the tank pictures were taken and inspections made
9 that indicated there was a failure.

10 MR. IBARRA: What was physically evident when you
11 looked at it, let's say, from the top, from the very first,
12 or so far, of what you do know? Did you see physical
13 damage?

14 MR. DOTY: When we removed the inspection cover,
15 looking inside you could see debris which is insulating
16 material and support type material. There is also a certain
17 amount of damage to busbar conductors. It appears that they
18 have been broken out of their supports and there's bent
19 copper busbar; there's some blackening of parts, there's
20 also a part in the winding that appears to have broken down
21 as evident by the carbon deposits around the area, the
22 blackening.

23 MR. IBARRA: Is there any evidence of arcing?

24 MR. DOTY: There is some minor evidence of arcing
25 between the B and C conductors as it goes out to the



1 isophase and personally I have not been inside the
2 transformer to see if there is any other arcing, but based
3 on what I've heard, I don't believe there is.

4 MR. IBARRA: Can you tell me a little bit about
5 the loose connections from the tap changers and what you
6 found so far?

7 MR. DOTY: Yes. The Failure Prevention
8 individual, Jim Riddle, was inside the transformer and as he
9 was looking around for evidence he noticed that the
10 connections on the tap changer were -- there was some
11 movement in them. And the way that is set up, is you have
12 the cables coming out of the windings and they tie in to a
13 crimp and those are double knotted as they go up into the
14 contact, and the contacts that were made on the tab setting
15 that was there. Those were quite rigid and the others that
16 were -- that were not engaged with the tab setting, had this
17 movement and it was his conclusions that that was not a
18 problem where it did not cause the event, but it was
19 something that we need to verify with McGraw Edison.

20 MR. ASHE: Excuse me. Frank Ashe from NRC. It
21 was my initial understanding that the oil analysis of the
22 transformers appeared to have some anomalies prior. Could
23 you just go over any anomalies in that or did I have the
24 initial wrong understanding?

25 MR. DOTY: To clarify the question, after the



1 event occurred or prior to --

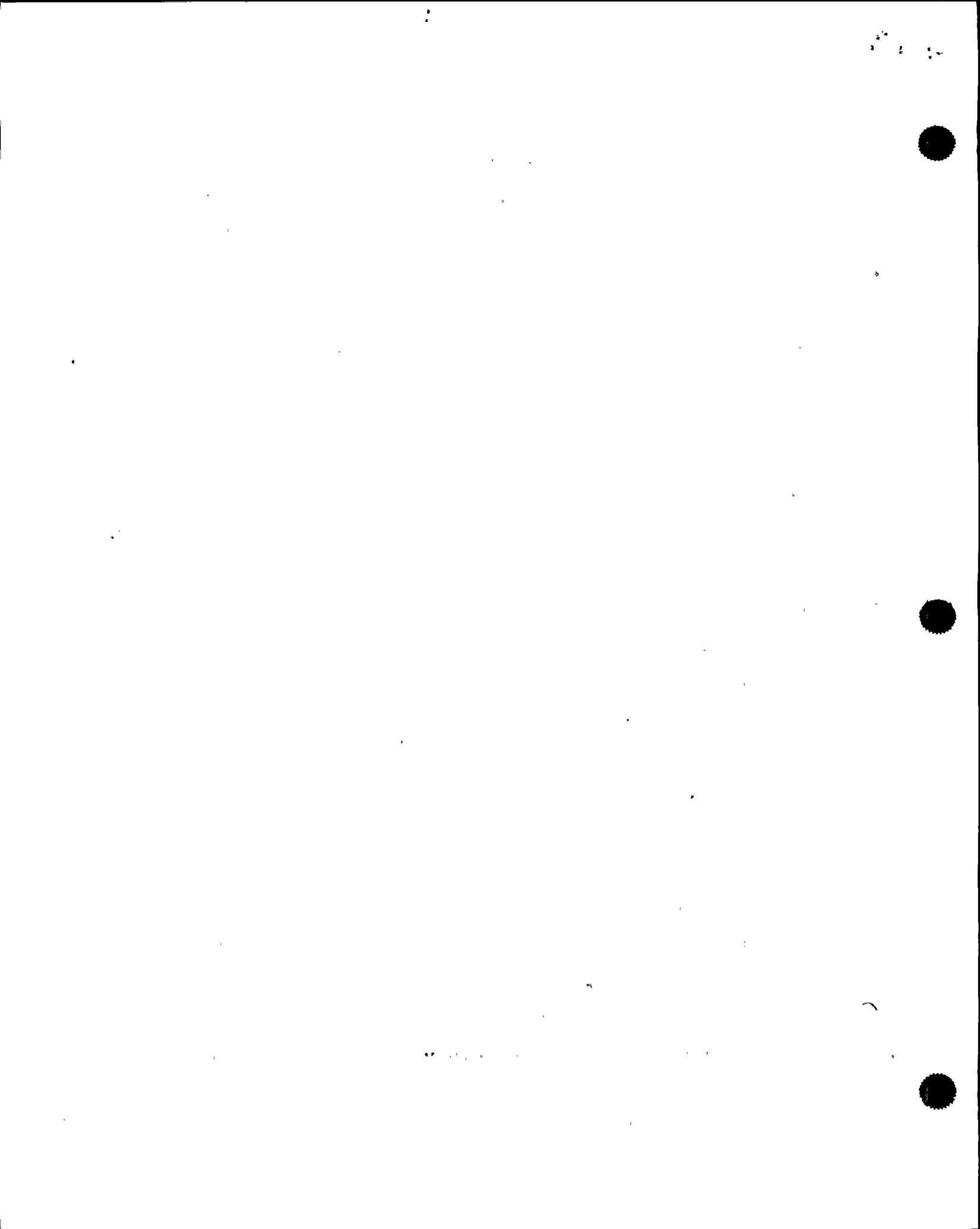
2 MR. ASHE: Right. After the -- well, both.

3 MR. DOTY: Okay. Prior to the event I'm not aware
4 of any abnormalities. Sometimes you'll get a sample that
5 may have high oxygen content, for example. And we may see
6 that if you trend it, but often that's a result of bad
7 sampling during the -- you know, abstracting the oil out of
8 the transfer and sometimes some air leaks in. But I don't
9 know of any abnormalities in that respect, but after the
10 event, as I said before, the B phase, a lot of the gases
11 climb thousand fold. You know, we had some normal readings
12 and acetylene, I think, for example, was around 4600 and the
13 criteria needs to be below five. And that was one of the
14 primary indicators that we did have a lot of arcing going on
15 inside the tank and a fault.

16 But also, on the A and C phases, the CO-2 rose,
17 what I would call significantly, it was around, I would say
18 4500 for both the A and C and it rose up to 8000 and I
19 don't have a concrete conclusion as to what that indicates
20 at this point in time.

21 MR. ASHE: Okay. So basically it was the CO-2 in
22 the A and C phases which were observed to be extremely
23 abnormal after the event, but CO-2 was the only abnormality
24 with regard to the A and C phases?

25 MR. DOTY: It might have been CO also, and I don't



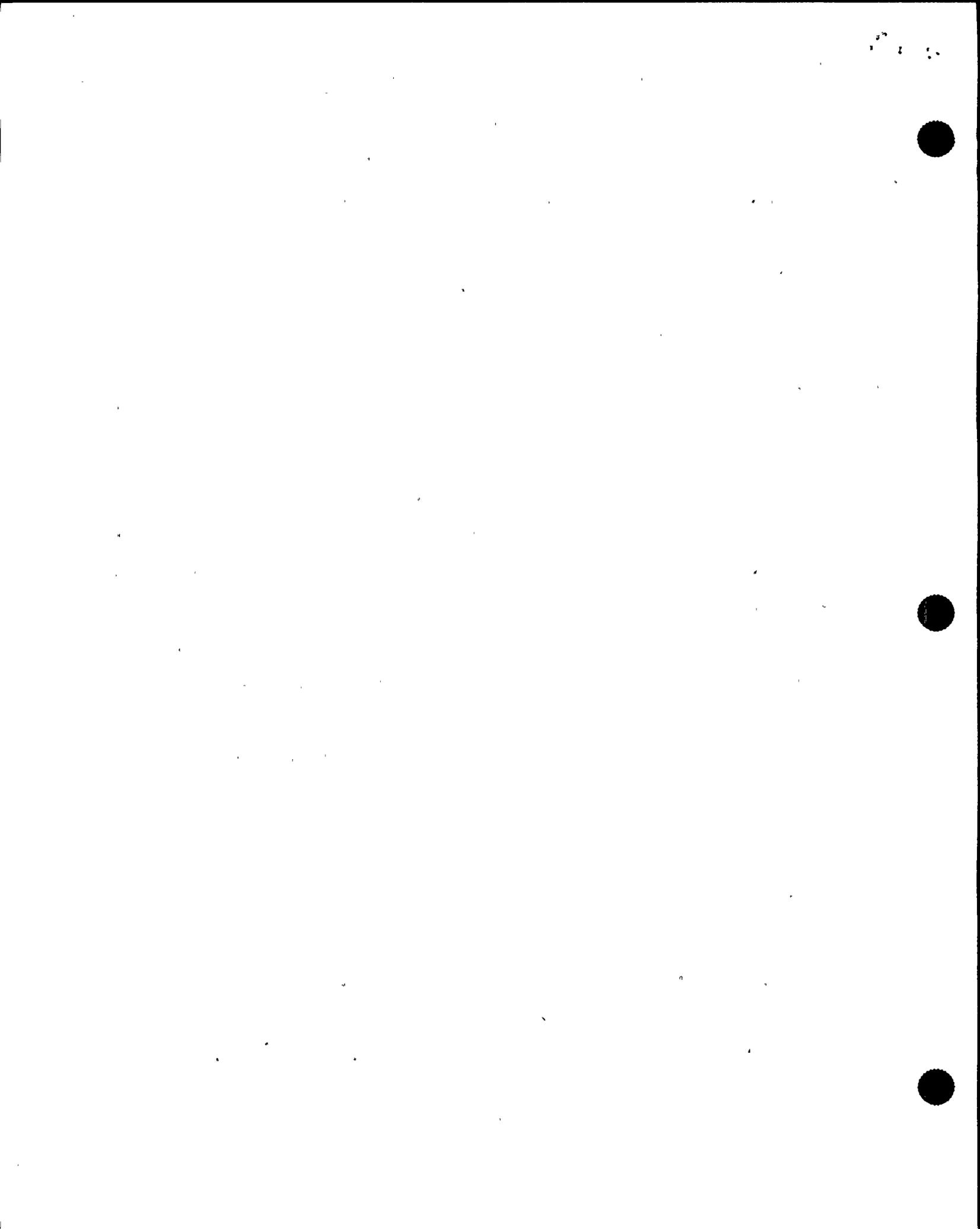
1 know -- I don't know if extremely is the right word, because
2 I'm not an expert on the gas and oil analysis, but there was
3 -- I would call it a change -- significant change to me from
4 my perspective that needs to be resolved.

5 MR. ASHE: And as far as you know, it's with
6 regards to -- it was only carbon -- CO-2 and perhaps carbon
7 monoxide also?

8 MR. DOTY: Correct. Correct.

9 MR. IBARRA: When the event occurred, can you tell
10 me about what physical evidence, what data you took, when
11 you first went out there, the pressure relieve valves going
12 off, the oil and so forth on the walls, can you please
13 explain it to us?

14 MR. DOTY: Yes. When we had staffed the technical
15 support center I was there and I went out with our damage
16 repair team and I believe it was the first team that was
17 dispatched out of the OSC. When -- actually the
18 electricians had got there just prior to me; I met them
19 there, and the things that we observed were as follows. We
20 noticed that there are two fault pressure indicating
21 devices on the top of the transformer; those had actuated.
22 We noticed on one of the cooling fan banks a flange at the
23 transformer was leaking quite significantly; there was oil,
24 at that time, spraying up into the air onto the transformer
25 and into the stones that surround the transformer.



1 We also noticed that the pumps were off, we also
2 observed the two gauges that are about eye level on the east
3 side of the transformer; one of them is the fault -- or is
4 the winding temperature indicator and the reading was
5 around -- the reading was around 60 degrees C and there also
6 was a maximum indicator on there that was beyond the maximum
7 set point which is 100 -- or not the set point, but beyond
8 the maximum indication which was -- is 180 degrees C and we
9 also observed on that gauge that the glass on that gauge has
10 a metal rim and those two pieces were laying on the ground
11 right below the gauge. And the other temperature that was
12 next to this gauge was the liquid temperature and that was
13 around -- again, they had peaked at around 80 degrees C and
14 I do not recall what the -- what it was at that time. It
15 had settled back like the natural winding temperature, that
16 had settled back down also.

17 MR. IBARRA: Can you explain to us the first tests
18 that were actually done and right after -- well, the first
19 tests that were done on the transformer?

20 MR. DOTY: Yes.

21 MR. IBARRA: After the event?

22 MR. DOTY: The day of the event, Tuesday, we took
23 the oil samples on the A, B and C transformers sometime that
24 afternoon, I think mid-afternoon. And as, you know, as the
25 event winded down, we, the next day called our meter and



1 test personnel to the site which are responsible for the
2 DOBLE-type testing on the transformers, and I don't remember
3 the specific day they started, but those were the first
4 tests that we attempted to do on the B phase. We had to
5 disconnect the links to the isophase and to the outgoing
6 conductors to isolate the bank to support that testing and
7 they tried to -- they did megger tests on the high and low
8 side and tried to do some DOBLE testing, but the unit was
9 actually tripping out. They did get a certain amount of the
10 testing done, but I'm not sure exactly which tests were
11 performed, but I know when they wanted to do the low side,
12 the primary side, the test equipment did trip because we
13 found there was zero megohms on the primary side which
14 indicated a direct short.

15 MR. ASHE: Are you thoroughly familiar with the
16 details of that testing?

17 MR. DOTY: No, I am not.

18 MR. ASHE: Okay.

19 MR. IBARRA: Do you know the procedure number for
20 that?

21 MR. DOTY: I do not know that either. It's out of
22 our electrical operating procedures that are system type
23 procedures.

24 MR. ASHE: Is it similar to megger-type testing
25 for other --



1 MR. DOTY: Yes, it is.

2 MR. ASHE: -- insulation resistance testing?

3 MR. DOTY: Yes, it is, and I believe it's a
4 10,000 volt potential compared to the link at 1,000 volt
5 megger for example. I know it's a greater potential and
6 they do -- basically it's the same type thing, but they are
7 able to measure the leakage current on the insulation;
8 wether it be the bushings or the windings themselves.

9 MR. IBARRA: What is the plan now for the
10 transformer? What will happen from now on?

11 MR. DOTY: Well, from the time of the event, we in
12 the electrical maintenance department went ahead and
13 disconnected the rest of the auxiliaries on the transformer.
14 We were supported by Niagara Mohawk station maintenance
15 personnel to remove the fans to remove the electrical panel
16 to remove the conservator tank and to remove the bushings to
17 support shipping that to a vendor to do repair and/or
18 replacement. At this day, which is the 20th, we are
19 presently rigging that out of the yard, anticipate being
20 done later this week, Thursday, Friday timeframe until such
21 a point we can get that to our rail station to ship that to
22 a vendor which has not yet been determined for repair. And
23 most importantly there, not only are they going to do
24 repair, but we expect that they will be doing a root cause
25 for us.



1 MR. IBARRA: They will be doing root cause?

2 MR. DOTY: The will be doing a root cause.

3 MR. ASHE: Do you know the age of these
4 transformers? When they were brought on site?

5 MR. DOTY: I don't know exactly when they were
6 brought on site, I believe it was around '84 because I think
7 they were installed in '85. I'm not positive of that,
8 though.

9 MR. IBARRA: Can you describe to us the grounding
10 on both sides, the 345 side on the station side? The
11 grounding schemes.

12 MR. DOTY: The transformer is a Delta Y
13 transformer and the Y side is grounded which is the
14 secondary side, the 345 side. I'm not sure at what point
15 that is grounded, and as far as the Delta side, I don't know
16 at what point that is grounded. I know there is a neutral
17 connection at the transformer that comes off of all four --
18 or three transformers and it ties into a common bus that
19 runs across the transformers over to a ground connection
20 that ties into our ground grid.

21 MR. IBARRA: Have you all reviewed the technical
22 manuals and can you tell me a little bit about that aspect
23 of it?

24 MR. DOTY: I have not received the report yet, but
25 I have contacted our site engineering group to perform a



1 manual review and I asked them to look at aspects both
2 maintenance and operations wise and make sure that our
3 procedures were in accordance with the manufacturer's
4 recommendations. I am expecting a memo on that. I did get
5 a verbal this morning that the manual has been reviewed and
6 that there were no problems found.

7 MR. IBARRA: As far as the way you operate versus
8 the manual?

9 MR. DOTY: The only thing I was told that there
10 were no problems and until I see the context of the letter
11 I can't really address that.

12 MR. IBARRA: Who is reviewing that now?

13 MR. DOTY: Our site engineering department.

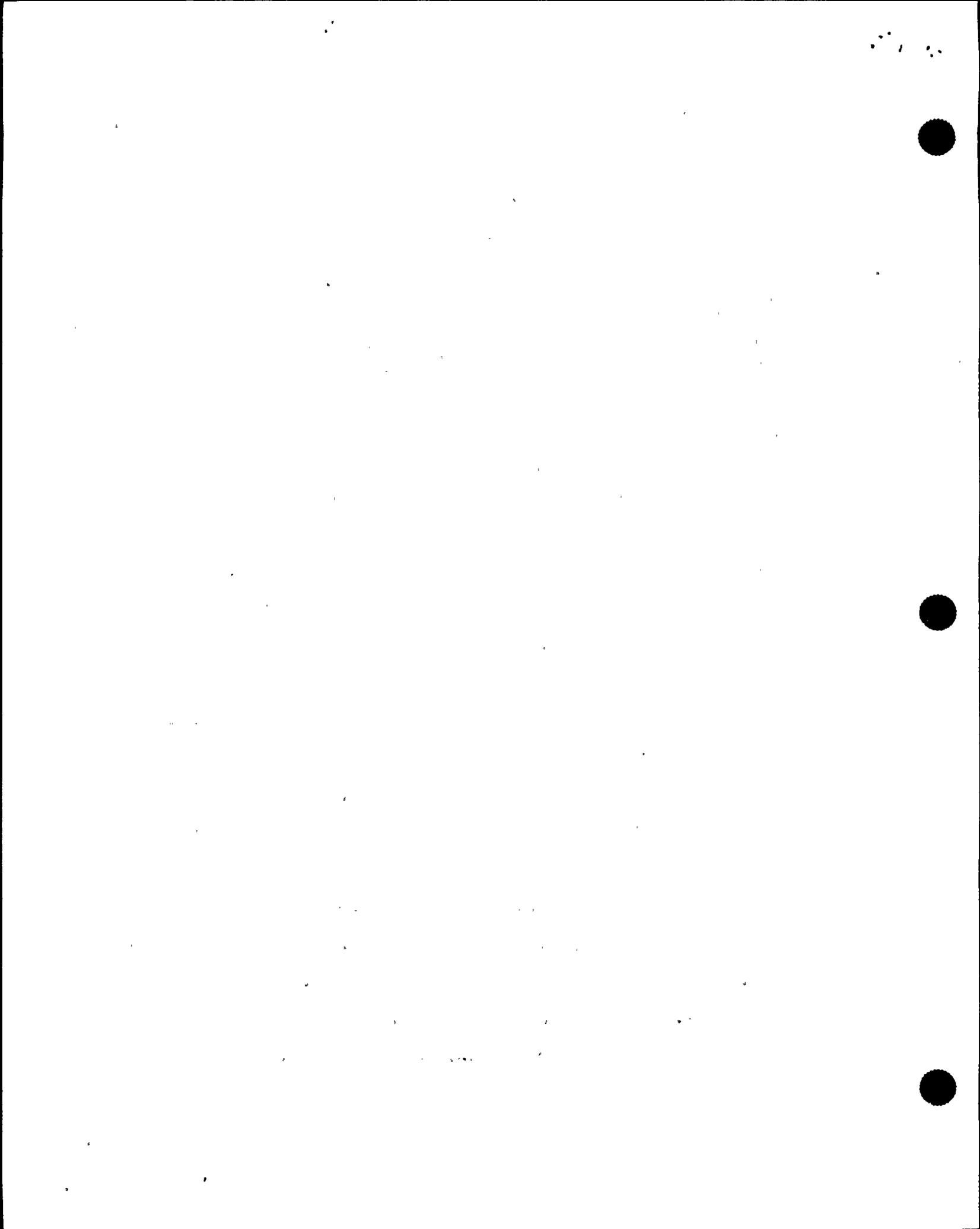
14 MR. IBARRA: Oh, okay.

15 MR. ASHE: What additional reviews do you plan for
16 the A and C phases for the main transformer other than what
17 you've already done right now. There has been an observed
18 anomaly here and it must mean something, do you have
19 something up and above for those phases in mind that you
20 haven't done already?

21 Now, it's our understanding you've already done
22 the equivalent of meggering, but it's at a higher potential
23 and I think you referred to it as DOBLEing.

24 MR. DOTY: That's correct.

25 MR. ASHE: You've done the oil sample which you



1 would normally do?

2 MR. DOTY: Um hm.

3 MR. ASHE: And you've observed the CO-2 readings
4 and the CO readings at increased levels.

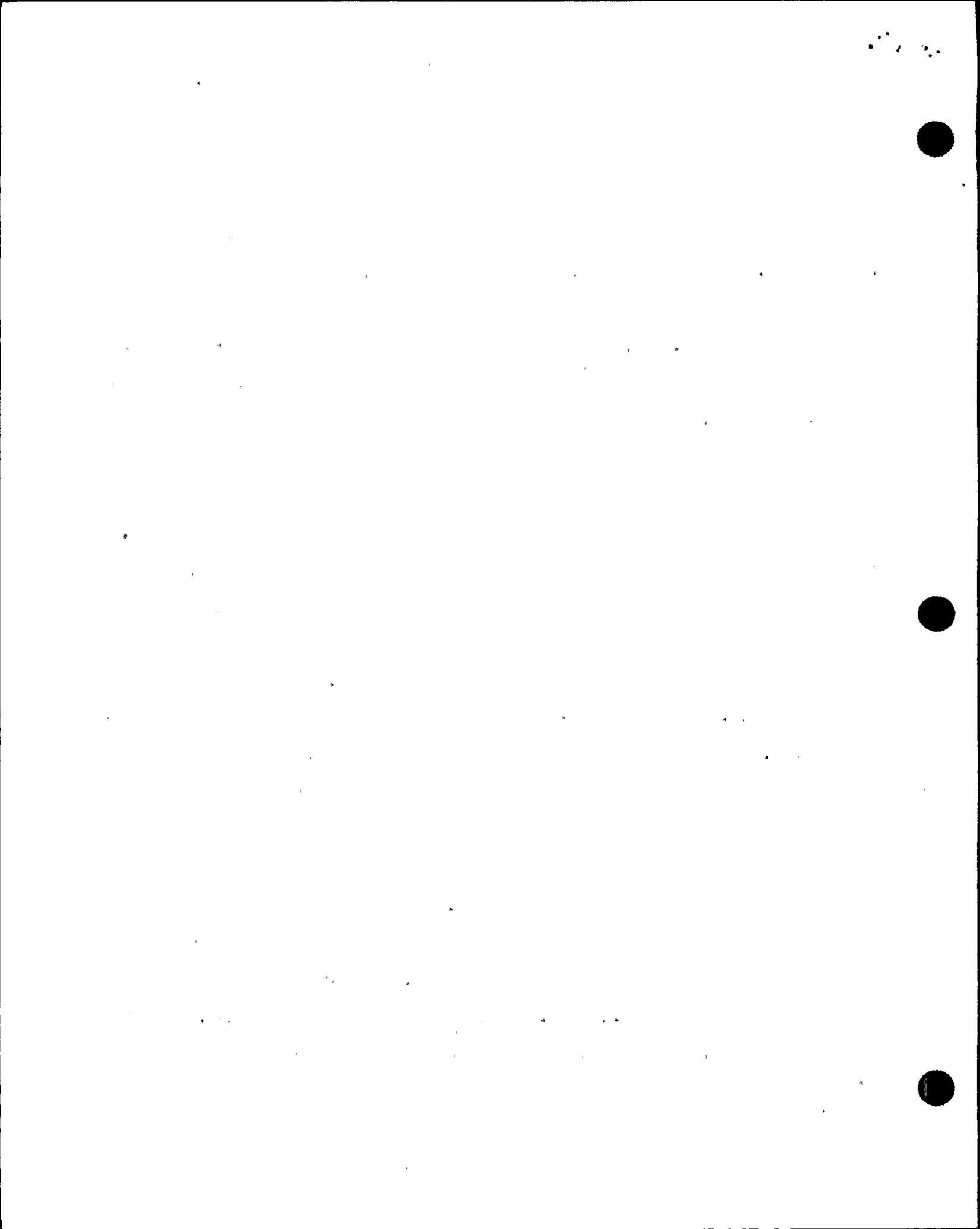
5 MR. DOTY: Um hm.

6 MR. ASHE: Beyond those things, do you have any
7 other specific plans in mind to do other things, to assure
8 yourself that this isn't signaling some other impending
9 failure?

10 MR. DOTY: At this point I'm not aware of that,
11 but what we need to do is we need to resolve the elevated
12 gases and that may identify some corrective actions. We're
13 comfortable with the readings that we did get on the other
14 transformers and we're still investigating the problem and
15 some of our transformer specialists may have some
16 recommendations. We are looking at some things external to
17 the transformer, for example, meggering the generator and
18 meggering the isophase and those activities have been
19 completed, but until we get a -- you know, a final review of
20 the gas and oil, at this point I don't know of any further
21 tests that we plan to perform on the other transformers.

22 MR. ASHE: Okay. Now, who's doing the final
23 review for the gas and oil on the A and C phases?

24 MR. DOTY: Harold Light will be assisting us in
25 that and whether we need to contact the vendor or not, I'm



1 not sure at this point, but he'll be helping us make that
2 decision.

3 MR. IBARRA: When do you expect the assessments of
4 the other consultants that you have had look at this
5 problem?

6 MR. DOTY: I don't know of any conclusive dates
7 when we might see reports from any of the vendors or
8 consultants.

9 MR. ASHE: I'd like to touch one additional area
10 and that is vendor manuals, vendor information and
11 recommendation, or suggestions, I guess, vendor suggestions
12 rather than recommendations. In your experience, would you
13 say that the transformers, the actual maintenance,
14 preventative maintenance, attendant testing activities on
15 those transformers has essentially been in accordance with
16 the vendor information suggestions and recommendations that
17 you must have received with the initial equipment?

18 MR. DOTY: To the best of my knowledge they are;
19 and I also believe that we're conservative in the gas and
20 oil analysis phases of our PM program.

21 MR. ASHE: I think this concludes this interview
22 then.

23 MR. IBARRA: This concludes the interview.

24 [Whereupon, at 1:39 p.m., the taking of the
25 interview was concluded.]

22 22



REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

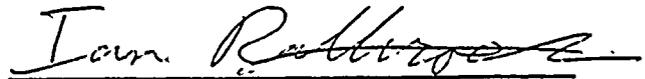
in the matter of:

NAME OF PROCEEDING: Int. of STEVE DOTY

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



IAN ROTHROCK
Official Reporter
Ann Riley & Associates, Ltd.

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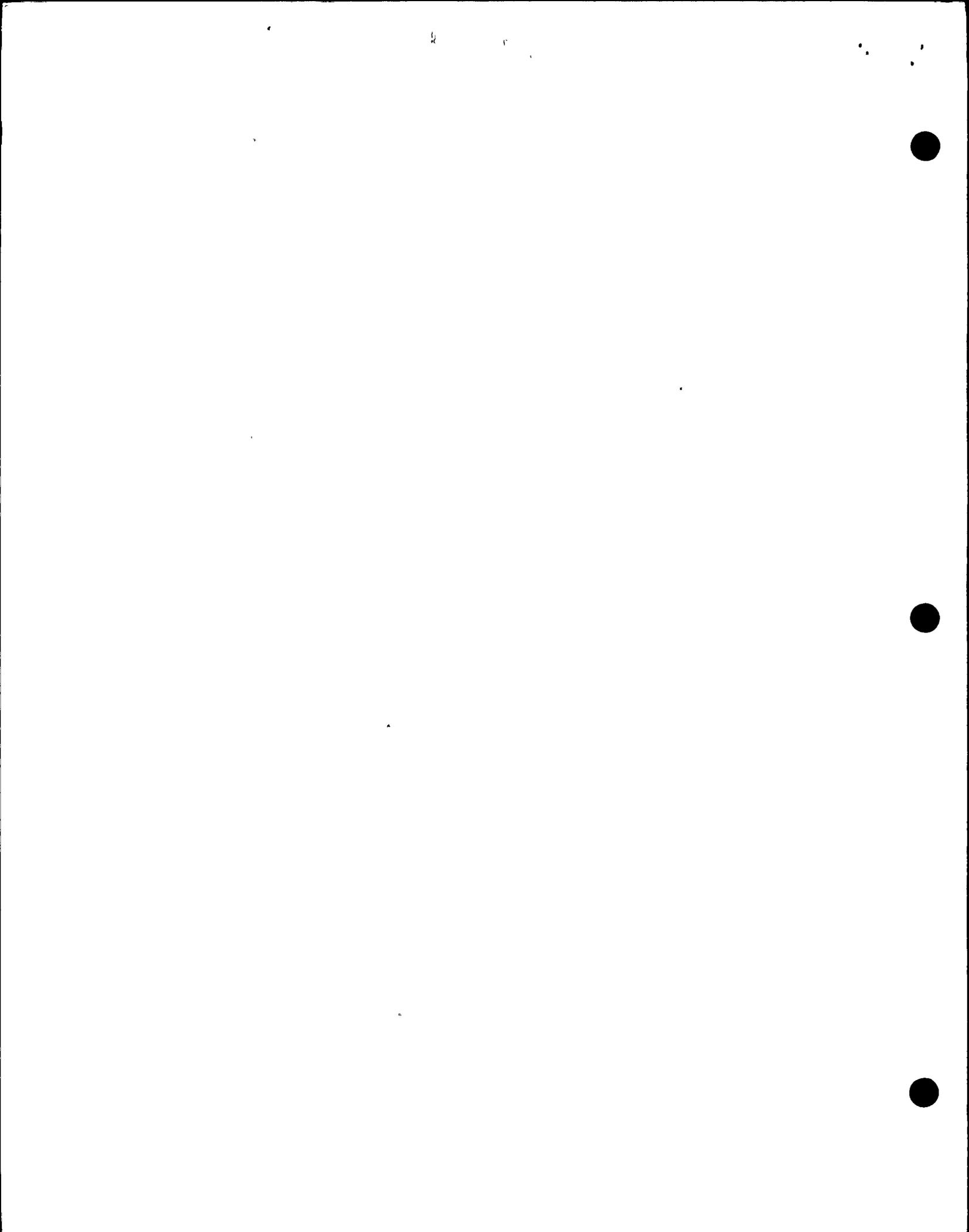
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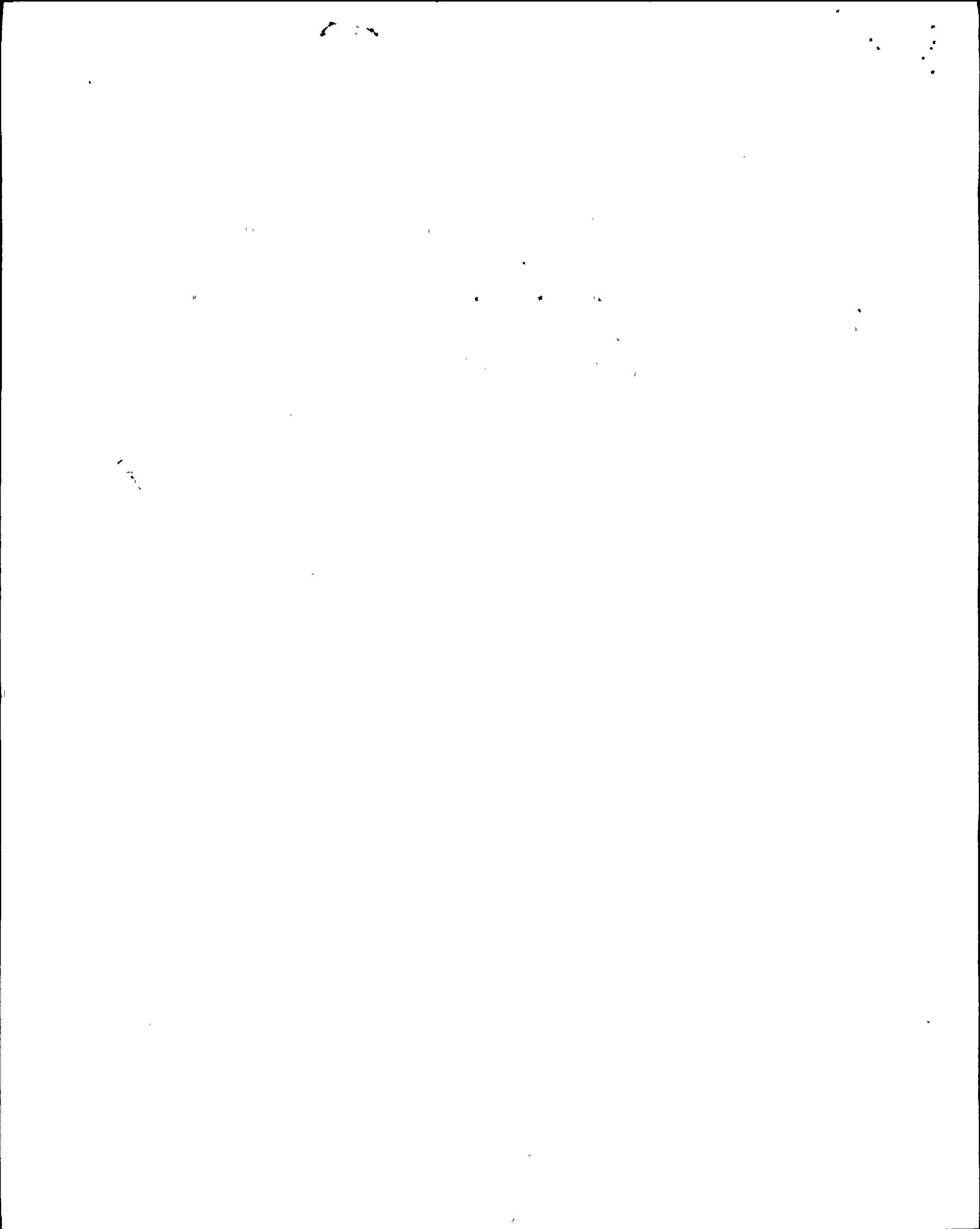
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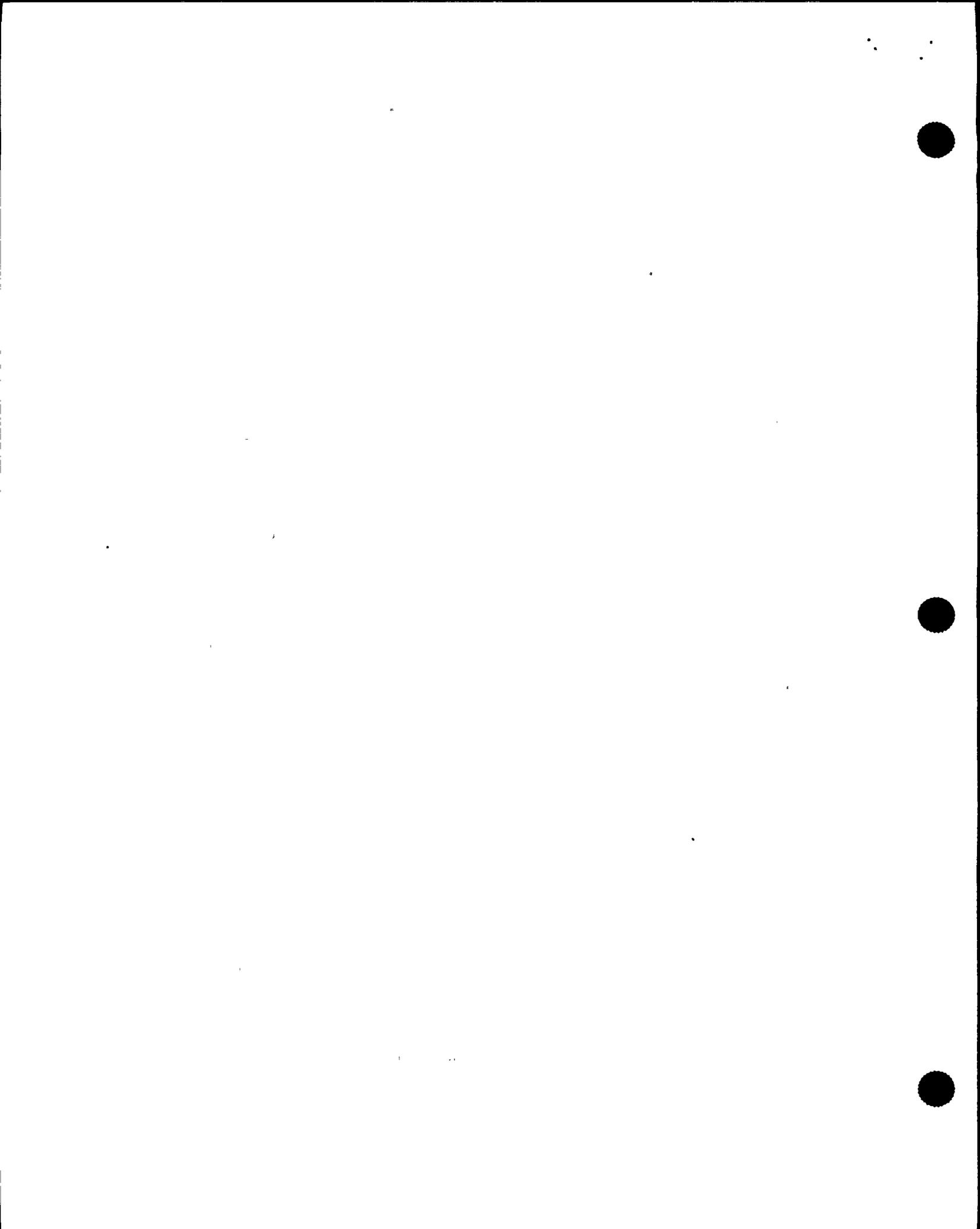
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4 MR. IBARRA: I'm Jose Ibarra from the NRC and I'm
5 a member of the IIT. We will be interviewing Steve Doty
6 from Niagara Mohawk.

7 With me, I have Frank Ashe, also from the NRC
8 team. Steve, if you would please identify yourself, your
9 employer, your job title and a brief history of your
10 employment history here with Niagara Mohawk.

11 MR. DOTY: This is Steve Doty. I am the general
12 supervisor of electrical maintenance at Unit Two. I work
13 for Niagara Mohawk. I have been with the company about
14 eight years. I started at the Unit One facility in
15 maintenance as well. I worked in the maintenance planning
16 area and then into the maintenance engineering area and then
17 approximately three, three and a half years ago I was
18 promoted to the supervisor at Unit Two.

19 MR. IBARRA: Steve, can you go ahead and tell us
20 about the recent operating history with this main
21 transformer that you have discovered so far?

22 MR. DOTY: Yes. The records that we have reviewed
23 indicate no abnormalities with B phase compared to the other
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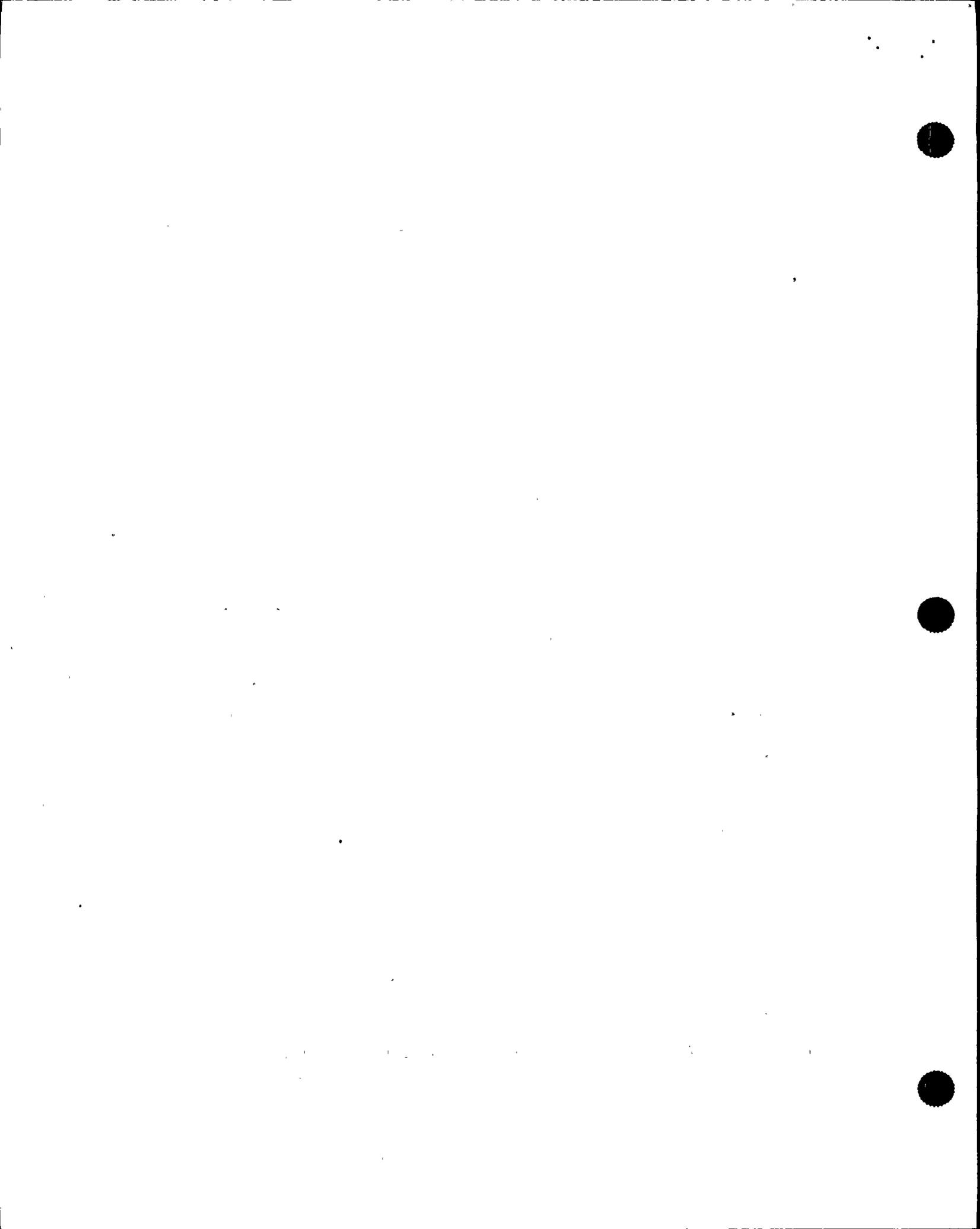
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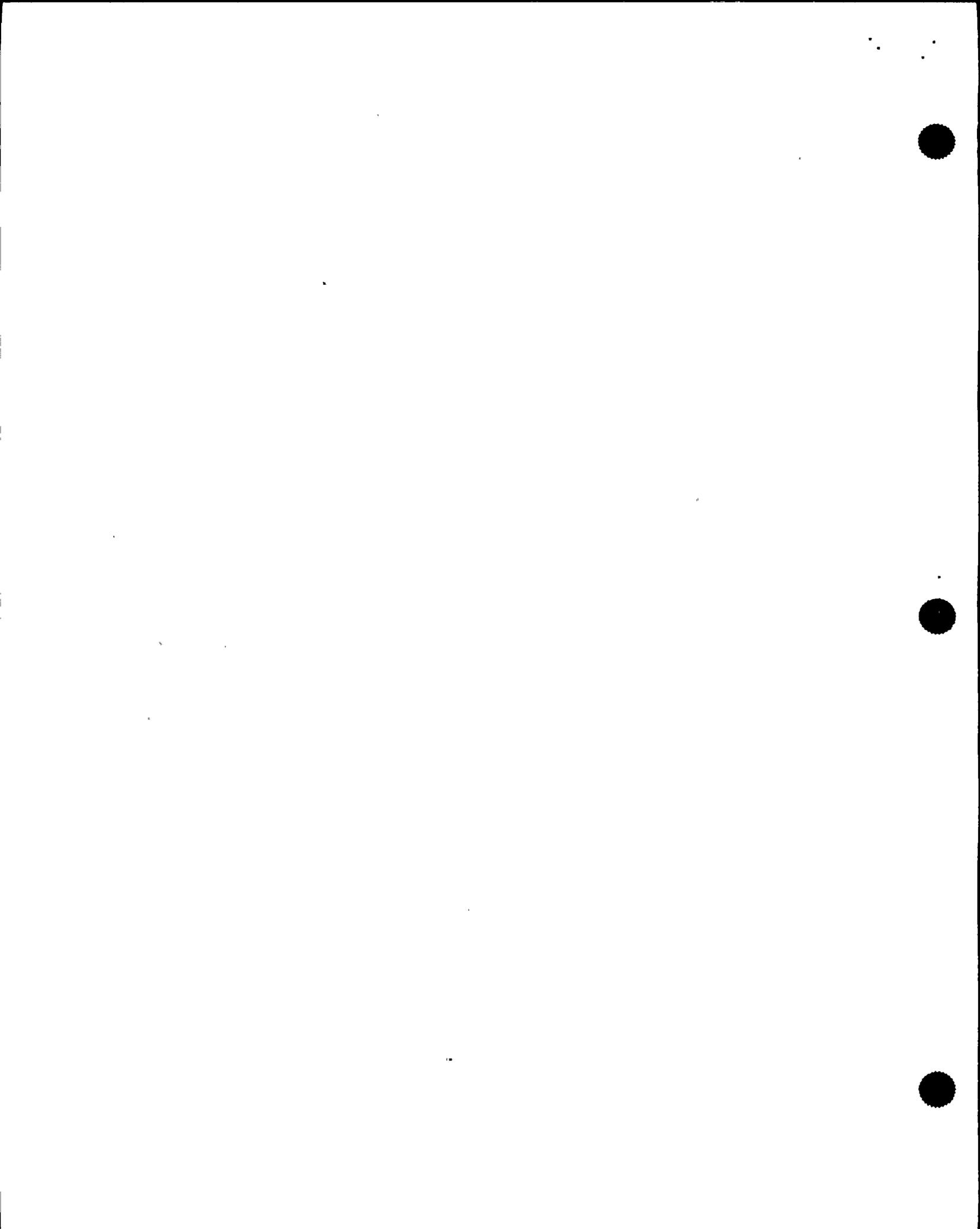
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12 me what they have found so far?

13 MR. DOTY: We have contacted McGraw Edison, who is
14 the manufacturer of this transformer and they have been on
15 site. Also, as I understand it, Cooper Industries, has
16 bought out McGraw and a representative from their company
17 has been on site.

18 We also have had Harold Light who is a Niagara
19 Mohawk employee who is a specialist with the transformers
20 and not just nuclear, but systemwide, he's been on site and
21 is still on site helping in the investigation. We've also
22 contacted Failure Prevention which is a root cause
23 organization and they have done some preliminary fact
24 finding information.

25 We've also had an individual from General



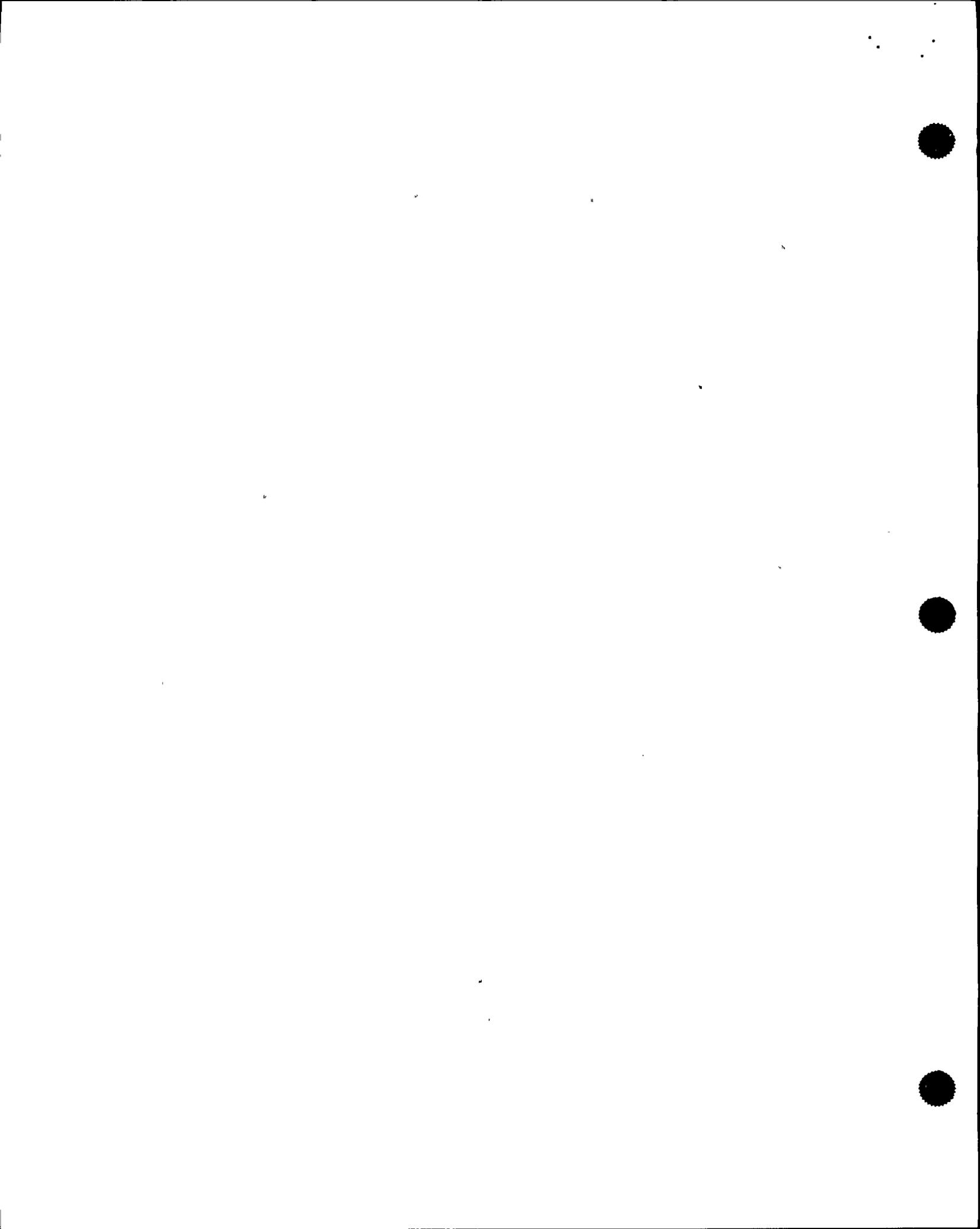
1 Electric here who has reviewed some of our operating
2 history and inspected the transformer externally. And we
3 also had an individual here from Stone and Webster who came
4 to the site for a day to assist in looking at the recent
5 trending data. The general consensus, even before we opened
6 the tank to do an inspection was that there was a failure
7 and that was based on the gas and oil analysis and then once
8 we opened the tank pictures were taken and inspections made
9 that indicated there was a failure.

10 MR. IBARRA: What was physically evident when you
11 looked at it, let's say, from the top, from the very first,
12 or so far, of what you do know? Did you see physical
13 damage?

14 MR. DOTY: When we removed the inspection cover,
15 looking inside you could see debris which is insulating
16 material and support type material. There is also a certain
17 amount of damage to busbar conductors. It appears that they
18 have been broken out of their supports and there's bent
19 copper busbar; there's some blackening of parts, there's
20 also a part in the winding that appears to have broken down
21 as evident by the carbon deposits around the area, the
22 blackening.

23 MR. IBARRA: Is there any evidence of arcing?

24 MR. DOTY: There is some minor evidence of arcing
25 between the B and C conductors as it goes out to the



1 isophase and personally I have not been inside the
2 transformer to see if there is any other arcing, but based
3 on what I've heard, I don't believe there is.

4 MR. IBARRA: Can you tell me a little bit about
5 the loose connections from the tap changers and what you
6 found so far?

7 MR. DOTY: Yes. The Failure Prevention
8 individual, Jim Riddle, was inside the transformer and as he
9 was looking around for evidence he noticed that the
10 connections on the tap changer were -- there was some
11 movement in them. And the way that is set up, is you have
12 the cables coming out of the windings and they tie in to a
13 crimp and those are double knotted as they go up into the
14 contact, and the contacts that were made on the tab setting
15 that was there. Those were quite rigid and the others that
16 were -- that were not engaged with the tab setting, had this
17 movement and it was his conclusions that that was not a
18 problem where it did not cause the event, but it was
19 something that we need to verify with McGraw Edison.

20 MR. ASHE: Excuse me. Frank Ashe from NRC. It
21 was my initial understanding that the oil analysis of the
22 transformers appeared to have some anomalies prior. Could
23 you just go over any anomalies in that or did I have the
24 initial wrong understanding?

25 MR. DOTY: To clarify the question, after the



1 event occurred or prior to --

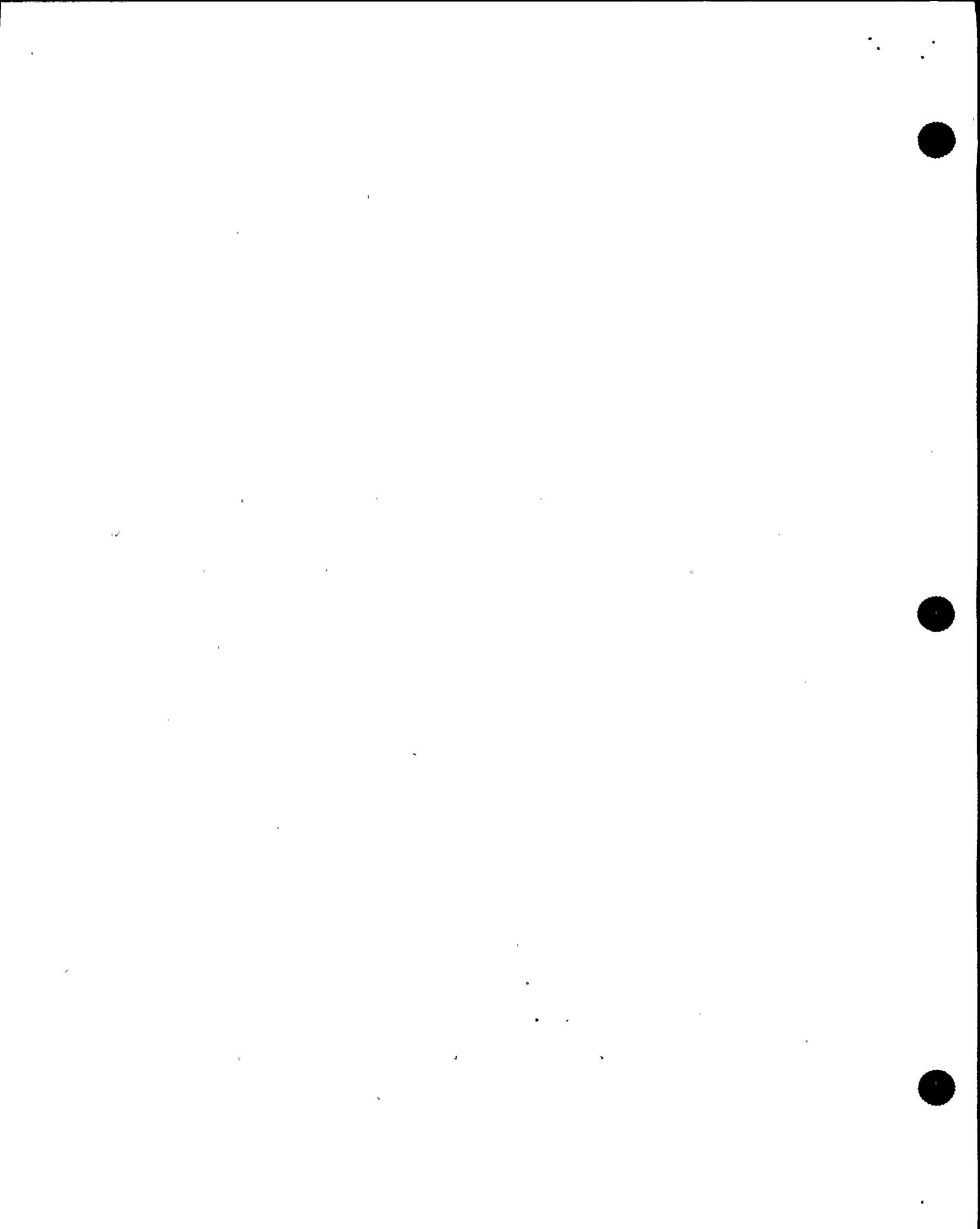
2 MR. ASHE: Right. After the -- well, both.

3 MR. DOTY: Okay. Prior to the event I'm not aware
4 of any abnormalities. Sometimes you'll get a sample that
5 may have high oxygen content, for example. And we may see
6 that if you trend it, but often that's a result of bad
7 sampling during the -- you know, abstracting the oil out of
8 the transfer and sometimes some air leaks in. But I don't
9 know of any abnormalities in that respect, but after the
10 event, as I said before, the B phase, a lot of the gases
11 climb thousand fold. You know, we had some normal readings
12 and acetylene, I think, for example, was around 4600 and the
13 criteria needs to be below five. And that was one of the
14 primary indicators that we did have a lot of arcing going on
15 inside the tank and a fault.

16 But also, on the A and C phases, the CO-2 rose,
17 what I would call significantly, it was around, I would say
18 4500 for both the A and C and it rose up to 8000 and I
19 don't have a concrete conclusion as to what that indicates
20 at this point in time.

21 MR. ASHE: Okay. So basically it was the CO-2 in
22 the A and C phases which were observed to be extremely
23 abnormal after the event, but CO-2 was the only abnormality
24 with regard to the A and C phases?

25 MR. DOTY: It might have been CO also, and I don't



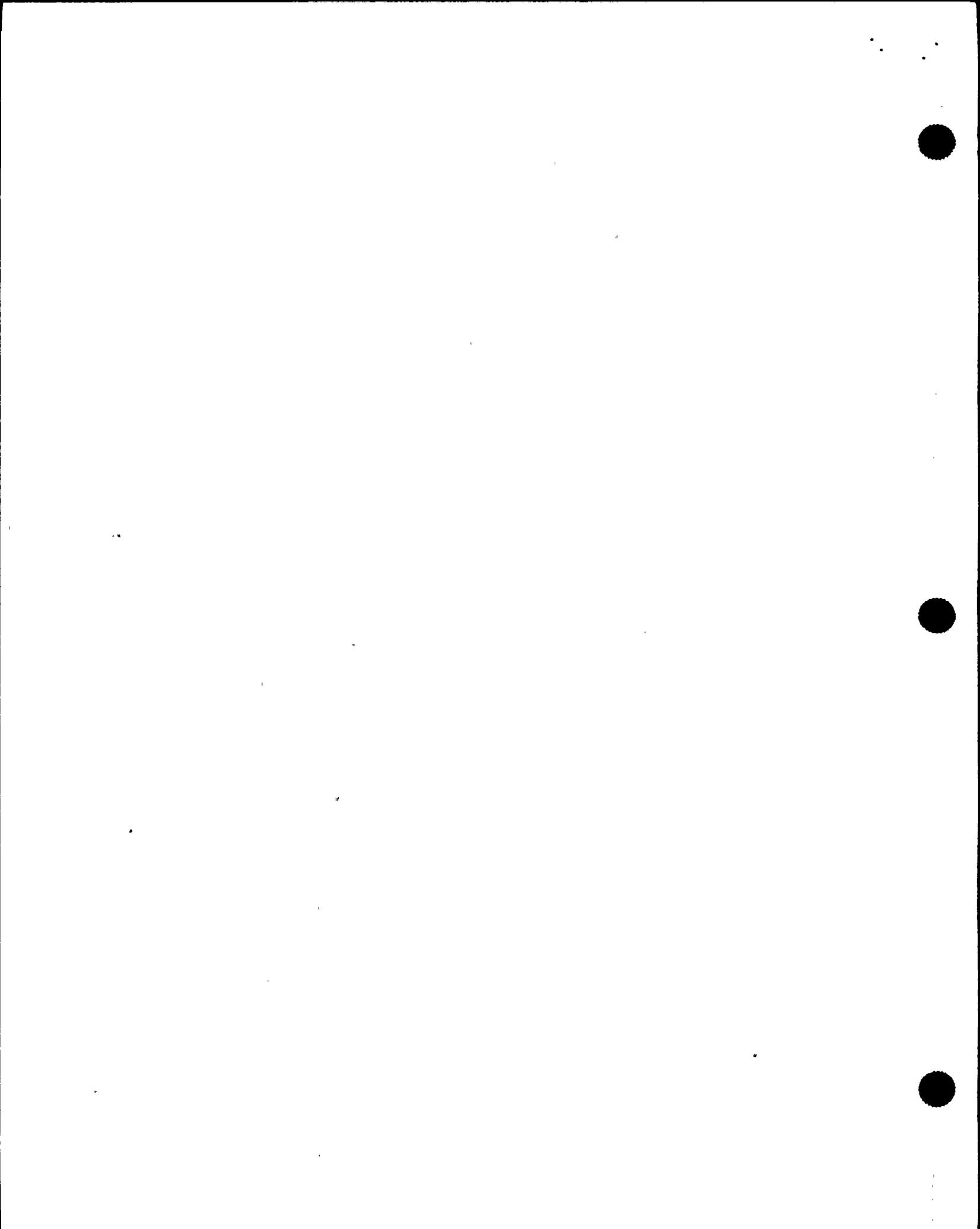
1 know -- I don't know if extremely is the right word, because
2 I'm not an expert on the gas and oil analysis, but there was
3 -- I would call it a change -- significant change to me from
4 my perspective that needs to be resolved.

5 MR. ASHE: And as far as you know, it's with
6 regards to -- it was only carbon -- CO-2 and perhaps carbon
7 monoxide also?

8 MR. DOTY: Correct. Correct.

9 MR. IBARRA: When the event occurred, can you tell
10 me about what physical evidence, what data you took, when
11 you first went out there, the pressure relieve valves going
12 off, the oil and so forth on the walls, can you please
13 explain it to us?

14 MR. DOTY: Yes. When we had staffed the technical
15 support center I was there and I went out with our damage
16 repair team and I believe it was the first team that was
17 dispatched out of the OSC. When -- actually the
18 electricians had got there just prior to me; I met them
19 there, and the things that we observed were as follows. We
20 noticed that there are two fault pressure indicating
21 devices on the top of the transformer; those had actuated.
22 We noticed on one of the cooling fan banks a flange at the
23 transformer was leaking quite significantly; there was oil,
24 at that time, spraying up into the air onto the transformer
25 and into the stones that surround the transformer.



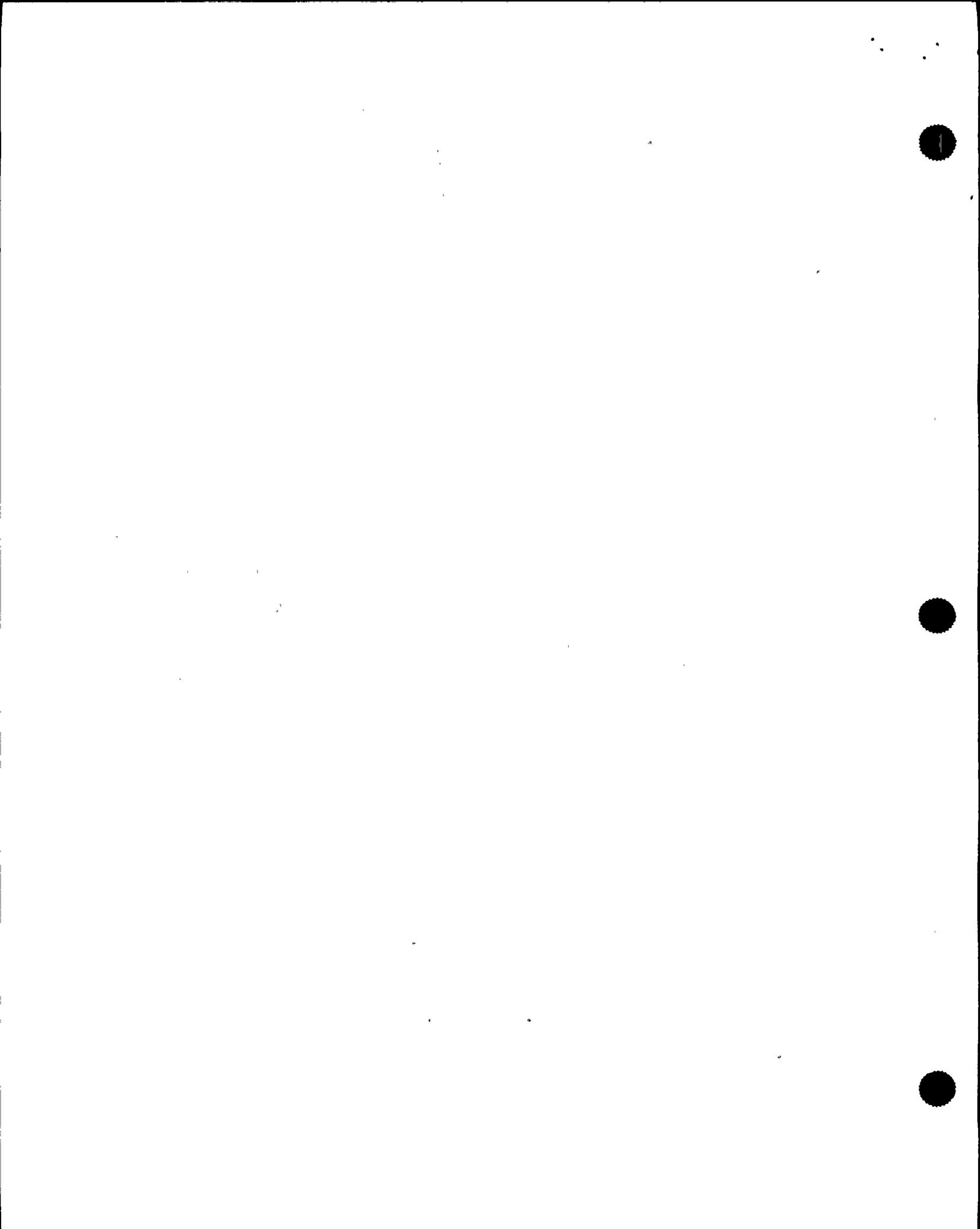
1 We also noticed that the pumps were off, we also
2 observed the two gauges that are about eye level on the east
3 side of the transformer; one of them is the fault -- or is
4 the winding temperature indicator and the reading was
5 around -- the reading was around 60 degrees C and there also
6 was a maximum indicator on there that was beyond the maximum
7 set point which is 100 -- or not the set point, but beyond
8 the maximum indication which was -- is 180 degrees C and we
9 also observed on that gauge that the glass on that gauge has
10 a metal rim and those two pieces were laying on the ground
11 right below the gauge. And the other temperature that was
12 next to this gauge was the liquid temperature and that was
13 around -- again, they had peaked at around 80 degrees C and
14 I do not recall what the -- what it was at that time. It
15 had settled back like the natural winding temperature, that
16 had settled back down also.

17 MR. IBARRA: Can you explain to us the first tests
18 that were actually done and right after -- well, the first
19 tests that were done on the transformer?

20 MR. DOTY: Yes.

21 MR. IBARRA: After the event?

22 MR. DOTY: The day of the event, Tuesday, we took
23 the oil samples on the A, B and C transformers sometime that
24 afternoon, I think mid-afternoon. And as, you know, as the
25 event winded down, we, the next day called our meter and



1 test personnel to the site which are responsible for the
2 DOBLE-type testing on the transformers, and I don't remember
3 the specific day they started, but those were the first
4 tests that we attempted to do on the B phase. We had to
5 disconnect the links to the isophase and to the outgoing
6 conductors to isolate the bank to support that testing and
7 they tried to -- they did megger tests on the high and low
8 side and tried to do some DOBLE testing, but the unit was
9 actually tripping out. They did get a certain amount of the
10 testing done, but I'm not sure exactly which tests were
11 performed, but I know when they wanted to do the low side,
12 the primary side, the test equipment did trip because we
13 found there was zero megohms on the primary side which
14 indicated a direct short.

15 MR. ASHE: Are you thoroughly familiar with the
16 details of that testing?

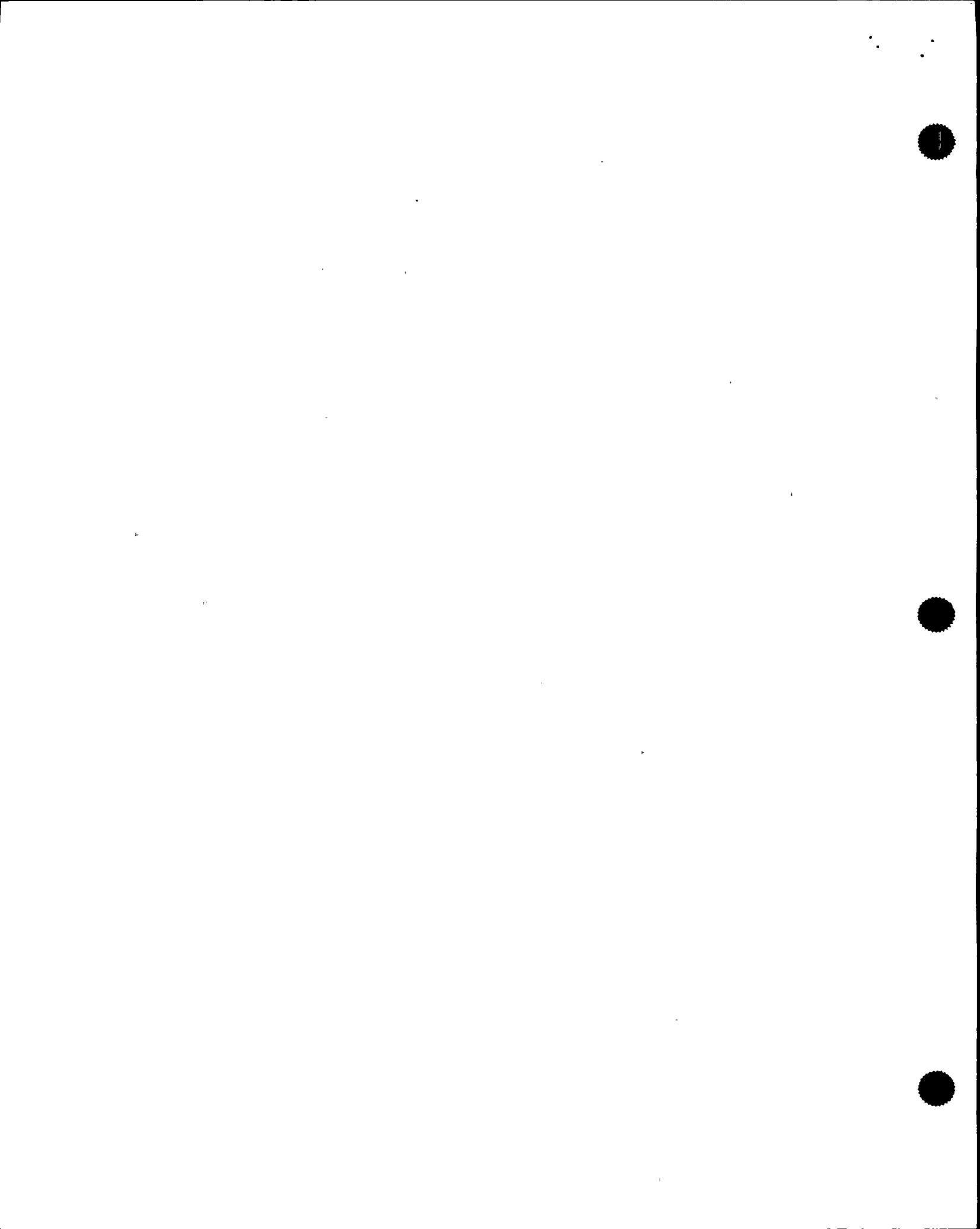
17 MR. DOTY: No, I am not.

18 MR. ASHE: Okay.

19 MR. IBARRA: Do you know the procedure number for
20 that?

21 MR. DOTY: I do not know that either. It's out of
22 our electrical operating procedures that are system type
23 procedures.

24 MR. ASHE: Is it similar to megger-type testing
25 for other --



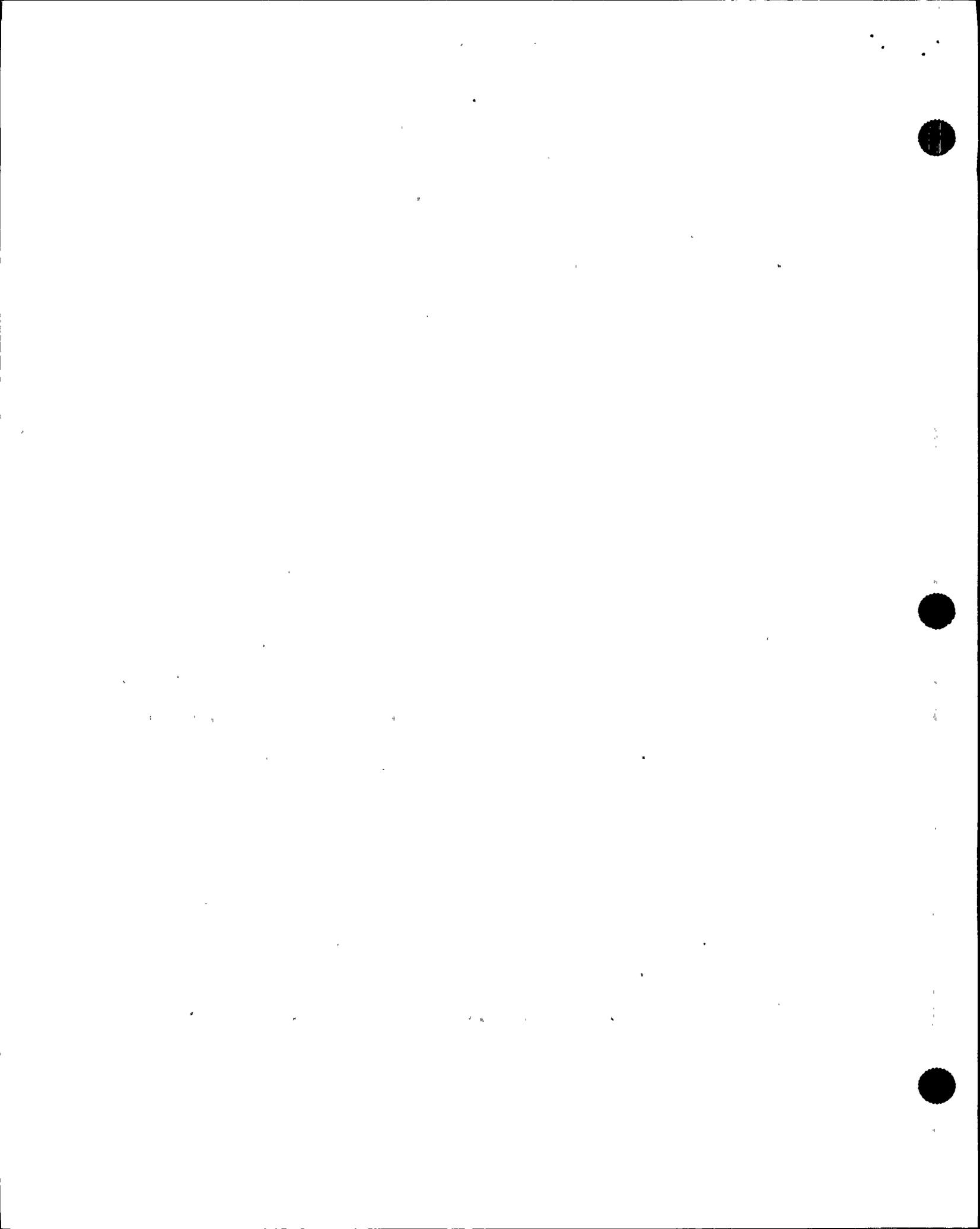
1 MR. DOTY: Yes, it is.

2 MR. ASHE: -- insulation resistance testing?

3 MR. DOTY: Yes, it is, and I believe it's a
4 10,000 volt potential compared to the link at 1,000 volt
5 megger for example. I know it's a greater potential and
6 they do -- basically it's the same type thing, but they are
7 able to measure the leakage current on the insulation;
8 wether it be the bushings or the windings themselves.

9 MR. IBARRA: What is the plan now for the
10 transformer? What will happen from now on?

11 MR. DOTY: Well, from the time of the event, we in
12 the electrical maintenance department went ahead and
13 disconnected the rest of the auxiliaries on the transformer.
14 We were supported by Niagara Mohawk station maintenance
15 personnel to remove the fans to remove the electrical panel
16 to remove the conservator tank and to remove the bushings to
17 support shipping that to a vendor to do repair and/or
18 replacement. At this day, which is the 20th, we are
19 presently rigging that out of the yard, anticipate being
20 done later this week, Thursday, Friday timeframe until such
21 a point we can get that to our rail station to ship that to
22 a vendor which has not yet been determined for repair. And
23 most importantly there, not only are they going to do
24 repair, but we expect that they will be doing a root cause
25 for us.



1 MR. IBARRA: They will be doing root cause?

2 MR. DOTY: The will be doing a root cause.

3 MR. ASHE: Do you know the age of these
4 transformers? When they were brought on site?

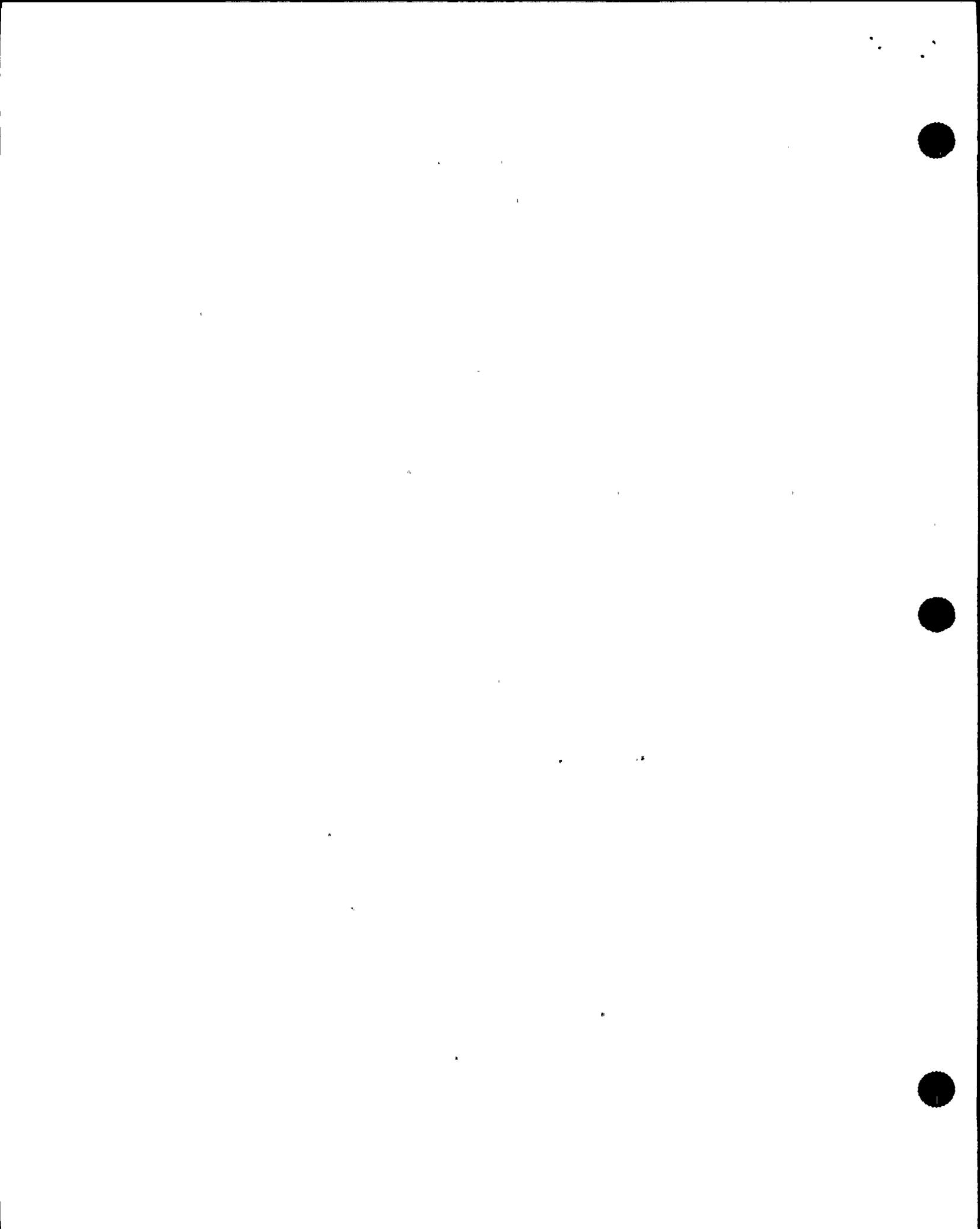
5 MR. DOTY: I don't know exactly when they were
6 brought on site, I believe it was around '84 because I think
7 they were installed in '85. I'm not positive of that,
8 though.

9 MR. IBARRA: Can you describe to us the grounding
10 on both sides, the 345 side on the station side? The
11 grounding schemes.

12 MR. DOTY: The transformer is a Delta Y
13 transformer and the Y side is grounded which is the
14 secondary side, the 345 side. I'm not sure at what point
15 that is grounded, and as far as the Delta side, I don't know
16 at what point that is grounded. I know there is a neutral
17 connection at the transformer that comes off of all four --
18 or three transformers and it ties into a common bus that
19 runs across the transformers over to a ground connection
20 that ties into our ground grid.

21 MR. IBARRA: Have you all reviewed the technical
22 manuals and can you tell me a little bit about that aspect
23 of it?

24 MR. DOTY: I have not received the report yet, but
25 I have contacted our site engineering group to perform a



1 manual review and I asked them to look at aspects both
2 maintenance and operations wise and make sure that our
3 procedures were in accordance with the manufacturer's
4 recommendations. I am expecting a memo on that. I did get
5 a verbal this morning that the manual has been reviewed and
6 that there were no problems found.

7 MR. IBARRA: As far as the way you operate versus
8 the manual?

9 MR. DOTY: The only thing I was told that there
10 were no problems and until I see the context of the letter
11 I can't really address that.

12 MR. IBARRA: Who is reviewing that now?

13 MR. DOTY: Our site engineering department.

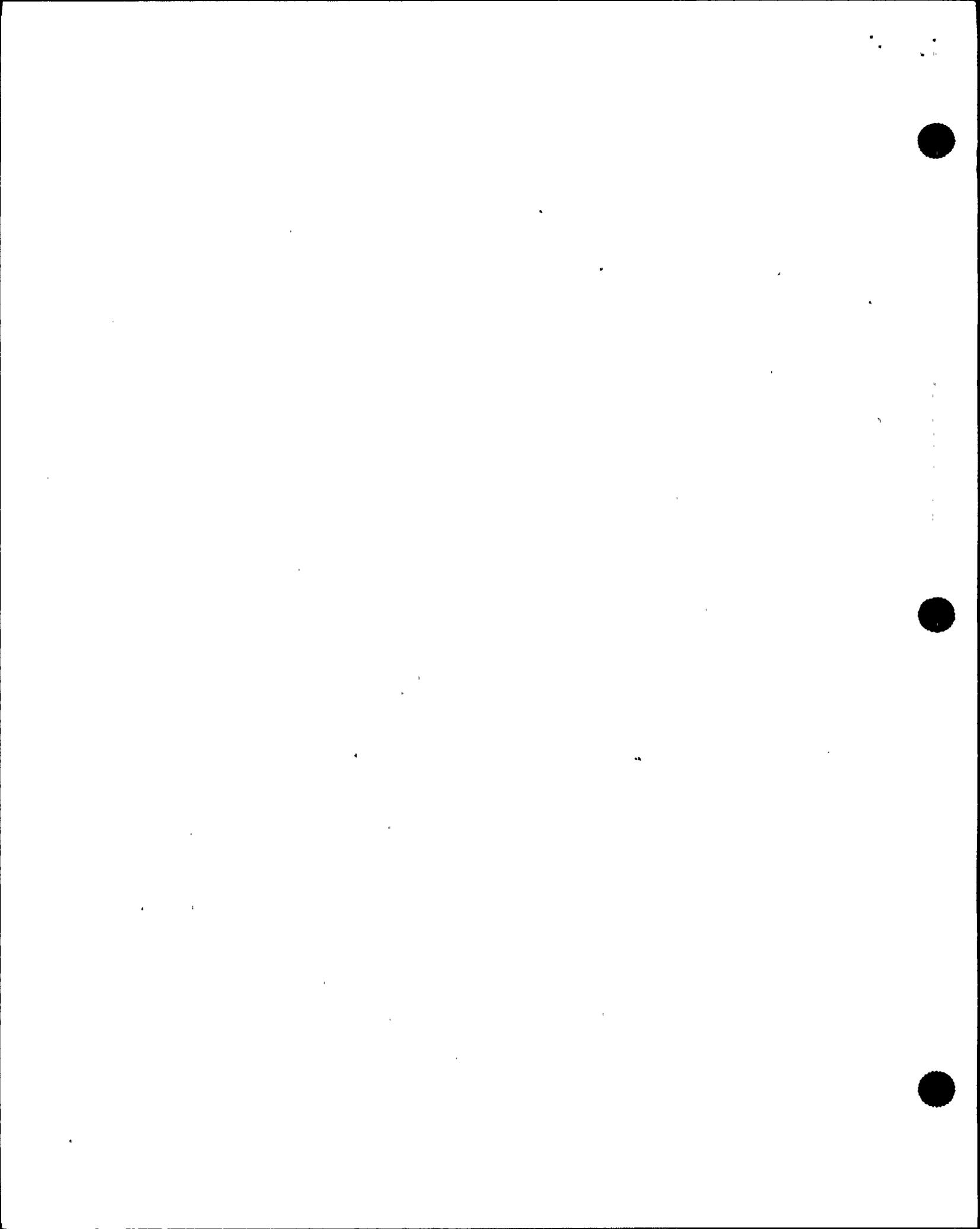
14 MR. IBARRA: Oh, okay.

15 MR. ASHE: What additional reviews do you plan for
16 the A and C phases for the main transformer other than what
17 you've already done right now. There has been an observed
18 anomaly here and it must mean something, do you have
19 something up and above for those phases in mind that you
20 haven't done already?

21 Now, it's our understanding you've already done
22 the equivalent of meggering, but it's at a higher potential
23 and I think you referred to it as DOBLEing.

24 MR. DOTY: That's correct.

25 MR. ASHE: You've done the oil sample which you



1 would normally do?

2 MR. DOTY: Um hm.

3 MR. ASHE: And you've observed the CO-2 readings
4 and the CO readings at increased levels.

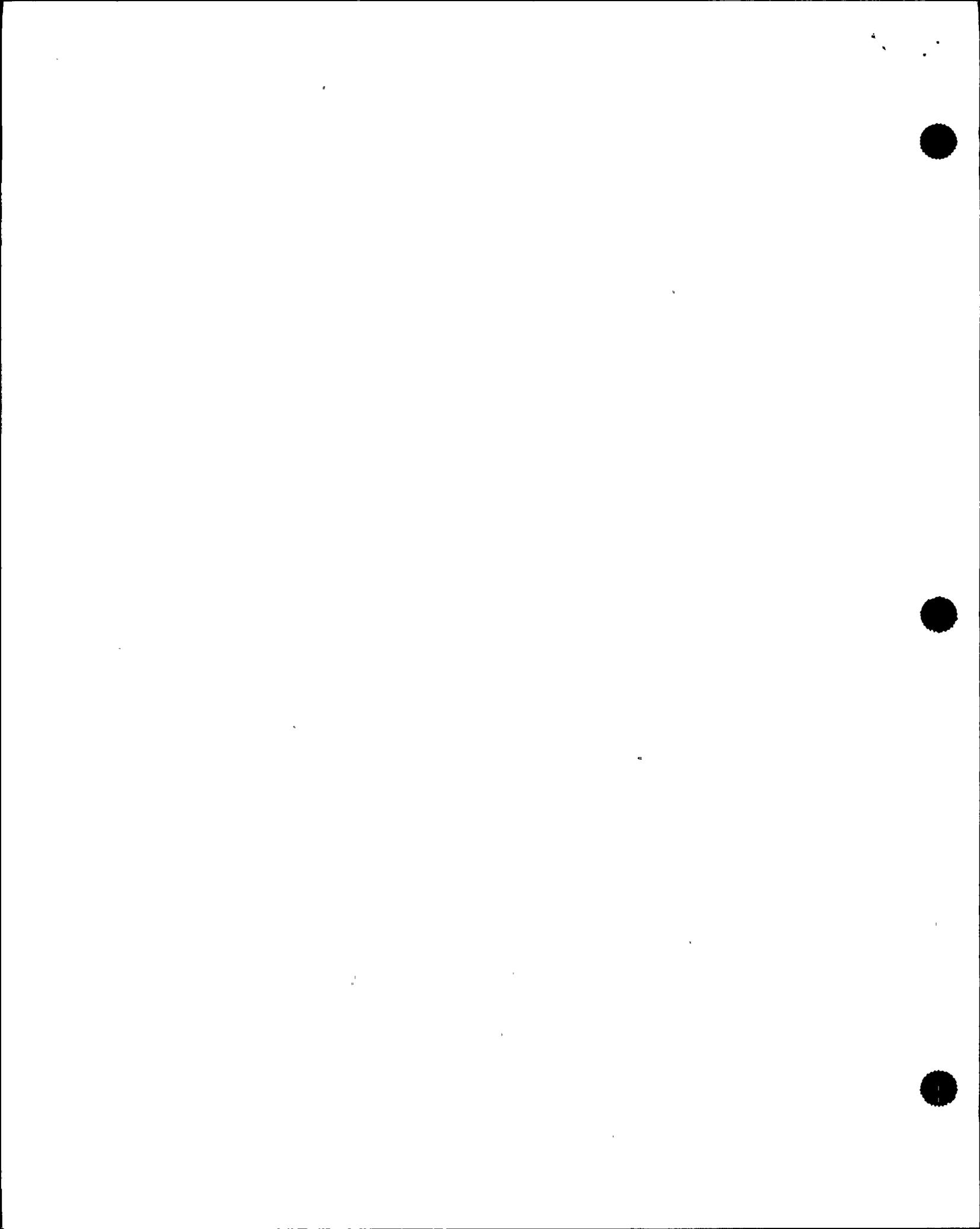
5 MR. DOTY: Um hm.

6 MR. ASHE: Beyond those things, do you have any
7 other specific plans in mind to do other things, to assure
8 yourself that this isn't signaling some other impending
9 failure?

10 MR. DOTY: At this point I'm not aware of that,
11 but what we need to do is we need to resolve the elevated
12 gases and that may identify some corrective actions. We're
13 comfortable with the readings that we did get on the other
14 transformers and we're still investigating the problem and
15 some of our transformer specialists may have some
16 recommendations. We are looking at some things external to
17 the transformer, for example, meggering the generator and
18 meggering the isophase and those activities have been
19 completed, but until we get a -- you know, a final review of
20 the gas and oil, at this point I don't know of any further
21 tests that we plan to perform on the other transformers.

22 MR. ASHE: Okay. Now, who's doing the final
23 review for the gas and oil on the A and C phases?

24 MR. DOTY: Harold Light will be assisting us in
25 that and whether we need to contact the vendor or not, I'm



1 not sure at this point, but he'll be helping us make that
2 decision.

3 MR. IBARRA: When do you expect the assessments of
4 the other consultants that you have had look at this
5 problem?

6 MR. DOTY: I don't know of any conclusive dates
7 when we might see reports from any of the vendors or
8 consultants.

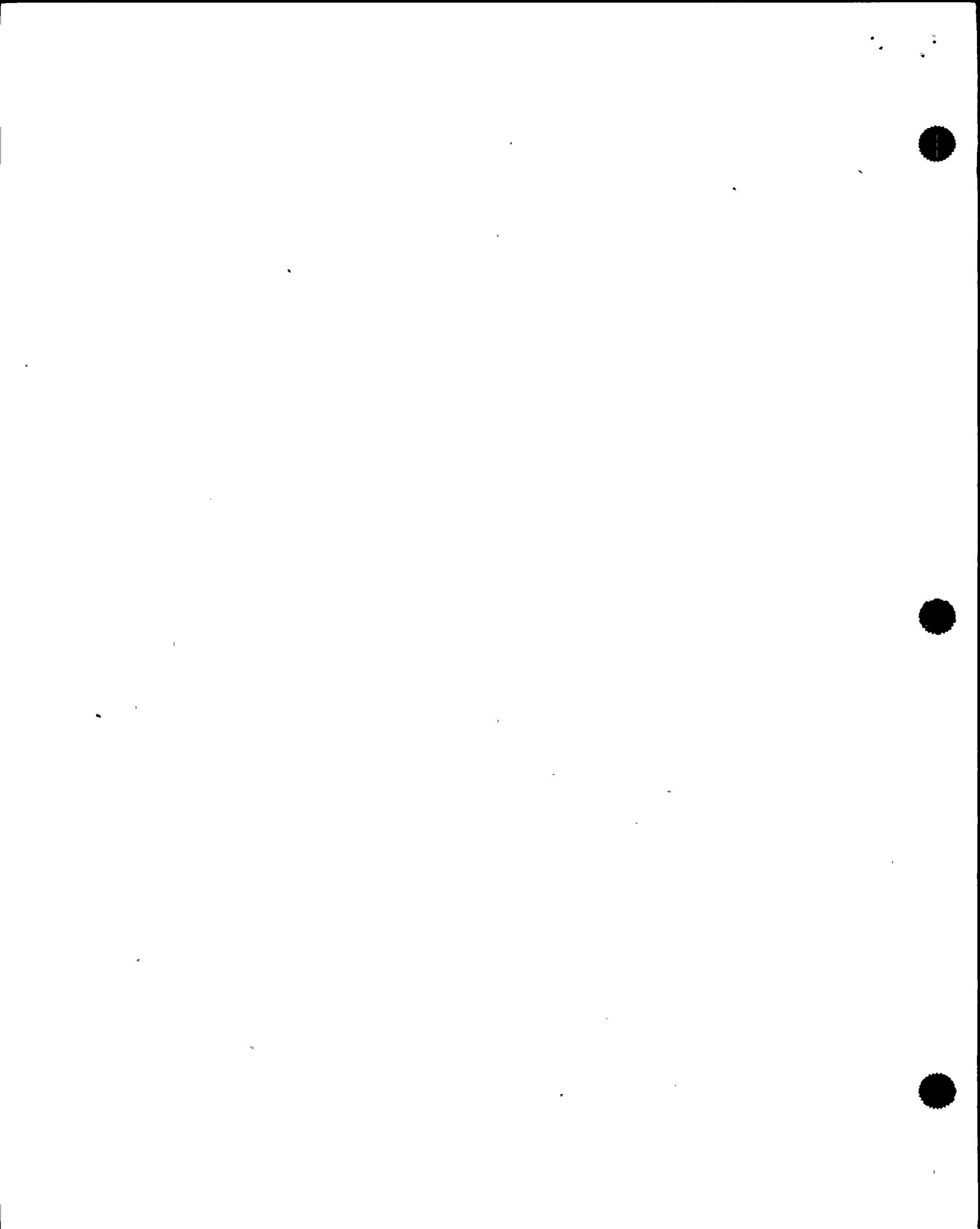
9 MR. ASHE: I'd like to touch one additional area
10 and that is vendor manuals, vendor information and
11 recommendation, or suggestions, I guess, vendor suggestions
12 rather than recommendations. In your experience, would you
13 say that the transformers, the actual maintenance,
14 preventative maintenance, attendant testing activities on
15 those transformers has essentially been in accordance with
16 the vendor information suggestions and recommendations that
17 you must have received with the initial equipment?

18 MR. DOTY: To the best of my knowledge they are;
19 and I also believe that we're conservative in the gas and
20 oil analysis phases of our PM program.

21 MR. ASHE: I think this concludes this interview
22 then.

23 MR. IBARRA: This concludes the interview.

24 [Whereupon, at 1:39 p.m., the taking of the
25 interview was concluded.]



REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Int. of STEVE DOTY

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



IAN ROTHROCK

Official Reporter
Ann Riley & Associates, Ltd.

