



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 24, 1997

LICENSEE: Niagara Mohawk Power Corporation

FACILITY: Nine Mile Point Nuclear Station Unit No. 1

SUBJECT: SUMMARY OF TELEPHONE CONVERSATION OF MARCH 20, 1997, ON CORE SHROUD  
INSPECTION OBSERVATIONS (TAC NO. M98170)

On March 20, 1997, the NRC staff participated in a telephone conference call with Niagara Mohawk Power Corporation (NMPC and licensee) to discuss the licensee's current observations from inspections of core shroud vertical welds and tie rod assemblies (also called core shroud stabilizers) that are in progress at Nine Mile Point Nuclear Station, Unit 1. Participants are listed in Enclosure 1. Enclosure 2, which includes the agenda and handouts, was faxed to the NRC by the licensee prior to the telephone conference.

BACKGROUND

The telephone conference results from the following prior notifications that the licensee provided in accordance with 10 CFR 50.72(b):

1. On March 14, 1997, the licensee notified the NRC that as a result of augmented in-service inspection of the core shroud in accordance with Boiling Water Reactor Vessel Internal Project (BWRVIP07), "Guidelines for Reinspection of BWR Core Shrouds," as authorized by the NRC staff by letter dated March 3, 1997, weld indications (cracks) have been found in a significant portion of vertical welds V9 and V10. The indications were observed in the heat affected zones on the outside diameter. Consequently, the licensee would expand the inspection sample to determine the extent of cracking of other vertical welds in accordance with BWRVIP07 criteria and would perform engineering assessments of the results to assess the acceptability of the cracking and any safety implications. The licensee also noted that all fuel is in the spent fuel pool at this time.
2. On March 19, 1997, the licensee reported that a core shroud lower tie rod assembly lateral contact, whose function is to restrain the shroud laterally during a seismic event, was not contacting the reactor vessel wall and outside diameter shroud surface as required (see Enclosure 3). The lower contact is supposed to be held by a spring latch device, but inspection revealed that the latch had failed on the tie rod assembly located at the 90° azimuth. The spring latch devices for the 270° and 350° tie rod assemblies were observed to exhibit signs of degradation. The tie rod assemblies had been installed during the previous refueling outage in 1995. The licensee will perform engineering evaluations of the lack of contact for the seismic event and assess the affect on shroud integrity.

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## DISCUSSION

The licensee has formed a Shroud Project Team to assess the inspection results and root cause of the NMPI core shroud deficiencies, interface with industry and NRC, recommend a course of action, and assist with obtaining NRC concurrence regarding any changes to the shroud modification designs or inspection plans previously approved by the NRC. In addition to NMPC engineering and management personnel, the team includes the BWRVIP Executive Chairman and BWRVIP Inspection Chairman (who are also employees of NMPC), and several General Electric employees.

The licensee provided Indication Maps showing the extent and depth of flaws during ultrasonic examination of shroud welds V9 and V10 (see pages 2 through 4 of Enclosure 2, handouts). These maps show that the deeper cracks were observed from the shroud outer diameter and are concentrated in the upper third of the height of welds V9 and V10. No through-wall cracks were found and the maximum flaw depth was 82 percent for V9 and 66 percent for V10. All vertical welds are being inspected by a combination of ultrasonic or visual means, depending upon accessibility. Welds are being located by use of an eddy current technique.

The latch (called a "retainer clip" on page 7 of Enclosure 2, handouts) in the lower portion of the 90° tie rod assembly was observed to be missing and the associated lateral support block had shifted downward until encountering a retaining pin. Visual inspection of the other three tie rod assemblies revealed apparent degradation (i.e., "discoloration") of latches in the 270° and 350° tie rod assemblies. The lateral support block for the 350° assembly has shifted downward about 1/4 inch. The licensee is preparing a Deviation/Events Report on the latches and evaluating the potential consequences of a postulated multiple loss of retainer clips.

The licensee also found that the nut at the top of the 270° tie rod had loosened somewhat, although the retaining device for the nut remained in place. The other three tie rod nuts will be checked for tightness. The lateral support for the 270° tie rod assembly, which was contacting the recirculation blend nozzle and was scheduled for replacement, was observed to have shifted slightly.

The licensee noted that the current restart schedule for Unit 1 is April 9, 1997, but will be adjusted as needed. Upon completion of inspections and evaluations, the licensee will develop corrective actions. The licensee plans to address any changes associated with the 1995 shroud repair that was designed as an alternative to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code pursuant to 10 CFR 50.55a(a)(3)(i) as approved by the NRC staff by letters dated March 31, 1995, and March 3, 1997, and request NRC staff approval for these changes or any significant change in the core shroud reinspection plan.



The NRC staff requested that the licensee provide a followup telephone conference call upon completion of the inspections. The NRC staff also requested that the licensee meet with the NRC to discuss results of its technical evaluations, root cause assessment, and plans for corrective actions prior to restart of Unit 1. The NRR Project Manager will schedule the conference call and meeting upon the licensee's request.

Sincerely,



Darl S. Hood, Senior Project Manager  
Project Directorate I-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-220

Enclosures:

1. Participants
2. Agenda and Handouts
3. Core Shroud Stabilizers

cc: See next page



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## NRC PHONE CALL 3/20/97

### AGENDA

Purpose	M. McCormick
Background	M. McCormick
Shroud Vertical Welds V9, V10 Results	M. McCormick/Staff
Shroud Tie Rod Lower Spring Wedge Retainer Clip Degradation	M. McCormick/Staff
Industry Actions/Status	C. Terry
Outage Status	N. Rademacher
Closing Remarks	R. Abbott/B.R. Sylvia

**Purpose:** To share with the NRC/NRR NMPI inspection results for the core shroud vertical welds V9 and V10. Secondly, to review the results of the tie rod inspections and the degraded condition of the tie rod lower spring wedge retainer clips.

**Background:** Reference NRC Notifications

#### Shroud Vertical Welds V9 and V10 Results:

- o Handout
- o Findings
- o Expanded Inspections
- o Action Plan
  - Analysis of Data
  - Evaluate Options
  - Determine Recommended Course of Action
- o Obtain NRC Concurrence
- o Q & A

#### Shroud Tie Rod Lower Spring Wedge Retainer Clip Degradation:

- o Handout
- o Findings
- o Additional Inspections and Tests
  - Detailed Analysis of Data
  - Determine Recommended Course of Action
- o Obtain NRC Concurrence
- o Q & A

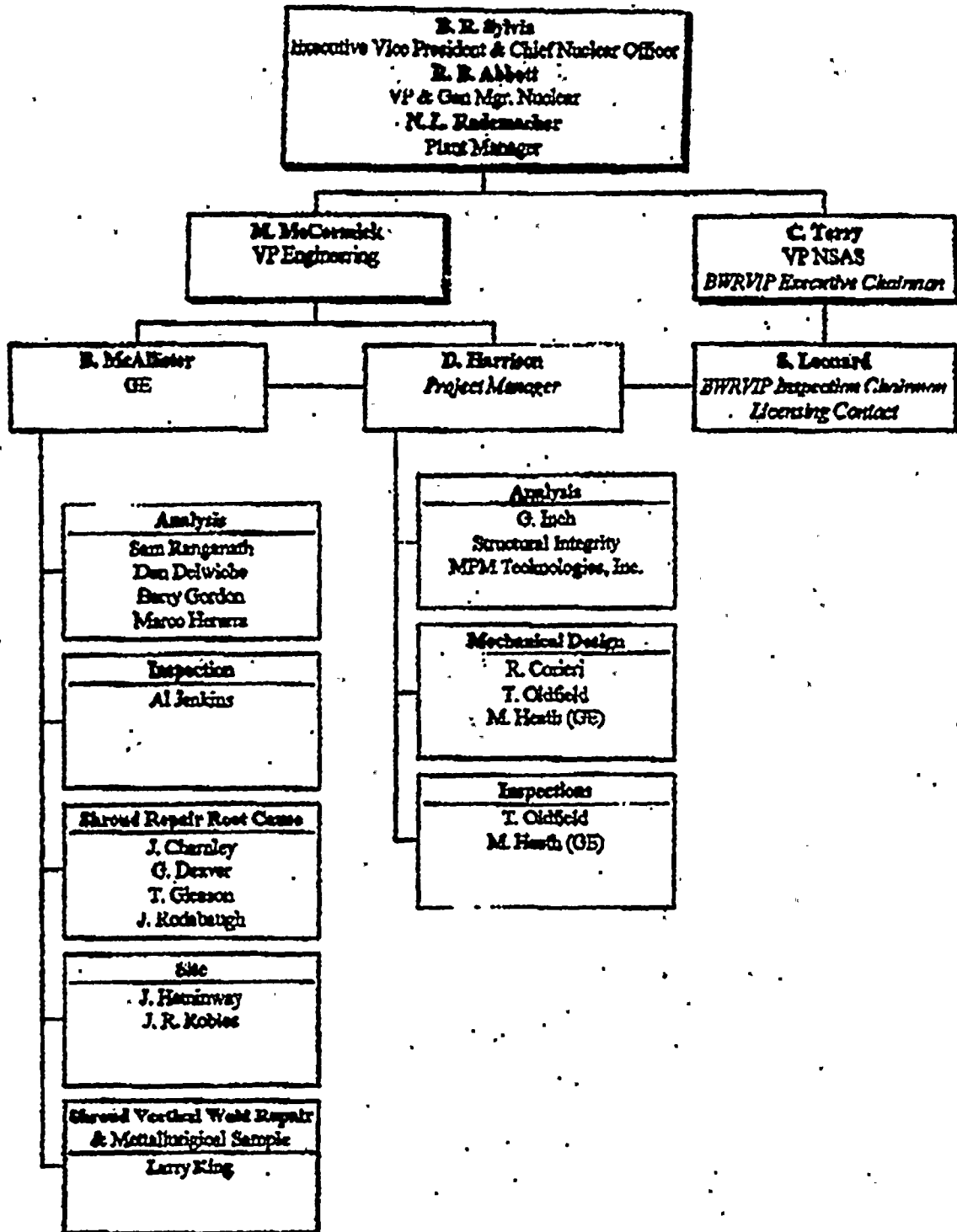
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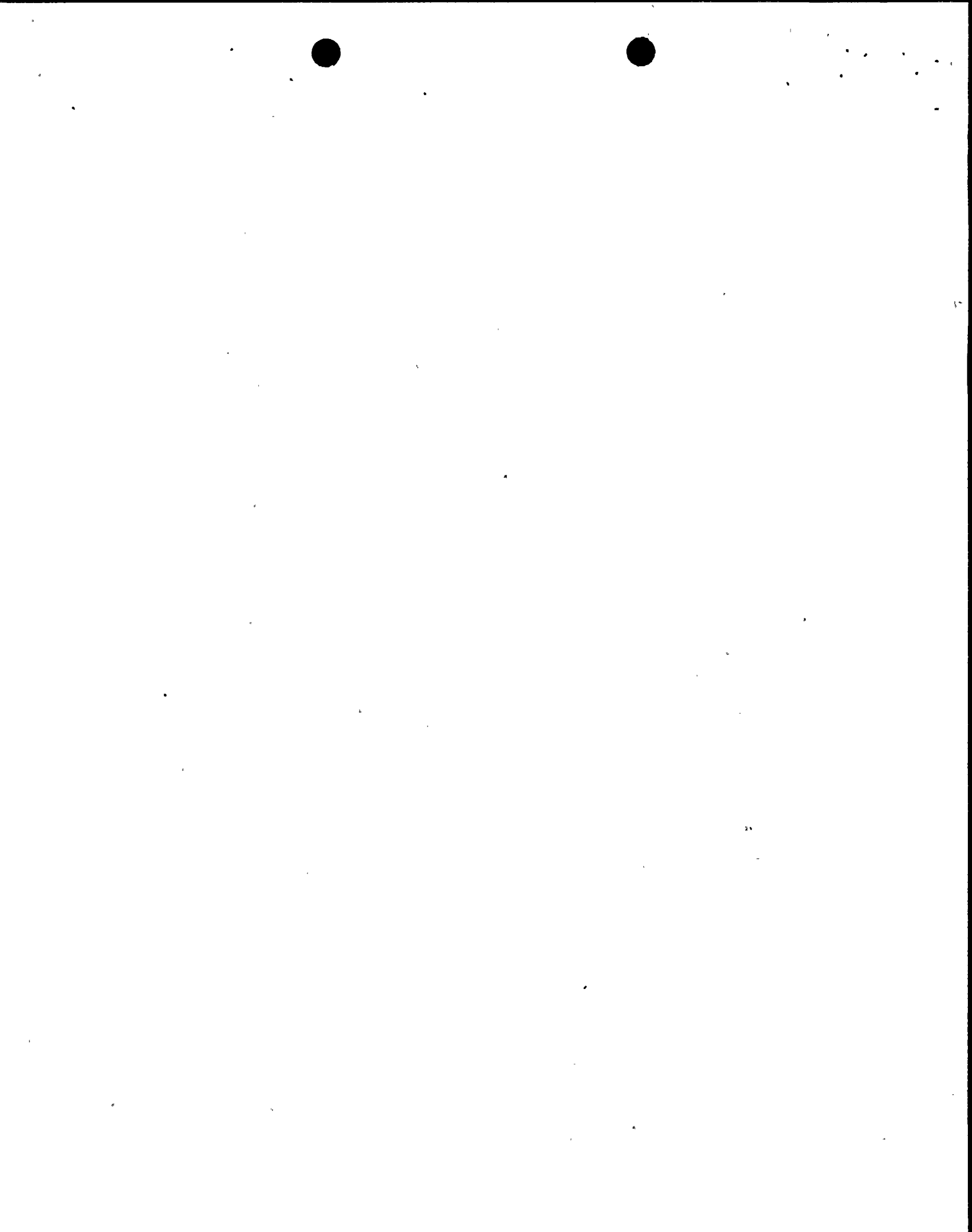
**Outage Status**

**Closing Remarks**

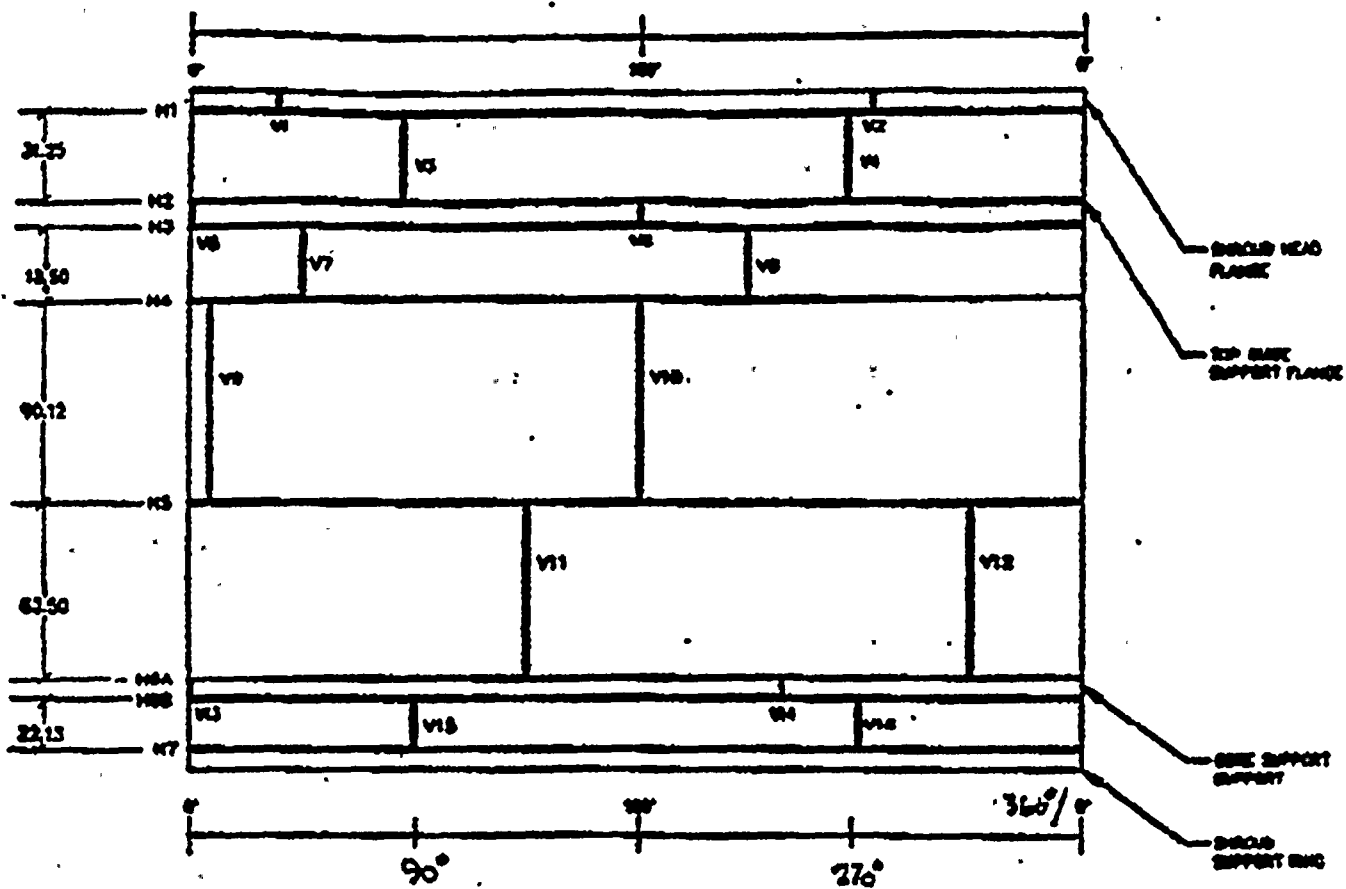


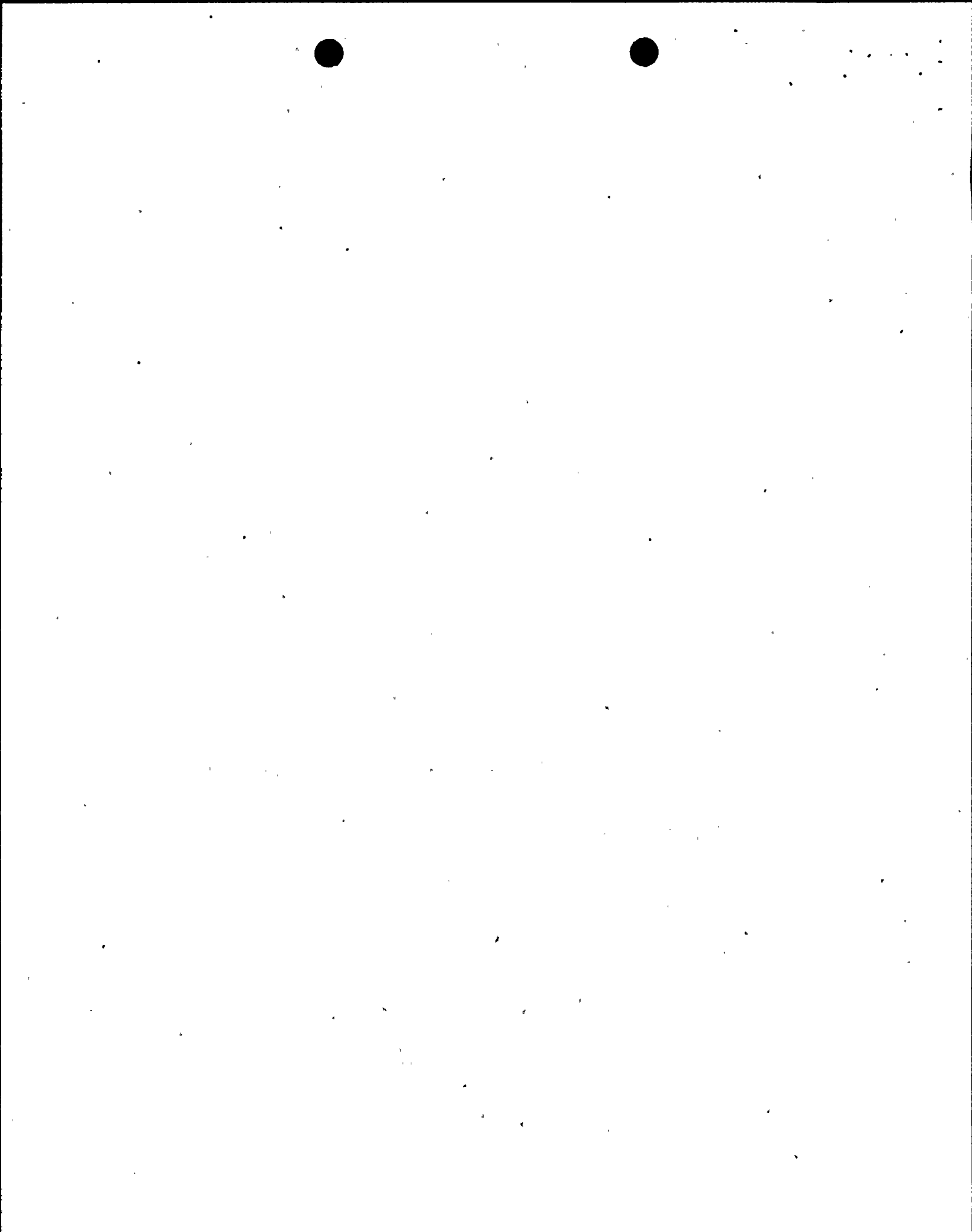
### Shroud Project Team





### FIGURE 1: SHROUD WELD MAP





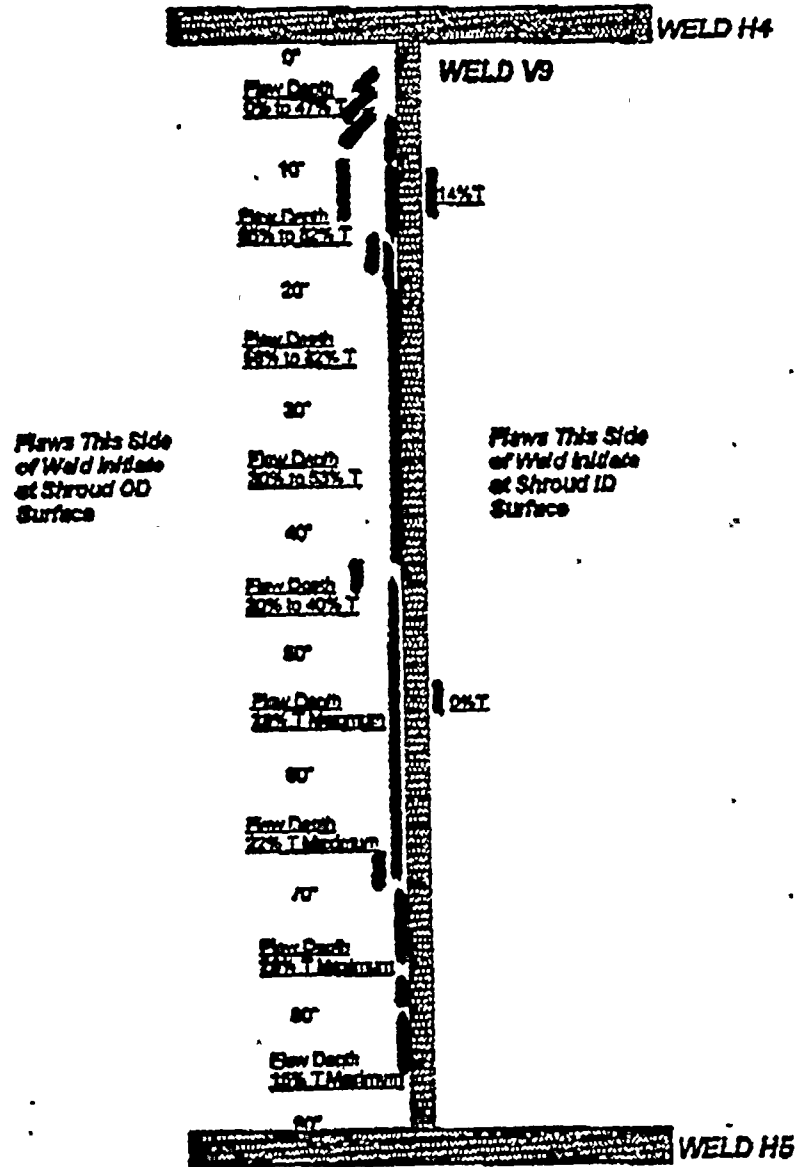




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Niagara Mohawk Power Corporation  
Nine Mile Point - Unit 1

### Ultrasonic Examination Indication Map For Core Shroud Weld V9



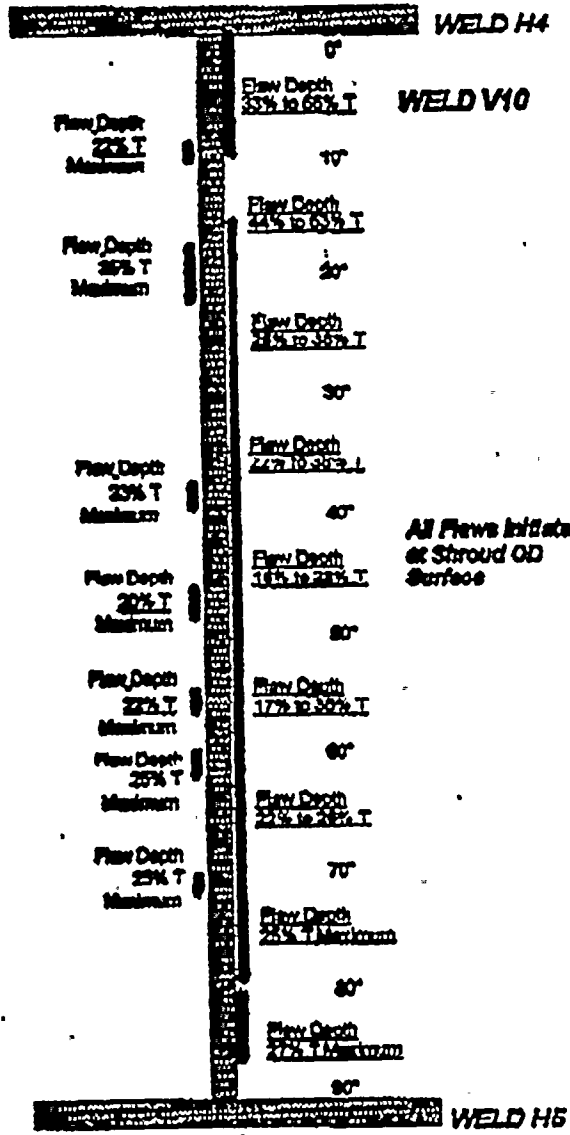


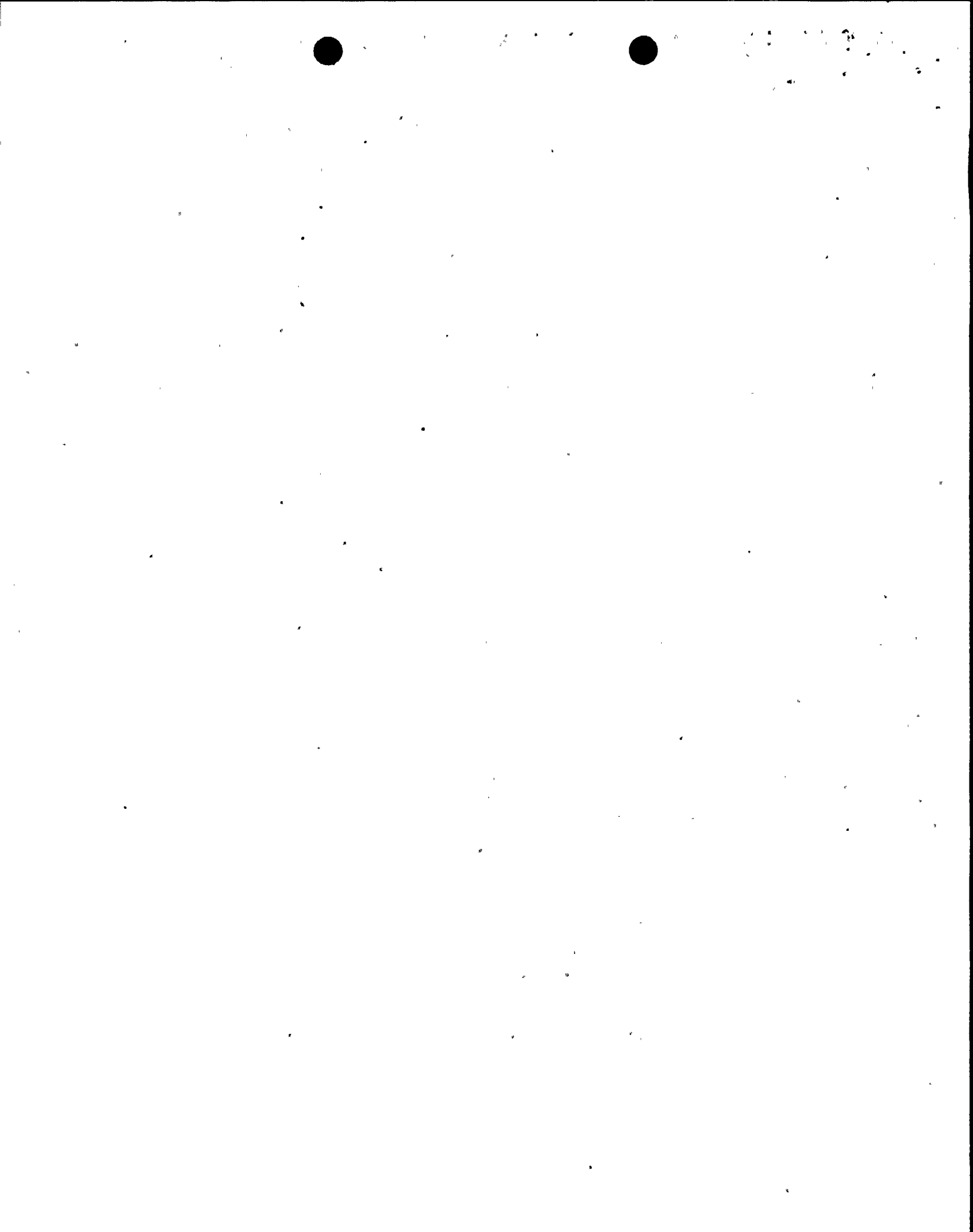


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### Ultrasonic Examination Indication Map For Core Shroud Weld V10





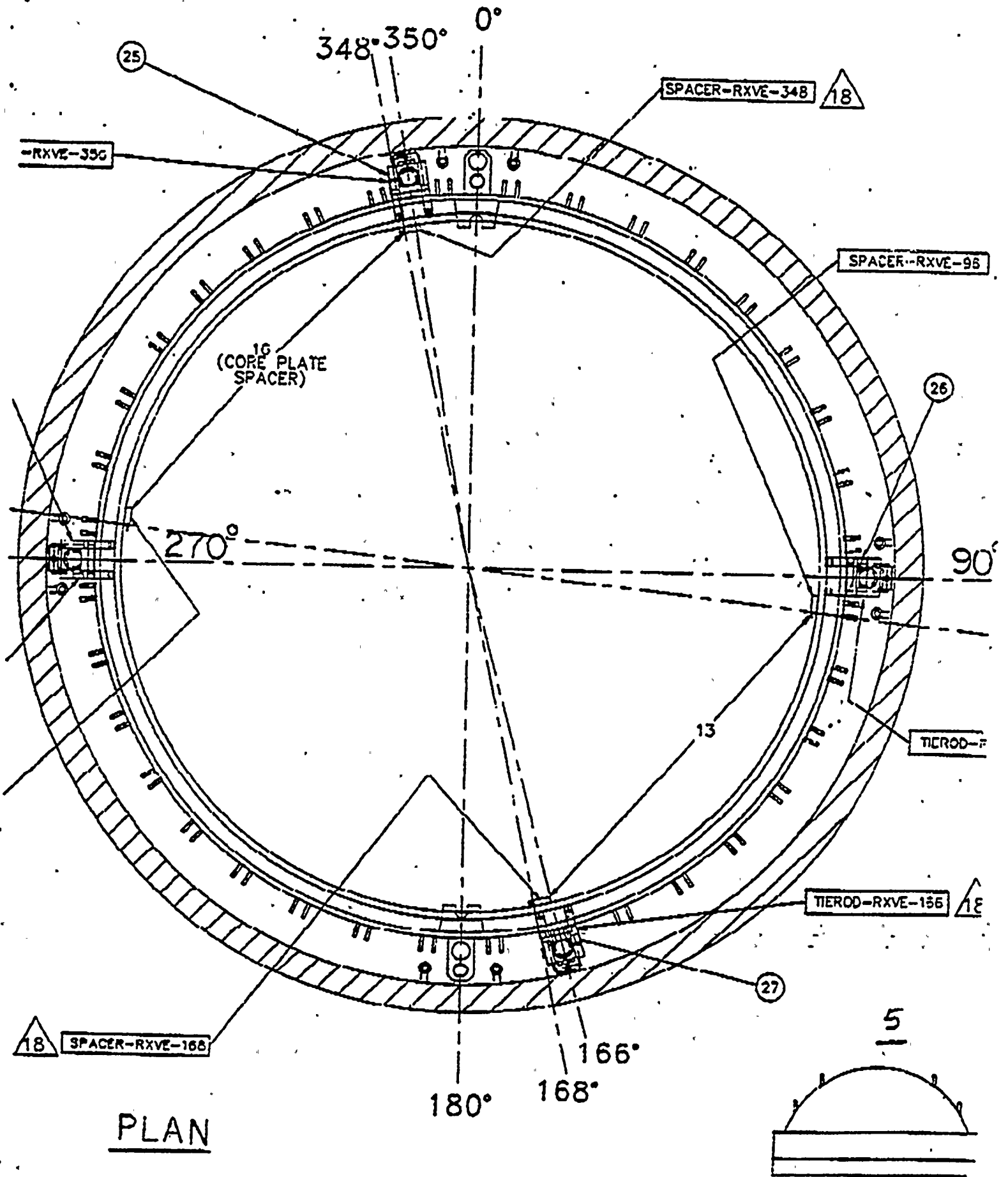
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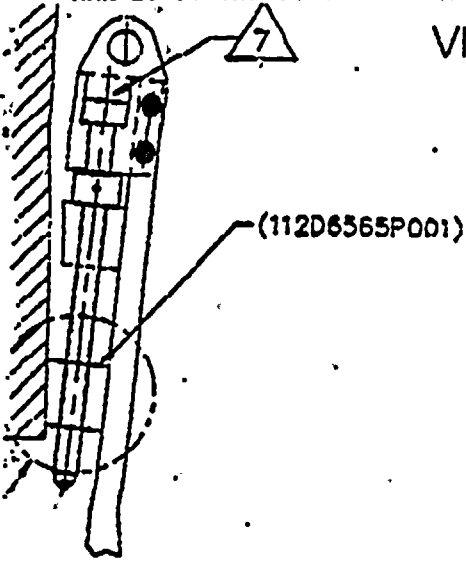


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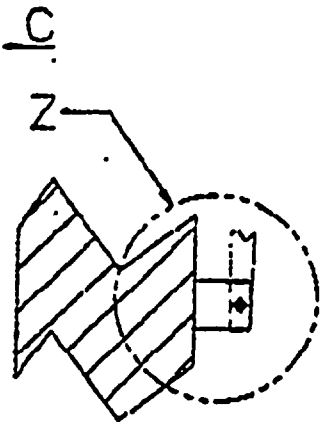
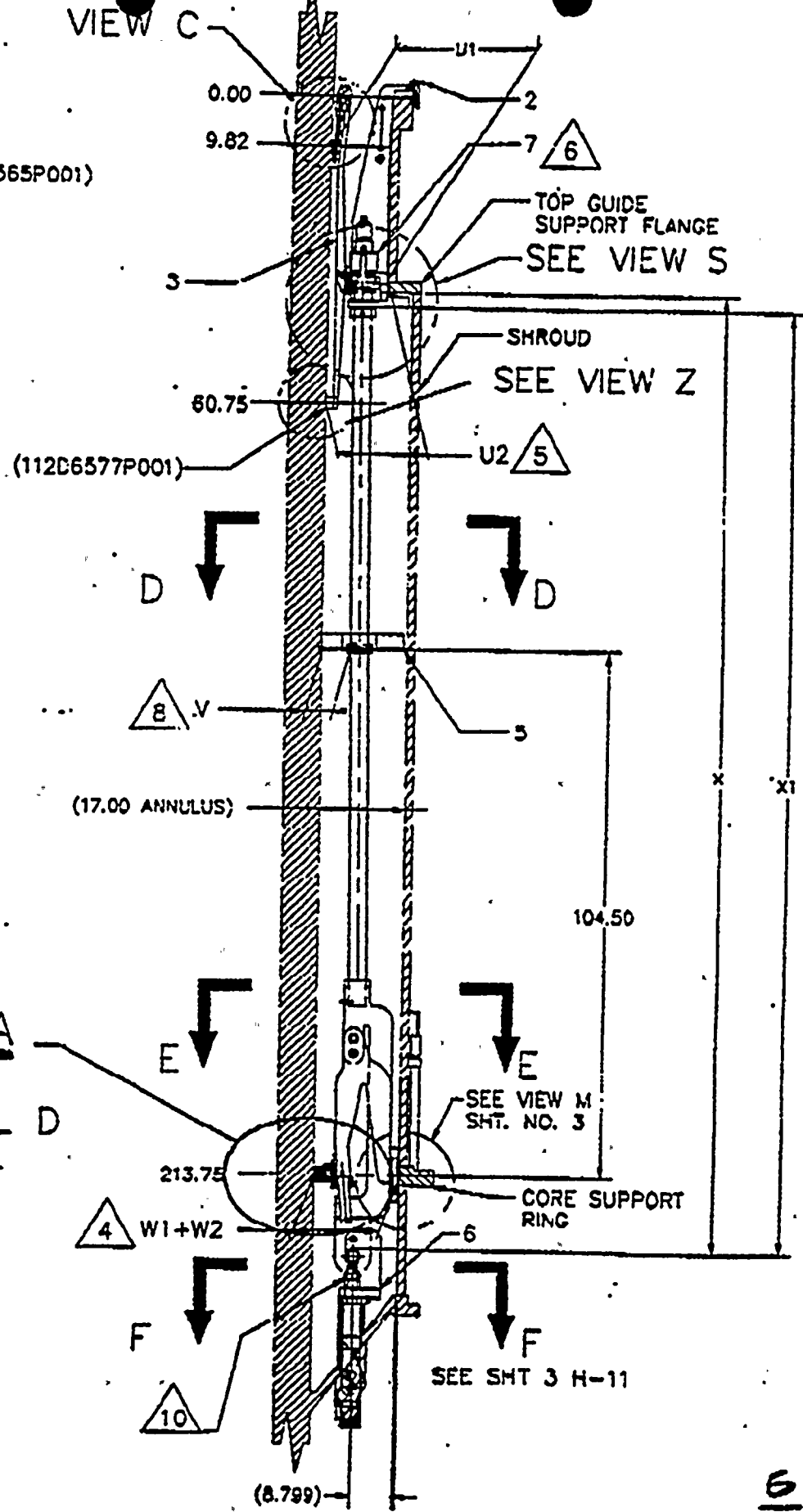
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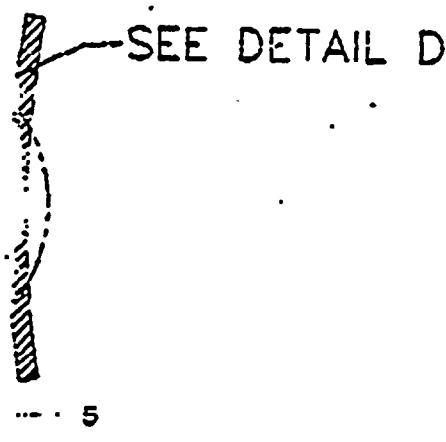


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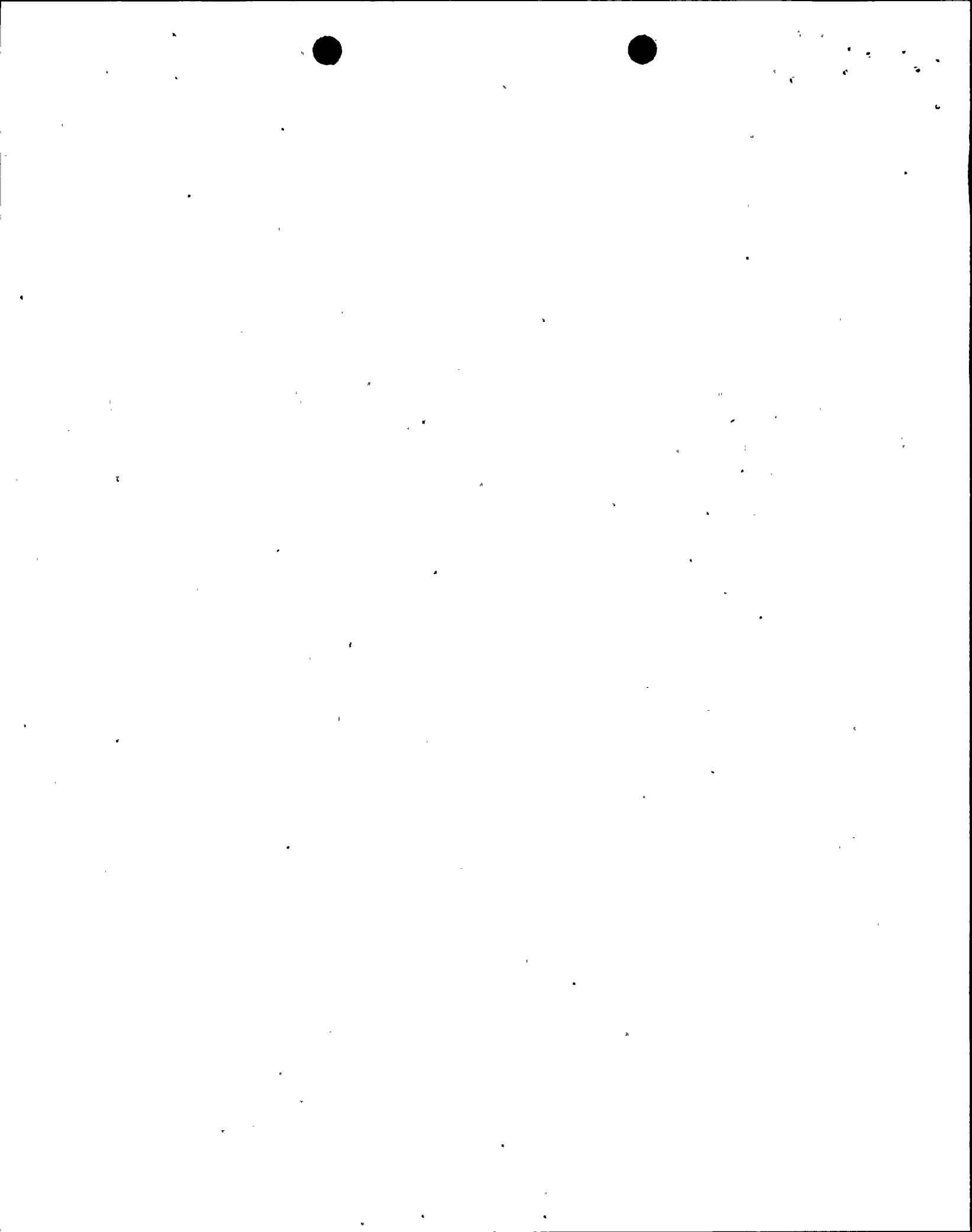
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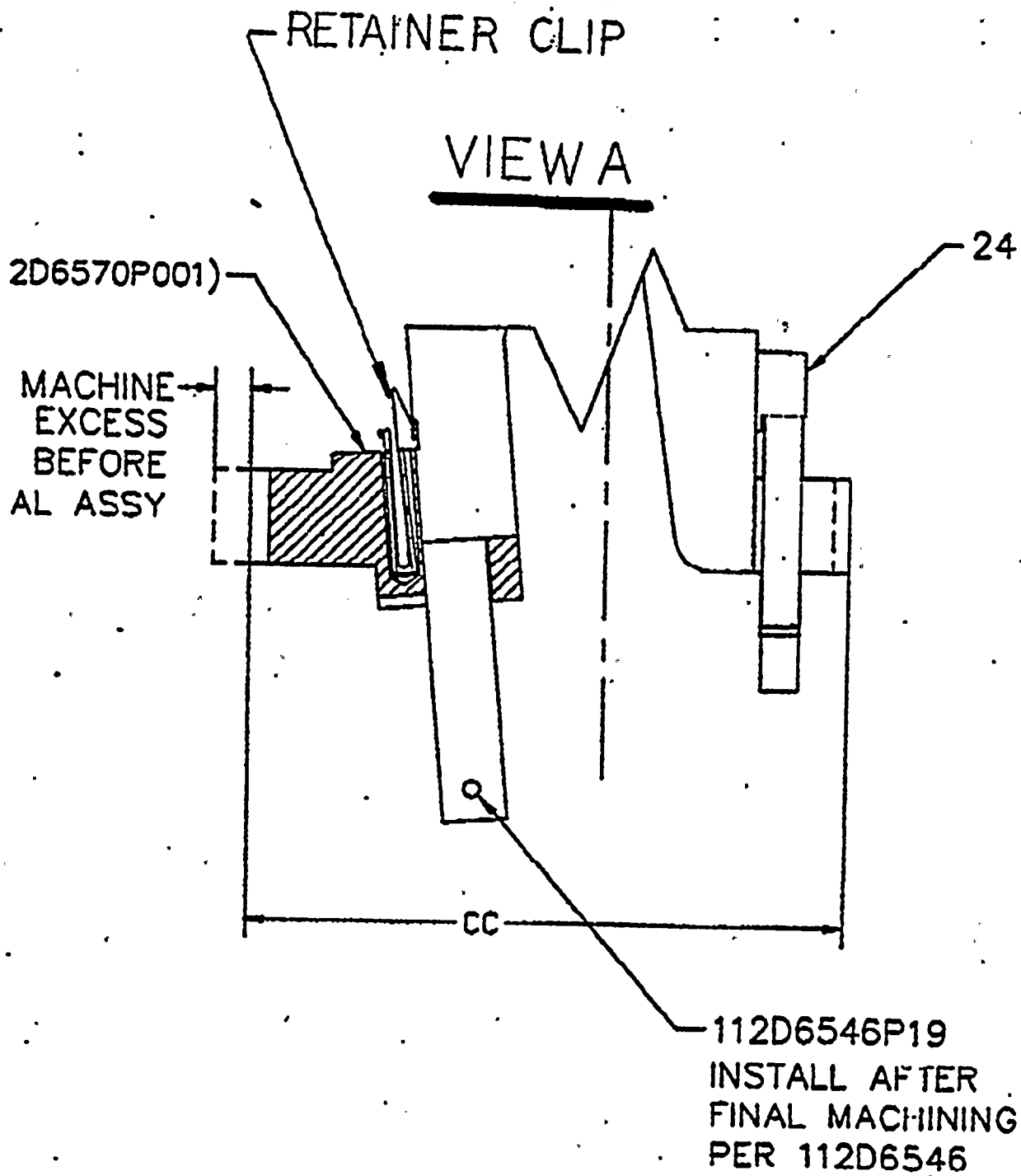


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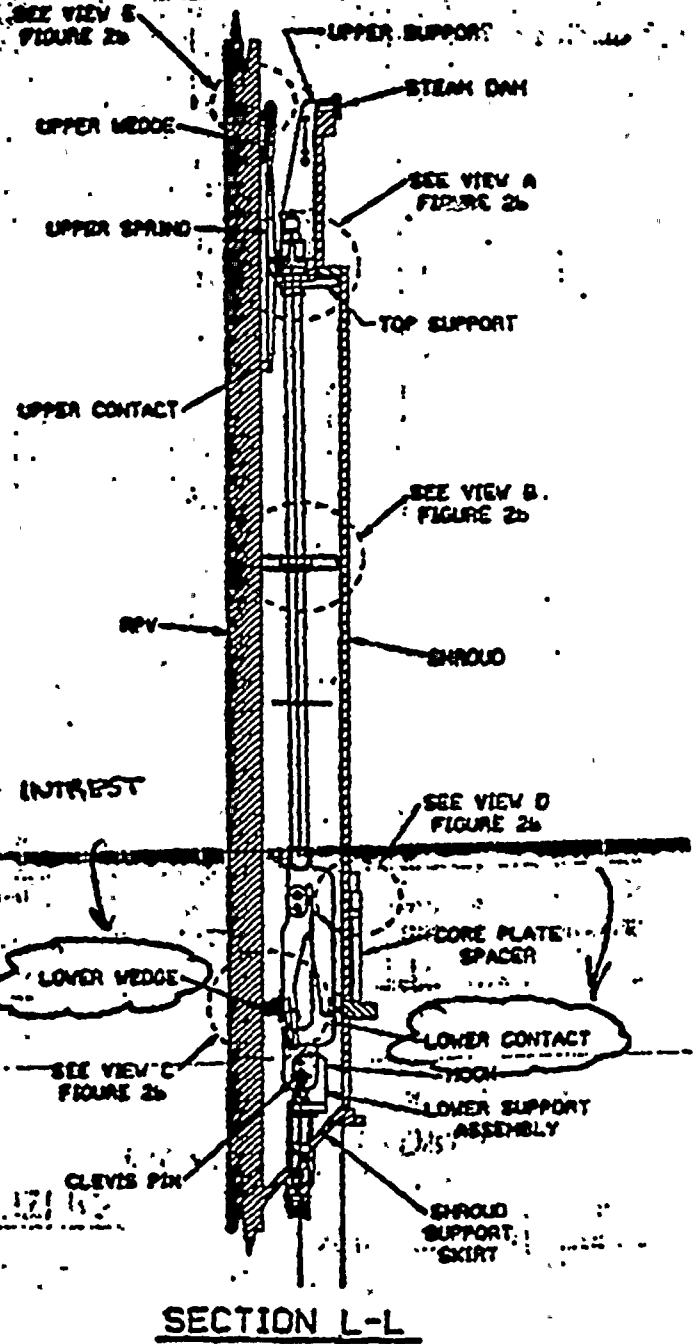
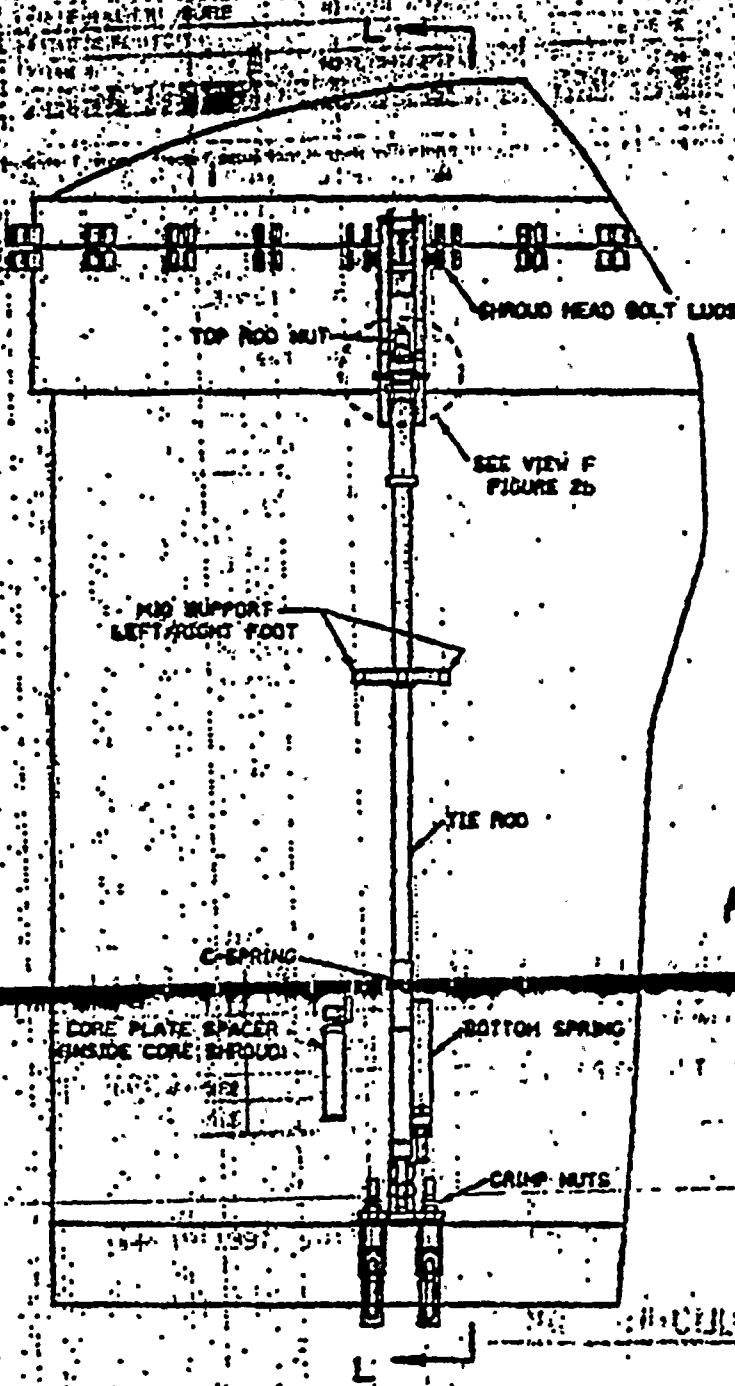








CORE SHROUD STABILIZERS



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FIGURE 2a

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/s/  
Darl S. Hood, Senior Project Manager  
Project Directorate I-1  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

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cc: See next page

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