Applicants' Exhibit

9/13/83

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
DUKE POWER COMPANY, et al.	)	Docket Nos. 50-413
	)	50-414
(Catawba Nuclear Station, Units 1 and 2)	)	

TESTIMONY OF A. S. GANTT

Q. STATE YOUR NAME AND YOUR WORK ADDRESS.

A. A. S. Gantt, Catawba Nuclear Project, P.O. Box 223, Clover, SC 29710.

Q. WHAT IS YOUR PRESENT JOB WITH DUKE POWER COMPANY?

A. Welding Inspector in No. 1 Reactor.

Q. SUMMARIZE YOUR EXPERIENCE AND QUALIFICATIONS, INCLUDING OTHER NON-DUKE JOBS, EDUCATION, CERTIFICATIONS, AND COMPANY SPONSORED COURSES AND TRAINING.

A. I graduated from high school, and was a welder for Daniel Construction 7 years. I have been a Certified Welding Inspector and MT - PT Inspector at Duke for 4 years.

Q. WHAT OTHER JOB POSITIONS HAVE YOU HELD WITH DUKE POWER COMPANY?

A. I started working for Duke Power as a welder at Cherokee in 1978. I transferred to Catawba in 1981.

Q. ARE YOU FAMILIAR WITH WHAT IS COMMONLY REFERRED TO AS THE WELDING INSPECTOR CONCERNS WHICH WERE EXPRESSED IN LATE 1981/EARLY 1982?

A. Yes.

Q. WHAT IS YOUR UNDERSTANDING OF WHAT THESE CONCERNS WERE?

F-6

FOIA 84-722

A. These concerns basically addressed management's handling of inspection technical problems such as procedural requirements and problem solving.

Q. DID YOU EXPRESS ANY CONCERNS AS A WELDING INSPECTOR TO ANY OF THE TASK FORCES OR TO DUKE POWER MANAGEMENT?

A. Yes.

Q. TO WHOM DID YOU EXPRESS YOUR CONCERNS?

A. Gail Addis.

Q. WERE YOUR CONCERNS WRITTEN?

A. Yes.

Q. DESCRIBE EACH DOCUMENT WHICH CONTAINS YOUR EXPRESSION OF CONCERNS, AND INDICATE WHO IT WAS SUBMITTED TO.

A. I submitted a handwritten letter to my immediate supervisor.

Q. DID YOU FEEL FREE TO EXPRESS ALL OF YOUR CONCERNS?

A. Yes.

Q. DID YOU EXPRESS ALL OF YOUR CONCERNS?

A. One concern I did not express and which I feel is of great importance is the morale of the Welding Inspectors. This was not expressed at that time because I did not have this concern at the time we submitted concerns to the Task Force. In my opinion, this problem has grown greatly.

Q. HAS LOWER MORALE CAUSED YOU, OR ANY OTHER INSPECTOR TO YOUR KNOWLEDGE, TO APPROVE WORK THAT WAS FAULTY OR DID NOT MEET THE QA STANDARDS AND CRITERIA?

A. No.

Q. DO THE DOCUMENTS ATTACHED TO YOUR TESTIMONY AS ATTACHMENT A REFLECT YOUR WRITTEN CONCERNS?

A. Yes.

Q. ARE ALL OF YOUR CONCERNS INCLUDED IN THIS DOCUMENT?

A. Yes, all of the concerns I had at that time.

Q. PLEASE SUMMARIZE AND EXPLAIN WHAT YOU WERE TRYING TO COMMUNICATE BY YOUR CONCERNS.

A. My concern was that a defective situation may have existed but was not evaluated due to procedure limitations.

Q. WERE YOUR CONCERNS INVESTIGATED BY THE TASK FORCES?

A. My specific concern was not discussed with me; however, it was indicated all concerns were investigated. This problem may have been investigated by reviewing the radiographic film of this weld to assure no defects, but I was not informed of this.

Q. DID YOU ATTEND ANY MEETINGS WITH TASK FORCE AND/OR QA MANAGEMENT MEMBERS WHERE THE TASK FORCE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS WERE DISCUSSED?

A. A meeting was held with all inspectors and the Task Force where general findings were discussed.

Q. WERE THERE ANY CHANGES MADE IN THE QA PROGRAM AFTER THE WELDING INSPECTOR CONCERNS AND THE TASK FORCE INVESTIGATION OF THESE CONCERNS?

A. Yes.

Q. DESCRIBE THE CHANGES OF WHICH YOU ARE AWARE IN THE QA PROGRAM.

A. Changes were made that shifted some management job positions but later some changed back. I don't feel there were any changes that overwhelmingly changed decisions involving resolution of NCI's. Decisions are still being made that inspectors do not agree with. Duke combines code requirements and Duke requirements in their

procedures. Inspectors aren't aware of where code requirements stop and Duke requirements start. When management resolves problems by applying only code requirements, Inspectors are certain not to agree because the inspectors were not aware of the code requirements..

Q. TO WHAT EXTENT HAVE THESE CHANGES ADDRESSED ISSUES RAISED BY THE WELDING INSPECTOR CONCERNS AND TO WHAT EXTENT HAVE THESE CHANGES ADDRESSED YOUR PARTICULAR CONCERNS?

A. Any changes made have not addressed my written concern. If I see a defective area inside an adjacent weld outside the accessibility range of QAP-M-4, I am not obligated to report it by procedural requirements. An example of this is my written concern that while I was performing an internal cleanliness check and root pass inspection of adjacent welds on a Class B piping system, I saw what appeared to be oxidation or burn through on a root pass about 8 feet away from the opening of the 3" I.D. pipe I was inspecting. I had my senior man, J. R. Bryant, and immediate supervisor, Beau Ross, to look at this and both agreed that there was a possible defect there. My next supervisor in line, C. R. Baldwin, was contacted but he chose to ignore the situation because QAP-M-4 does not require a root pass inspection that far back inside this size of pipe. We were told by Beau Ross, who was told by C. R. Baldwin, that we should continue work and not worry about it.

Q. DO YOU CURRENTLY HAVE ANY CONCERNS ABOUT THE FUNCTIONING OF THE QA PROGRAM THAT HAVE NOT BEEN RESOLVED?

A. No.

Q. THE WELDING INSPECTOR CONCERNS HAVE BEEN CHARACTERIZED AS CONCERNS ABOUT THE QUALITY AND SAFETY OF CONSTRUCTION AT CATAWBA. DO YOU AGREE WITH THAT CHARACTERIZATION?

A. Yes, to a certain degree. If an inspector has problems concerning quality and safety of construction that are repeatedly not answered adequately to him, some inspectors may tend to ignore certain situations.

Q. HAVE YOU EVER IGNORED UNACCEPTABLE WORK?

A. No.

Q. DO YOU KNOW OF ANY OTHER INSPECTOR WHO HAS IGNORED UNACCEPTABLE WORK?

A, No.

Q. DID THE EXPRESSION OF YOUR CONCERNS INDICATE YOUR BELIEF THAT THERE WAS A BREAKDOWN IN THE QA PROGRAM OR INDICATE THAT THE QA PROGRAM WAS NO LONGER WORKING?

A. As I said in my concern, in this area procedure requirements are not adequate to assure 100% quality. As it relates to my concern, the QA Program was not working. As far as I know, the QA Program was working in other areas.

Q. DID YOUR CONCERNS REFLECT A BELIEF ON YOUR PART THAT THE CATAWBA PROJECT IS NOT BEING CONSTRUCTED SAFELY?

A. My concern reflected that the problem I identified was not adequately investigated.

Q. IN YOUR VIEW, HAS THE QA PROGRAM BEEN EFFECTIVE WHILE YOU HAVE WORKED AS AN INSPECTOR AT CATAWBA?

A. Overall, yes.

Q. ARE YOU AWARE OF ANY DEFICIENCIES IN CONSTRUCTION OR IN THE QA PROGRAM WHICH WOULD CAUSE YOU TO QUESTION WHETHER CATAWBA IS SAFELY BUILT?

A. No.

Q. IS THERE ANYTHING ELSE YOU WOULD LIKE TO ADD TO YOUR TESTIMONY?

A. No.

I hereby certify that I have read and understand this document, and believe it to be my true, accurate and complete testimony.

A. S. Gantt

Sworn to and subscribed before me
this 13th day of September, 1983.

Notary Public

Commission Expires March 7, 1993

(1)

On 8-28-81 while I was checking clean up on weld INV309-2 I saw what appeared to be excessive penetration and oxidation on internal surface of weld INV309-1. This was seen at a distance of about 8 feet through the 3" pipe. I notified my foreman & senior man who looked at the joint and agreed that it appeared to be oxidation & excess penetration.

Late in the day I was notified by my foreman that he had informed Charles Balsavia of this and Charles had told him the this joint was not accessible as defined by M-4 and not to worry about it.

This is typical of the support we receive from upper management. Every adverse situation seems to be settled in favor of craft even if this means violating procedure.

A. S. Gantt

MONDAY • 2nd	TUESDAY • 3rd	WEDNESDAY • 4th
MONDAY • 9th	TUESDAY • 10th Howard Beard told John Brian to get off scaffold. Told C.R.B. This was interfering with job. no action	WEDNESDAY • 11th
MONDAY • 16th WASHINGTON'S BIRTHDAY OBSERVED	TUESDAY • 17th	WEDNESDAY • 18th C.R.B. instructed [illegible] To sign off [illegible] on instr. brackets. R.I.S.C. says he cannot [illegible] there is sufficient amount of [illegible]
MONDAY • 23rd	TUESDAY • 24th	WEDNESDAY • 25th .020 on NF [illegible] for clean-up OK for C.R.B. (A-5 A.S.T.M.) LABORATORIES says NO [illegible]
MONDAY	TUESDAY	WEDNESDAY

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 JUNE

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THURSDAY	FRIDAY	SATURDAY	SUNDAY
THURSDAY • 5th	FRIDAY • 6th	SATURDAY • 7th	SUNDAY • 8th
THURSDAY • 12th LINCOLN'S BIRTHDAY	FRIDAY • 13th.	SATURDAY • 14th VALENTINE'S DAY	SUNDAY • 15th
URSDAY • 19th CRB. says i weld length on clips in R3.II ripe close no problem. Drawing called for 5.0" length of clip to start with now U.K. changed to 1" return Weld lengths should be considered Minimum. Some full length some 1" return.	FRIDAY • 20th	SATURDAY • 21st	SUNDAY • 22nd WASHINGTON'S BIRTHDAY
THURSDAY • 26th	FRIDAY • 27th	SATURDAY • 28th	

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 1981

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THURSDAY	FRIDAY	SATURDAY	SUNDAY
THURSDAY • 5th	FRIDAY • 6th	SATURDAY • 7th	SUNDAY •
THURSDAY • 12th	FRIDAY • 13th	SATURDAY • 14th	SUNDAY • 1
THURSDAY • 19th	FRIDAY • 20th	SATURDAY • 21st	SUNDAY • 2
THURSDAY • 26th A note on process control (ASME) To work on inside is no longer necessary per C.P.D. NPT & double welded joint is no problem	FRIDAY • 27th	SATURDAY • 28th	SUNDAY •

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 1981

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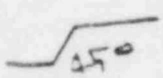
THURSDAY • 2nd	FRIDAY • 3rd	SATURDAY • 4th	SUNDAY •
THURSDAY • 9th	FRIDAY • 10th	SATURDAY • 11th	SUNDAY •
THURSDAY • 16th 	FRIDAY • 17th GOOD FRIDAY	SATURDAY • 18th	SUNDAY • EASTER PASSOV
THURSDAY • 23rd Grinding on valve body c/f per C.R.B. 2RFS-3. Craft welded on 45° transition region then ground area back, with no process control to go so. No welders stencil on misc ... No ... Q.A ... CR ...	FRIDAY • 24th	SATURDAY • 25th	SUNDAY •
THURSDAY • 30th			
THURSDAY	FRIDAY	SATURDAY	SUNDA

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 1

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MONDAY • 4th	TUESDAY • 5th	WEDNESDAY • 6th

MONDAY • 11th	TUESDAY • 12th	WEDNESDAY • 13th
		Structural Welding on [illegible] per [illegible] and C.R.E. [illegible] through [illegible] Par. 14 [illegible] says design [illegible] required. 6" fitting OK. with A32 WPB from Century and SA234 from [illegible] per C.R.B. [illegible] OK. (Attn. of Joe [illegible])

MONDAY • 18th	TUESDAY • 19th	WEDNESDAY • 20th

MONDAY • 25th	TUESDAY • 26th	WEDNESDAY • 27th
MEMORIAL DAY OBSERVED		

MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE 1981

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WEDNESDAY

JUNE						
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17

JUNE 1981

Success

Steam Gen
Blow-down tank
weld looked at
and O.K.'ed by
Charles.
Steam Generator Drain Tank
1A side - weld 1-37

[illegible] -50

168 - WEDNESDAY, JUNE 17 - 197

JUNE						
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JUNE 1981

Success

Steam
43Z drain tank
[illegible] down hill welding
need not be
verbal NCF per [illegible]

170 - FRIDAY, JUNE 19 - 195

WEDNESDAY

JUNE						
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3

JUNE 1981

Success

ISO two
directional
flow
Valve uni-direction
flow arrow
[illegible]
[illegible]

FRIDAY

JUNE						
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5

JUNE 1981

Success

Mat. I.D.
Not legible [illegible]
channel splice
steve Moody C.E.B.
say O.K. to let
craft re-est. A [illegible]
Vio.
C.P. 23 R-15 Page 4
par. IV - 3

MONDAY

27

APR. 1981

Success

Avoid Q-1A's as
... as possible per
...B. initial ...
... don't get
...mber on form before
... reviews it. Vio. Q-1

WEDNESDAY

13

MAY 1981

Success

Welding on flanges
of beam ok. per
C.P. 22 (?) and C.R.B.
even though par. ... says design authorization
required.

6" fitting ok. with
432 WPB from factory
and 234 from warehouse
per C.R.B. note on ticket
by us. ok. (brought to
attn. of Joe Shropshire)

MONDAY, APR. 27 - 248

26

MAR. 1981

Success

A note to allow
work on I.D. of
pipe is no longer
necessary per
C.R.B.

F.W.D.S. ?

133 - WEDNESDAY, MAY 13 - 232

23

APR. 1981

Success

Grinding on
valve body ok
per C.R.B.

Weld. No. 2RF3-3 45°

craft welded up on
45° bevel then
ground 45 back
with no process
control to do
so. (re-inspection)

No welders ... on
misc. steel at ...
... per ...

WEDNESDAY

FEBRUARY						
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18

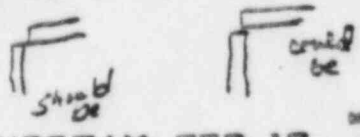
FEB. 1981

Success

Larry Martin (unit #2) called and said to have inspectors to NCI welds on clips, because the returns of weld on the corners are longer than shown on design drawing.

Bud said he had no hard feelings toward Martin and that work was not signed-off because it is not correct to design drawing.

Charlie B. instructed inspector (Richard C.) to sign-off fillet welds on instrumentation brackets. Richard declares that he can not 100% say there is a sufficient amount of fillet weld.



THURSDAY • 1st NEW YEAR'S DAY	FRIDAY • 2nd	SATURDAY • 3rd	SUNDAY •
THURSDAY • 8th	FRIDAY • 9th	SATURDAY • 10th	SUNDAY •
THURSDAY • 15th ok to leave valve out of line and run pipe straight through per C.R.B	FRIDAY • 16th	SATURDAY • 17th	SUNDAY •
THURSDAY • 22nd ok to leave jack in pipe while welding per CRB.	FRIDAY • 23rd	SATURDAY • 24th	SUNDAY •
THURSDAY • 29th	FRIDAY • 30th	SATURDAY • 31st	
THURSDAY	FRIDAY	SATURDAY	SUNDA

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 19

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20	21	22	23	24	25	
27	28	29	30	31		

MONDAY • 2nd	TUESDAY • 3rd	WEDNESDAY • 4th
MONDAY • 9th	TUESDAY • 10th Howard Beard told John Briant to get off scaffold. Told C.R.B. This was interfering with job. no action	WEDNESDAY • 11th
MONDAY • 16th WASHINGTON'S BIRTHDAY OBSERVED	TUESDAY • 17th	WEDNESDAY • 18th C.R.B. instructed [illegible] To sign off Sill at welds on instr. brackets. R.S.C. says he cannot 100% say there is a sufficient amount of fill of weld [illegible]
MONDAY • 23rd	TUESDAY • 24th	WEDNESDAY • 25th .040 on NF weld for clean-up ok per C.R.B. (A-6 A.S.T.M) L80 to 50 says no undercut [illegible]
MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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4	5	6	7	8	9	10
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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE 1981

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1981

			SUNDAY • 1st
THURSDAY • 5th	FRIDAY • 6th	SATURDAY • 7th	SUNDAY • 8th
THURSDAY • 12th LINCOLN'S BIRTHDAY	FRIDAY • 13th.	SATURDAY • 14th VALENTINE'S DAY	SUNDAY • 15th
THURSDAY • 19th CRB. says weld length on clips in RB.II ripchase no problem. Drawing called for 5.0" length of clip to start with from U.K. changed to 1" return. Weld lengths should be considered minimum. some full length some 1" return.	FRIDAY • 20th	SATURDAY • 21st	SUNDAY • 22nd WASHINGTON'S BIRTHDAY
THURSDAY • 26th	FRIDAY • 27th	SATURDAY • 28th	
THURSDAY	FRIDAY	SATURDAY	SUNDAY

1981 JULY 1981

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1981 AUGUST 1981

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[illegible]	[illegible]	25	26	27	28	29

1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 1981

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27	28	29	30	31		

THURSDAY • 5th	FRIDAY • 6th	SATURDAY • 7th	SUNDAY •
THURSDAY • 12th	FRIDAY • 13th	SATURDAY • 14th	SUNDAY • 1
URSDAY • 19th	FRIDAY • 20th	SATURDAY • 21st	SUNDAY • 22
THURSDAY • 26th Note on process control (ASME) To work on inside is no longer necessary per C.P.D. NDE & double welded joint is NO problem	FRIDAY • 27th	SATURDAY • 28th	SUNDAY • 2
THURSDAY	FRIDAY	SATURDAY	SUNDAY

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 1981

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27	28	29	30	31		

THURSDAY • 2nd

FRIDAY • 3rd

SATURDAY • 4th

SUNDAY

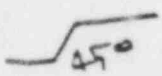
THURSDAY • 9th

FRIDAY • 10th

SATURDAY • 11th

SUNDAY

THURSDAY • 16th



FRIDAY • 17th

GOOD FRIDAY

SATURDAY • 18th

SUNDAY

THURSDAY • 23rd Grinding on valve body c/f per C.R.B. 2RFS-3. Craft welded on 45° transition region then ground area back, with No process control to do so.
① No welders stencil on misc. steel at fixed. No need to Q.A per CZD

FRIDAY • 24th

SATURDAY • 25th

SUNDAY

THURSDAY • 30th

THURSDAY

FRIDAY

SATURDAY

SUN

1981 JULY 1981						
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1981 AUGUST 1981						
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1981 SEPTEMBER 1981						
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1981 OCTOBER 1981						
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1981 NOVEMBER 1981						
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1981 DECEMBER				
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MONDAY • 4th	TUESDAY • 5th	WEDNESDAY • 6th
MONDAY • 11th	TUESDAY • 12th Structures	WEDNESDAY • 13th Welding of flanges ok per CP 27A sec. 6 and C.R.B. even though CP Par. 14 Rule 22 says design author required. 6" fitting ok. with A32 WPB from factory and SA234 from Weldec per C.R.B. Note on letter by US ok. (Attn of Joe Shropshire)
MONDAY • 18th	TUESDAY • 19th	WEDNESDAY • 20th
MONDAY • 25th MEMORIAL DAY OBSERVED	TUESDAY • 26th	WEDNESDAY • 27th
MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE 1981

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28	29	30				

MONDAY • 1st	TUESDAY • 2nd	WEDNESDAY • 3rd
MONDAY • 8th	TUESDAY • 9th	WEDNESDAY • 10th
MONDAY • 15th	TUESDAY • 16th	WEDNESDAY • 17th steam sec tank Blowdown, 1A side weld 1-37 ok. per Charles Geometry? overlap
MONDAY • 22nd	TUESDAY • 23rd	WEDNESDAY • 24th
MONDAY • 29th	TUESDAY • 30th	
MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE

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1981

THURSDAY • 4th	FRIDAY • 5th	SATURDAY • 6th	SUNDAY
	Ncr • I.D. not legible on channel splices. Let craft (Mcurly; S. Rigsey) re-stamp steel with A-36. CRB said O.K. because he committed to David Llewerlyn. violation CP. 23 R-15 page 4 sect. IV-3		
THURSDAY • 11th	FRIDAY • 12th	SATURDAY • 13th	SUNDAY
THURSDAY • 18th	FRIDAY • 19th <u>43Z</u> Steam drain tank down hill welding O.K. per C.R.B. craft ~~to~~ remove and reweld no Q-1A required.	SATURDAY • 20th	SUNDAY
THURSDAY • 25th	FRIDAY • 26th	SATURDAY • 27th	SUNDAY
THURSDAY	FRIDAY	SATURDAY	SUNDAY

1981 JULY 1981

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1981 AUGUST 1981

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23/30	24/31	25	26	27	28	29

1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER

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WEDNESDAY • 1st

Canada Day

MONDAY • 6th	TUESDAY • 7th	WEDNESDAY • 8th
		(CFAE) T.O.B in-judi.

MONDAY • 13th

RAM memo calls for three layers root pass check.

Q-1 12,179 RWI asks?

TUESDAY • 14th M-4 R-9 calls for root pass check. OK CRB HLA

Three layers ok if craft say no more than 3 layers.

WEDNESDAY • 15th. Grade in material slot per C.R. 351 not our prob F-8(304) 304 not our concern (I FW11-5, 13-8 14-3, 4, 11, 9) also don't worry about how much material is in joint when root pass is

MONDAY • 20th

TUESDAY • 21st INC193-1 ground into by mistake No F9B, No ANI approval, Just note on ticket by Bill Sams. OK per CRB

C.R.B very upset unjustified upset at Lindsay because builders pulled plates out of pour. Lindsay could not verify inspection due to location in pour.

WEDNESDAY • 22nd 1SM-38-10 1SM-38-11 conf. ok I.F.B.

MONDAY • 27th

TUESDAY • 28th I worked over Till 8:45 P.M. second shift audit.

WEDNESDAY • 29th

MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE

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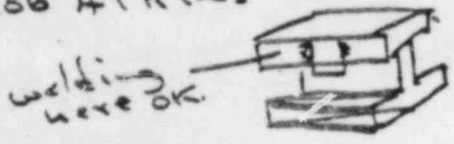
THURSDAY · 2nd	FRIDAY · 3rd	SATURDAY · 4th	SUNDAY ·
THURSDAY · 9th welding on edge of flange on beams ok. Rob Atkins  	FRIDAY · 10th	SATURDAY · 11th	SUNDAY ·
THURSDAY · 16th IFW1613 water in pipe, quenched weld when hole was drilled joint was still hot. T.O. questioned this per L-200 r-14 (quenching) (1'ss) tried to non-conform but C.R.B. would not sign. water not problem gets as heat sink (per Bill sc → Ives only one concerned with th	FRIDAY · 17th	SATURDAY · 18th	SUNDAY ·
THURSDAY · 23rd RBII pen weld weaved too wide 1⅛"-1¼" ⅛" electrode. ok craft to fix without Q-1A per C.R.B	FRIDAY · 24th	SATURDAY · 25th	SUNDAY ·
THURSDAY · 30th	FRIDAY · 31st		
THURSDAY	FRIDAY	SATURDAY	SUNDA

1981 JULY 1981

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1981 AUGUST 1981

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1981 SEPTEMBER 1981

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1981 OCTOBER 1981

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1981 NOVEMBER 1981

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1981 DECEMBER 19

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27	28	29	30	31		

MONDAY	TUESDAY	WEDNESDAY
MONDAY • 3rd Nuclear Premiums 175. od/mo. exempt. 8.4% Non-exempt	TUESDAY • 4th	WEDNESDAY • 5th
MONDAY • 10th	TUESDAY • 11th	WEDNESDAY • 12th
MONDAY • 17th Tube steel type Fy = 46KSI (Sec.3) CN1684-NI-003-B r-1 CN 1684-SM-100-B r-0 Note 18 weld size Note 2 A 36 Note 6 NDE CP 22A for Mat. type OK C.R.B.	TUESDAY • 18th	WEDNESDAY • 19th IKC 618-11 3" CS. sch @ 3½" long tack @ ½" long tack <75% of joint ch... at fit-up Told C.R.B.
MONDAY • 24th	TUESDAY • 25th	WEDNESDAY • 26th
MONDAY • 31st		

MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

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1981 FEBRUARY 1981

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1981 MARCH 1981

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1981 APRIL 1981

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1981 MAY 1981

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1981 JUNE

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1981

		SATURDAY • 1st	SUNDAY •
THUPSDAY • 6th	FRIDAY • 7th build-up on rupture restraint O.K. No inspection needed Martin H.: Not shown on drawings 1684-SM-100B CN 1121.00-1	SATURDAY • 8th	SUNDAY •
THURSDAY • 13th talked to NRC Van Oorn about per (7-23-81) weaved too wide	FRIDAY • 14th 30 — over —	SATURDAY • 15th	SUNDAY •
THURSDAY • 20th	FRIDAY • 21st	SATURDAY • 22nd	SUNDAY •
THURSDAY • 27th Talked To Charles about CP. 310 violation on M+I Brass contamination. Note on M+I. No FCB reqd. let work proceed. per CRD	FRIDAY • 28th INV 309-1 root condition ? by Scott 10' up 3" line, film ok. O.K. per CRB due To inaccessibility	SATURDAY • 29th	SUNDAY •
THURSDAY	FRIDAY	SATURDAY	SUNDA

1981 JULY 1981

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1981 AUGUST 1981

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

1981 SEPTEMBER 1981

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

1981 OCTOBER 1981

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 NOVEMBER 1981

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

1981 DECEMBER 19

S	M	T	W	T	F	
		1	2	3	4	
6	7	8	9	10	11	
13	14	15	16	17	18	
20	21	22	23	24	25	
27	28	29	30	31		

	TUESDAY • 1st Qual till 4:30 Training L-90, M-4 r-11 r-10	WEDNESDAY • 2nd
MONDAY • 7th LABOR DAY	TUESDAY • 8th	WEDNESDAY • 9th
MONDAY • 14th	TUESDAY • 15th	WEDNESDAY • 16th
MONDAY • 21st Scott Gantt Gene Medowell Jaeger test expired for several months (Charlotte) told ERB Got eyes check ASAP	TUESDAY • 22nd	WEDNESDAY • 23rd
MONDAY • 28th	TUESDAY • 29th ROSH HASHANAH	WEDNESDAY • 30th
MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 FEBRUARY 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28

1981 MARCH 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1981 APRIL 1981

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

1981 MAY 1981

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

1981 JUNE 1981

S	M	T	W	T	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

THURSDAY • 3rd	FRIDAY • 4th MSR4 G on steel & M-AF, MSR4 in 105, MSR2 same way, O.K. per CRBY Martin H.	SATURDAY • 5th	SUNDAY
	2NV373-3 Black film on ID 55, pipe OK per CRB for JCS, black at distance, gear wheel viewed		
THURSDAY • 10th	FRIDAY • 11th straight on	SATURDAY • 12th	SUNDAY
THURSDAY • 17th	FRIDAY • 18th	SATURDAY • 19th	SUNDAY
THURSDAY 24th Repair (inside) 6' up in pipe (6") grind only Mark access. NOT acc. and sign visual. per CRB. IN1162-27 can't see surface	FRIDAY • 25th	SATURDAY • 26th	SUNDAY
THURSDAY	FRIDAY	SATURDAY	SUND

1981 JULY 1981

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1981 AUGUST 1981

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23/30	24/31	25	26	27	28	29

1981 SEPTEMBER 1981

S	M	T	W	T	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

1981 OCTOBER 1981

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 NOVEMBER 1981

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

1981 DECEMBER

S	M	T	W	T	F	S
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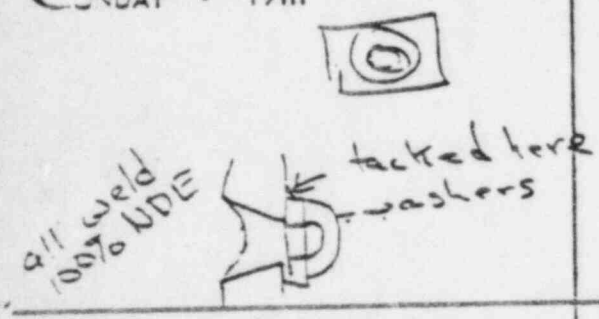
6	7	8	9	10		
13	14	15	16	17		
20	21	22	23	24		
27	28	29	30	31		

MONDAY • 5th	TUESDAY • 6th ILD12-3 QIA13,028 excess paint remove sharp edges on root OK. UCG 9-24-81 ? JRB today C.R.B. says remove tag so with first inspectors judgement.	WEDNESDAY • 7th
MONDAY • 12th COLUMBUS DAY	TUESDAY • 13th	WEDNESDAY • 14th
MONDAY • 19th  	TUESDAY • 20th	WEDNESDAY • 21st
MONDAY • 26th P-135, P-136 Backing plates tacked to backside of plate not in joint. NDE for tack welds. None per R. Blackwelder not on drawing OK. C.R.B.	TUESDAY • 27th	WEDNESDAY • 28th

MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 FEBRUARY 1981

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
22	23	24	25	26	27	28

1981 MARCH 1981

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1981 APRIL 1981

S	M	T	W	T	F	S
			1	2	3	4
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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

1981 MAY 1981

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

1981 JUNE 1981

S	M	T	W	T	F	S
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21	22	23	24	25	26	27
28	29	30				

1981

THURSDAY • 1st	FRIDAY • 2nd	SATURDAY • 3rd	SUNDAY • 4th
THURSDAY • 8th YOM KIPPUR	FRIDAY • 9th	SATURDAY • 10th	SUNDAY • 11th
THURSDAY • 15th	FRIDAY • 16th Gym S	SATURDAY • 17th	SUNDAY • 18th
JRSDAY • 22nd	FRIDAY • 23rd Backing strip on hanger IRLF-1568.C1. F ? by Kirk. Nothing on Mat. allocation as to type required. Not covered by Procedure. OK. PAT C.R.D.	SATURDAY • 24th	SUNDAY • 25th
THURSDAY • 29th	FRIDAY • 30th d d	SATURDAY • 31st HALLOWEEN d d	
THURSDAY	FRIDAY	SATURDAY	SUNDAY

1981 JULY 1981						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1981 AUGUST 1981						
S	M	T	W	T	F	S
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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

1981 SEPTEMBER 1981						
S	M	T	W	T	F	S
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6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

1981 OCTOBER 1981						
S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 NOVEMBER 1981						
S	M	T	W	T	F	S
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22	23	24	25	26	27	28
29	30					

1981 DECEMBER 1981						
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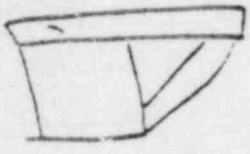
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

F-D-I BB104-5?.1>0.
does not have item No,
Scr pipe. O.K CRB
Give back to craft for
correction
↓

MONDAY • 2nd fish-eye in root, Rawson 5. NCI ed Charles said No problem Rawson took this joint off NCI. 2 ~~KF~~ 134-7 ⊖ welding around end of gusset then grinding off O.K. CRB.	TUESDAY • 3rd ELECTION DAY	WEDNESDAY • 4th
MONDAY • 9th  ← ground off	TUESDAY • 10th	WEDNESDAY • 11th VETERANS DAY dd 3-5
MONDAY • 16th	TUESDAY • 17th	WEDNESDAY • 18th
MONDAY • 23rd	TUESDAY • 24th	WEDNESDAY • 25th
MONDAY • 30th		
MONDAY	TUESDAY	WEDNESDAY

1981 JANUARY 1981

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 FEBRUARY 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

1981 MARCH 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1981 APRIL 1981

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

1981 MAY 1981

S	M	T	W	T	F	S
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

1981 JUNE

S	M	T	W	T	F
	1	2	3	4	5
7	8	9	10	11	12
14	15	16	17	18	19
21	22	23	24	25	26
28	29	30			

			SUNDAY
THURSDAY • 5th	FRIDAY • 6th	SATURDAY • 7th	SUNDAY
THURSDAY • 12th	FRIDAY • 13th	SATURDAY • 14th	SUNDAY •
THURSDAY • 19th "G" Frame 3/4 cut out (slot) weld ok per CRB if it is within 1 inch of top of beam. Not necessary to weld to top of cut.	FRIDAY • 20th	SATURDAY • 21st	SUNDAY •
THURSDAY • 26th THANKSGIVING DAY	FRIDAY • 27th	SATURDAY • 28th end start back Dec 14	SUNDAY •
THURSDAY	FRIDAY	SATURDAY	SUND

1981 JULY 1981

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1981 AUGUST 1981

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
[illegible]						

1981 SEPTEMBER 1981

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

1981 OCTOBER 1981

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 NOVEMBER 1981

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

1981 DECEMBER 1981

S	M	T	W	T	F	S
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6	7	8	9	10	11	
13	14	15	16	17	18	
20	21	22	23	24	25	
27	28	29	30	31		

	TUESDAY · 1st	WEDNESDAY · 2nd
		613, 613 ... inaccurate ... held ... cut-out ... change ... is still?
MONDAY · 7th	TUESDAY · 8th	WEDNESDAY · 9th
MONDAY · 14th	TUESDAY · 15th	WEDNESDAY · 16th
MONDAY · 21st O.K. per C.R. ... to sign everything on M-21A without signing block 15 (welding material ...) just leave it blank and sign everything else off. RR#2 Hershel Brewer	TUESDAY · 22nd	WEDNESDAY · 23rd
MONDAY · 28th	TUESDAY · 29th	WEDNESDAY · 30th

MONDAY | TUESDAY | WEDNESDAY

1981 JANUARY 1981

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

1981 FEBRUARY 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

1981 MARCH 1981

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

1981 APRIL 1981

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

1981 MAY 1981

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

1981 JUNE 1981

S	M	T	W	T
	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22	23	24	25
28	29	30		

7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30

left at 2:45 p.m.

October 1982

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

December

S	M	T	W	T	F	S
			1	2	3	
5	6	7	8	9	10	
12	13	14	15	16	17	
19	20	21	22	23	24	
26	27	28	29	30	31	

308 Thursday, November 4

December 1982

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

22

Violates L-341

Showed

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT SUN
THINGS TO DO:			Bob, Clarks	~~1 New Year's Day~~	2 3
4	5	6	7 LRR says if I don't trust him I should find other job. (after I told him of concern & no support.) Talked To M. [illegible]	8	9 10
11	12	13	14	15	16 17
18	19	20	21	22	23 24
25	26	27	28	29	30 31

NOTES:

Thermostat watch: Each degree above 70°F can add 5% to heating costs

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT - SUN
THINGS TO DO			1	2	3 4 Palm Sunday
5	6	7	8 Passover	9 Good Friday	10 11 Easter Sunday
12 very state-ments untrue. told	13 evaluation very satisfactory. some Art asked that response was available to me. (no	14 Athens 5-30-81	15	16 Purch 125. cc cyl. $ 145. cc cont. $ 86.00	17 18
19	20	21	22	23	24 25
26	27	28	29	30	
NOTES:			A fluorescent lamp gives 5 times the light as an incandescent bulb with the same wattage.		

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT-SUN
	1	2 (asked A.T.) I asked for guidelines for retaliation against inspectors or supervision. Asked for course of action on my evaluation which I considered retaliatory. • asked for Duke and NRC policy in protection against retaliation.	3	4	5 / 6
7	8	9	10	11	12 / 13
14 Flag Day	15	16	17	18	19 / 20 Father's Da
21	22	23	24	25	26 / 27
28	29	30	THINGS TO DO:		

NOTES:

A one-quarter inch crack under your door will cause as much air infiltration and heat loss as a 5-inch square hole in your wall.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT - SUN
THINGS TO DO:					1
2	3	4	5	6 Larry called To [illegible]	7
9	10	11	12	13 [illegible]	14
16	17	18	19	20	21
					22
23	24	25	26	27	28
					29
30	31	NOTES: Duke's goal is to reduce the growth of winter peak demand by 5,629,000 kilowatts and summer peak demand by 4,508,000 kilowatts by 1994 — a potential savings of more than $10 billion in investment in new plants.			

DECEMBER 1982

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT SUN
THINGS TO DO		1 Talk to Tom NRC ... proposed ... not support ...	2	3	4 5
6	7	8	9	10	11 Hanukkah 12
13	14	15	16	17 DD	18 DD 19
20	21	22	23	24	25 Christmas 26
27	28	29	30	31	

NOTES:

A fireplace without heat recovery accessories can waste more energy than it saves. Up to 90% of the heat may go up the chimney

APPENDIX C

CHRONOLOGY OF SIGNIFICANT EVENTS

QUALITY ASSURANCE (QA) AND QUALITY CONTROL (QC) ORGANIZATION DEVELOPMENT

FOR CATAWBA NUCLEAR POWER PLANT

The following is a chronology of significant events regarding NRC's review of the Quality Assurance and Quality Control Organizations of the Duke Power Company.

Chronology of Events

February 1973	The initial NRC pre-construction QA inspection for Catawba resulted in a finding that the Construction Department QA manager is not sufficiently independent of construction costs and schedules as required by 10 CFR 50, Appendix B, Criterion 1.[1/]
May 29, 1973	NRC meeting with Duke Power Company (DPC) to discuss the DPC QA program which shows QA personnel reporting administratively to a line organization and functionally to the QA organization. It was also noted at this time that the Senior VP of Engineering and Construction was the acting Corporate QA Manager.
July 1973	NRC completed evaluation of the DPC QA program for Catawba. NRC received a commitment by DPC to fill the position of Corporate QA manager no later than July 1974. With this commitment, the NRC found the DPC QA program acceptable.
October 12, 1973	The Safety Evaluation Report was issued by NRC. Section 17 discusses DPC's QA program and its organization to meet the program objectives. It recognizes the combination of Senior VP of Engineering and Construction and the Corporate QA Manager into one position. It discusses the distinction between the administrative and functional reporting relationships of DPC's QA managers. Pertinent conclusions are that:

1/ Inspection Report No. 50-413, 414/73-1

(1) "The DPC organizational structure ... complies with the requirements of Criterion I of Appendix B to 10 CFR 50 and is acceptable." (Page 17-13)

(2) "A QA staff has been provided with adequate authority and guidance for the implementation of the DPC QA program." (Page 17-13)

Additionally, the Safety Evaluation Report discusses DPC's QC organization and states: "In the area of construction, we have reviewed the independence, responsibilities, authorities, and specific duties of the QC inspectors in the electrical, mechanical, welding, and civil disciplines. Figure 17.6 shows additional details of the Construction Department QC organization. DPC has stated that these inspectors perform objective acceptance inspections and are full time inspectors who are independent from the construction and production craftsmen and foremen. DPC states that these inspectors have clear stop-work authority and the responsibility to refer problems to their supervision."

The NRC staff concluded that DPC's organizational structure was acceptable. The NRC Inspection Program monitors and verifies that these commitments have been implemented.

February 1, 1974 — The roles of Senior Vice President of Engineering and Construction and Corporate QA Manager separated with the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

April 2, 1974 — DPC reported restructuring of its QA organization planned for May 1974, with the QA organization reporting directly to the Corporate QA Manager.

October 1, 1974 — DPC Topical Report DUKE-1 on QA reflects the QA organization established on April 2, 1974, with the QA organization reporting to the Corporate QA Manager and the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

That DPC Topical Report on QA indicates that the QA organization reviews and approves QC inspection procedures and records. The pertinent organization chart shows the site QC staff reporting directly to a Senior QC Engineer who is shown with a "functional" reporting relationship to the Project Senior QA Engineer within the DPC QA organization.

February 14, 1975	DPC Topical Report on QA adds the commitment that QC inspector certification procedures and certifications are approved by QA.
April 17, 1975	NRC affirms acceptability of DPC Topical Report on QA - Amendment 2 dated February 14, 1975 - which continues to show the QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.
August 7, 1975	Construction Permit issued for the Catawba facility.
	With respect to DPC's QA Program, the Atomic Safety and Licensing Board states:
	"After a careful consideration of the written and oral testimony and the replies to the Board's own questions in this record, the Board finds that the QA program of the Applicant meets the requirements established by the Commission and that the full record shows that the Applicant is technically qualified to design and construct the Catawba facility." Duke Power Company (Catawba Nuclear Station, Units 1 & 2) LBP-75-34, 1 NRC 625, 650 (1975).
February 9, 1981	DPC informed the NRC that the site QC staff was being brought into the QA organization for both functional and administrative controls.
July 14, 1981	NRC staff, by letter of July 14, 1981, reports acceptability of having DPC construction QC included in the DPC QA organization.
February 3, 1983	NRC, in a letter responding to DPC's Amendment 6 to the QA Topical Report, continues to affirm acceptability of DPC organization which continues to show QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.

B. FAILURE TO MAINTAIN AN ADEQUATE QUALITY ASSURANCE PROGRAM TO IDENTIFY AND CORRECT CONSTRUCTION DEFICIENCIES

GAP alleges that the DPC organization and Quality Assurance Program do not meet the independence and organizational freedom requirements of 10 CFR 50, Appendix B, Criterion I and II. The GAP position is that the Construction Quality Assurance Program is not and never has been independent of Construction, thereby restricting inspectors' abilities to determine the quality of construction, implement approved QA procedures, and to identify and correct construction deficiencies.

1. NRC INSPECTION AND ENFORCEMENT PROGRAM

a. Scope of Construction Inspection Effort

The objective of the NRC inspection program is to determine, by inspection utilizing sampling techniques, that the plant is constructed according to commitments made in the PSAR and in correspondence with the NRC Office of Nuclear Reactor Regulation; that the licensee's QA/QC program is effective in inspecting and documenting activities in a systematic way to assure the public safety and welfare. The NRC Inspection and Enforcement Program is primarily applied to structures, systems and components that are safety-related. This objective was achieved by examination of management controls, quality assurance and quality control manuals, procedures and records, and observation of work in progress. Work in progress was inspected by experienced

discipline engineers for quality of workmanship, conformance to codes and the DPC established QA/QC program requirements. Records were examined to verify that purchased equipment met quality standards and that quality control inspections were implemented throughout construction.

b. NRC Inspection Effort

Region II inspection efforts relative to Catawba were started in February 1973, much earlier than the granting of limited work authorizations on May 16, 1974, for both units or the granting of construction permits on August 7, 1975, which authorized the construction of Catawba Units 1 and 2 in accordance with the Safety Analysis Report and NRC regulations. Inspections included audits of the licensee's design, procurement, construction and vendor QA programs. On occasion, the NRC inspectors met with licensee management in their corporate offices or at the site of construction. In addition to special audits of the QA/QC programs for the Engineering, QA and Construction Departments, portions of the QA/QC program were audited during each regularly scheduled inspection and the construction site. Construction inspections included detailed inspection of selected examples of the Site QA/QC program, procedures and work observations of:

- Receipt inspection, storage and handling of material and equipment

- Site excavation and foundations

- Structures and supports

- Concrete operations

- Containment erection

- Piping systems installaltion

- Electrical/Instrumentation and control system installation

- QA/QC documentation and records

Inspection efforts are documented in 397 NRC inspection reports (Unit 1-204, Unit 2-193) from February 1973 through November 18, 1983. This inspection effort represents approximately 9,100 hours of direct or reactive inspection by 47 experienced engineers.

ADDRESS INSPECTION REPORTS 1979, 1981, REGARDING TEAM INSP., INTIMIDATION HARRASSMENT

Regarding the independence and freedom of DPC's QA/QC organization and QA program, the AEC/NRC has reviewed the Catawba QA program and organization routinely since Duke applied for a license for Catawba on July 24, 1972. Documented information concerning Duke Power Company organization as it relates to QA and QC for Catawba has developed the enclosed chronologies. The chronologies show that the NRC staff has found the DPC organization for QA and QC acceptable (i.e., meeting the requirements of Appendix B to 10 CFR 50) from about two years before the construction permit was issued for Catawba to the present. The initial acceptability of the DPC QA Program (July 1973) was predicated on the DPC commitment to fill the position of Corporate QA Manager by July 1974. This commitment was met in February 1974. The Catawba construction permit was issued in August of 1975.

QA and QC Organization Development

Chronology of Documented Events

February 1973	NRC inspection resulting in report which states: "Construction Department QA manager is not independent of construction costs and schedules."
May 29, 1973	NRC meeting with Duke Power Company (DPC) to discuss Catawba QA program which shows QA personnel reporting administratively to a line organization and functionally to the QA organization. It was noted, also, that the Senior VP of Engineering and Construction was the acting Corporate QA Manager.
July 1973	NRC completed evaluation of the DPC QA program for Catawba. Received oral commitment by Duke to fill the position of Corporate QA manager no later than July 1974. With this commitment, the NRC found the DPC QA program acceptable.

October 12, 1973

Safety Evaluation Report issued by NRC. Section 17 discusses DPC's QA program and its organization to meet the program objectives. It recognizes the combination of Senior VP of Engineering and Construction and the Corporate QA Manager into one position. It discusses the distinction between the administrative and functional reporting relationships of DPC's QA managers. Pertinent conclusions are that:

(1) "The DPC organizational structure ... complies with the requirements of Criterion 1 of Appendix B to 10 CFR 50 and is acceptable.

(2) "A QA staff has been provided with adequate authority and guidance for the implementation of the DPC QA program."

Additionally, the Safety Evaluation Report issued by NRC. Section 17 discusses DPC's QC organization and states: "In the area of construction, we have reviewed the independence, responsibilities, authorities, and specific duties of the QA inspectors in the electrical, mechanical, welding, and civil disciplines. Figure 17.6 shows a further breakdown of the Construction Department QA

organization. DPC has stated that these inspectors perform objective acceptance inspections and are full time inspectors who are independent from the construction and production craftsmen and foremen. DPC states that these inspectors have clear stop-work authority and the responsibility to refer problems to their supervision."

The staff concluded that DPC's organizational structure was acceptable.

October 1973 — Draft Standard Review Plan issued.

February 1, 1974 — The roles of Senior VP of Engineering and Construction and Corporate QA Manager separated with the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

February 1974 — Standard Review Plan Revision 0 issued.

The pertinent acceptance requirements for QC in both these documents were:

1. "Verification of conformance to established quality requirements (i.e., inspections) for safety-related structures, systems, and components is accomplished by individuals or groups who do not have direct responsibility for performing the work being verified." (10 CFR 50, Appendix B, Criterion I).

2. "Inspection personnel are independent from the individual or group performing the activity being inspected." (10 CFR 50, Appendix B, Criterion X).

April 2, 1974 — DPC reported restructuring of its QA organization planned for May 1974 with the QA organization reporting directly to the Corporate QA Manager, thus eliminating any questions concerning the administrative and functional relationships.

October 1, 1974

DPC topical report on QA reflects QA organization as noted April 2, 1974 with the QA organization reporting to the Corporate QA Manager and the Corporate QA Manager reporting to the Senior VP of Engineering and Construction.

Additionally, the DCP topical report indicates that the February 14, 1975, QA organization "has final review and approval of inspection procedures and reports and certification of inspectors." The pertinent organization chart shows the site QA staff reporting directly to a Senior QC Engineer who is shown with a "functional" reporting line to the Project Senior QA Engineer within the DPC QA organization.

April 17, 1975

NRC affirms acceptability of DPC topical report on QA - Amendment 2 dated February 14, 1975 - which continues to show QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.

August 1975

Construction Permit issued for Catawba.

March 1979 — Standard Review Plan Revision 1 issued.

Revision 1 included item 1 (above) of the draft SRP and SRP Revision 0, but it revised item 2 to read as follows:

2. "Organizational responsibilities are described. Individuals performing inspections are other than those who performed or directly supervised the activity being inspected and do not report directly to the immediate supervisors who are responsible for the activity being inspected. If the individuals performing inspections are not part of the QA organization, the inspection procedures, personnel qualification criteria, and independence from undue pressure such as cost and schedule should be reviewed and found acceptable by the QA organization prior to the initiation of the activity."

There was no requirement that utilities with Construction Permits change their QA program to meet this revised requirement. The DPC organization for QC at Catawba continued to be acceptable to the staff.

February 9, 1981 — DPC informed the staff that the site QC staff was being brought into the QA organization for both functional and administrative controls.

July 14, 1981 — NRC staff reports acceptability of having DPC construction QC included in the DPC QA organization.

February 3, 1983 — NRC continues to affirm acceptability of DPC organization which continues to show QA organization reporting to the Corporate QA Manager who continues to report to the Senior VP of Engineering and Construction.

Prior to establishing the office of the Corporate QA Manager on February 1, 1974, Duke had QA managers within the Mechanical - Nuclear Division, the Civil - Environmental Division, the Electrical Division, Purchasing Department, Steam Production Department, Construction Department, and QA Division. The QA review of design changes were conducted within the appropriate design divisions and audited by the QA department. The overall QA program and QA organization for design and procurement were inspected on January 29 - 30, 1974 (referenced AEC/NRC report 50-496/74-1).

The Design Engineering Department (DED) "Design Engineering QA Plan", the DED procedures (including procedures for engineering calculations, engineering drawings, SAR commitment control, variation notices, nonconforming item reports, specifications and procurement), the divisional QA procedures for the internal audits of civil, electrical, and mechanical - nuclear design work, and various appendices were inspected on April 16 - 18, 1974 - AEC/NRC report STN-496/74-2.

A basic concern for each inspection of Catawba has been to evaluate the authority and organizational freedom of the QA program and staff. Duke has been able to continually show that QA has been independent of construction at Catawba. No noncompliance or deviations have been issued relative to this aspect of the overall program as approved by the NRC as noted in the first paragraph. The Duke polices relative to the independence of the QA program are updated annually by the chairman of the board and chief executive officer of the corporation William S. Lee. The NRC and the Self Initiated Evaluation Report by Duke

referenced by GAP, concludes that the QA organizational authority and independence is acceptable. Testimony by the NRC construction senior resident inspector, Kim VanDoorn, and Region II management, Jack Bryant, have provided additional documentation to support this conclusion.

c. Inspection Summary

d. Enforcement Summary

e. Summation

Based on the above chronology of events and NRC inspections to confirm independence and freedom of QA, the NRC concludes that GAP's allegations of a massive QA breakdown are inappropriate.

QA/QC INQUIRY RECORD COPY

SERIAL # 46

STATEMENT OF PROBLEM OR INQUIRY:

During random inspection of weld # INV 193-3, an air leak was discovered taped in the end of the section being joined (approximately 24") providing a rapid cooling process of the weld joint.

By telephone conversation with Rob Atkins (QA tech.) (Charlie Ferrell + Billie Smith) at 8:05 AM verbal approval was given to complete the weld & for Q.C. inspector to sign final visual per L-80.

R. Kelly QC welding 9-26
INSPECTOR/TECHNICIAN DATE

EVALUATION:

BLOWING AIR THROUGH the I.D. OF A STAINLESS STEEL SOCKETWELD JOINT DURING THE WELDING PROCESS does NOT VIOLATE the 200 PROCESS.

"QUENCHING" AS described & RESTRICTED by the 200 PROCESS REFERS to ~~the~~ ACCELERATED cooling USING A LIQUID COOLING METHOD.

The INCIDENT described ABOVE IS ACCEPTABLE AS IS

When ENCOUNTERING A similar SITUATION the INSPECTOR should ASSURE that M-24 cleanliness REQ'TS ARE NOT VIOLATED.

H. Atkins 9/3/8
QA TECH GROUP DATE

Lows can RT override a visual indic.

~~judgment call~~
- wether or not the weld in question was subject to oxidation was a judgment call — this should not be backed up by radiograph
- radiography is subject to human error and a num of factors can contribute to a defect being shown on attachment 1.

+ oxygen or oxidation that has not completely been cut out will not show up on RT

+++ the absolute fact is that the defect is still in the pipe

other factors in this was need to be considered - to due to material & significance of cyc.
- possible stress riser.
- trap or pocket for radioactive accumulation causing hot spots.
- flow resistance
- possible corrosion action take place.

++ the weld should be viewed on real practical basis — even with the overriding decision by the Level III radio the NCI could have had a greater satisfaction by finding

grinding the internal surface of the pipe.

after all the joint in question was unreliable.

To whom it may concern:

My main concern with problems at Catawba are mostly covered in NCI's from QA I have written. Some of these problems have been properly evaluated by procedures and by Duke Power Company. Also some resolutions of these NCI's are written with Craft Personnel saying that they followed the correct steps, although it is the Welding Inspector that is checking and signing the materials and paperwork are followed correctly by procedure. If procedures and process controls are used correctly the Welding Inspectors would not write NCI's. As my job requires me to follow procedures and instructions from my supervisors, I have been threatened for following (these) my requirements. This was brought to the attention of my supervisor and also his supervisor. It was the third time before Craft supervision heard of the instances. On the second time I had a problem, my supervisor told me to handle this situation and try to work the problems out and if any more instances come up there would be immediate action taken. Another problem arised but no action was taken. Support is needed in the QA Department at Catawba if procedures are going to be followed without being Construction minded.

(A)

(B)

F5

(2)

(1) On inspection of this SCR frame on 22nd, problems were brought to the attention of supervision on numerous occasions. This frame was checked by at least 4 Welding Inspectors. The welds were not uniform and had many defects. 6 final welds were checked over 20 times but when each began being ruled to complete by supervision, the began getting pressured to sign the work off.

(1)

(2) M&I inspections are being made with uncontrolled copies of Isometric Drawings. If these drawings are uncontrolled, how can the M&I be valid?

(3)

(3) On inspection of 8 spools on 1-18", there were about 15 welds not completed on 1 MISO. I had requested all of these areas, although 1 MISO was not complete because of the 15 or so welds. During the time of checking these MI-18's, there was a rush to complete these areas. I was told by my supervisor to check to see if the welds had been completed 6 different times. Every time I went to check, the craft had not completed the work. In the meantime I was out sick with the flu for 5 days. When I returned to work I had a note in my box to check with Civil and sign the MI-18's off. This note gave me the impression the work was completed while I was out sick. When I went to check with Civil, I found that the Civil inspector was out sick with the flu. The inspector that was taking over for him gave me the MI-18's and I signed them complete. I later went to the area of the

M-18's and the craft were working in the same area of the M-18A's signed off. I brought this to the attention of my supervisor that they were welding in the area where the M18's were signed off. He told me they were probably working on something new. The next week the welding craft began work on the welds that were not complete. The inspector in the area knew I had completed the M18A's and it was brought to the attention of our supervision. I was given an A Violation for signing the work off that was not complete. (falsifying documents) My supervisor tried to explain the problem but he did not get any support from his Supervisor. This kind of support has been long needed from our Supervision to give the Welding Inspectors complete confidence. There is not a Welding Inspector on the Catawba Project that is not willingly and ready to explain any problem or problems he or the QA Department has. The Welding Inspectors are confident and truthful in every job we told.

Thanks for your Time;

Lindsay Harvey Harris Jr.

Welding Inspector QA