



**Pacific Gas and
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PG&E Letter DCL-06-075

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

Docket No. 50-275, OL-DPR-80
Diablo Canyon Unit 1

Response to NRC Request for Additional Information Regarding ASME
Section XI Inservice Inspection Program Relief Request NDE-SLH

Dear Commissioners and Staff:

PG&E Letter DCL-05-152, dated December 22, 2005, submitted ASME Section XI Inservice Inspection Program Relief Request NDE-SLH associated with reactor vessel lower shell-to-bottom head circumferential weld examinations performed during Diablo Canyon Power Plant (DCPP) Unit 1 Refueling Outage 13 (1R13).

On January 23, 2006, the NRC staff requested additional information required to complete the review of this relief request. PG&E's response to the staff's request is provided in Enclosure 1.

If you have any questions or require additional information, please contact Stan Ketelsen at (805) 545-4720.

Sincerely,

James R. Becker

why1/4279/A0632940

Enclosure

cc: Diablo Distribution
cc/enc: Edgar Bailey, DHS
Terry W. Jackson, Senior Resident Inspector
Bruce S. Mallett, Region IV
Alan B. Wang, NRR
State of California, Pressure Vessel Unit

A0417

**PG&E Response to NRC Request for Additional Information (RAI)
Regarding ASME Section XI Inservice Inspection Program Relief
Request NDE-SLH**

NRC Question:

Provide more detail (including drawings) regarding the [NDE] examination. For example, transducers used, direction of scans, and was the ultrasonic examination of the reactor pressure vessel circumferential shell weld [to the bottom] conducted in accordance with techniques qualified by demonstration for Appendix VIII supplements 4 and 6 of the 1995-96 Addenda of ASME Section XI. A good example for this type of relief is VEPCO's letter dated December 12, 2005 for Surry Power Station Unit 2 Relief Request PRT-02, TAC no. MC9224.

PG&E Response:

The inspection of Diablo Canyon Power Plant (DCPP) Unit 1 reactor vessel lower shell to lower head circumferential weld (Weld No. 10-442) during Unit 1 Refueling Outage 13 (1R13) was conducted using a procedure and techniques qualified by demonstration for 1995 edition/1996 Addenda ASME Section XI Appendix VIII examinations in accordance with Supplements 4 and 6. The examination used a combination of 45 degree angle search units with shear and longitudinal wave propagation and 30 mm or greater focal depths. The sound beams from these transducers were directed in four orthogonal directions parallel and perpendicular to the weld in as close proximity to the six core support lugs as the inspection device and transducer sled would allow. Figures 1, 2, and 3 depict the location of this weld in the reactor vessel, the scanning limitations for parallel and perpendicular scans below the core support lugs, and in between the lugs respectively.

The physical size of the transducer sled limited the approach to the core support lugs without hazarding the assembly and causing damage and loose parts concerns. Calculation of the weld and volume coverage afforded by each set of transducers by the data analysts resulted in a combined coverage of 75.36 percent. Table 1 provides a breakdown of percent coverage of the required examination volume by scan direction and transducers. This coverage is within one percent of the coverage as detailed in the Surry Power Station Unit 2 Relief Request PRT-02. The Surry Power Station Unit 2 reactor vessel has four core support lugs, as opposed to the DCPP Unit 1 reactor vessel, which has six lugs.

Diagram of DCCP Unit 1 Reactor Vessel Showing the Location of the Lower Shell to Lower Head Circumferential Weld (Weld No. 10-442) and Also the Location of the 6 Core Support Lugs
 Figure 1

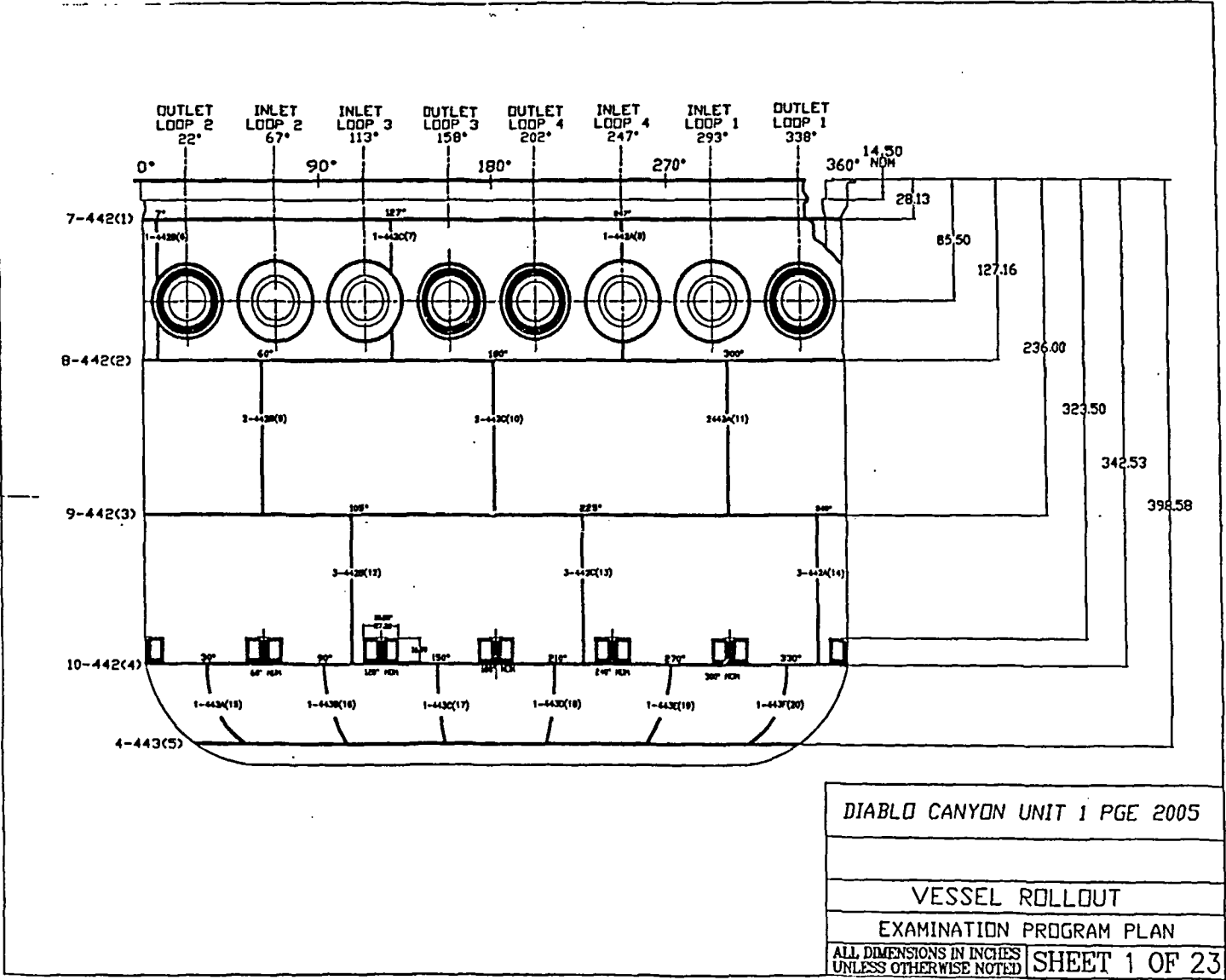


Diagram of DCPP Unit 1 Reactor Pressure Vessel Showing Area of ISI
 Limitation Due to the Presence of Core Support Lug
 Figure 2

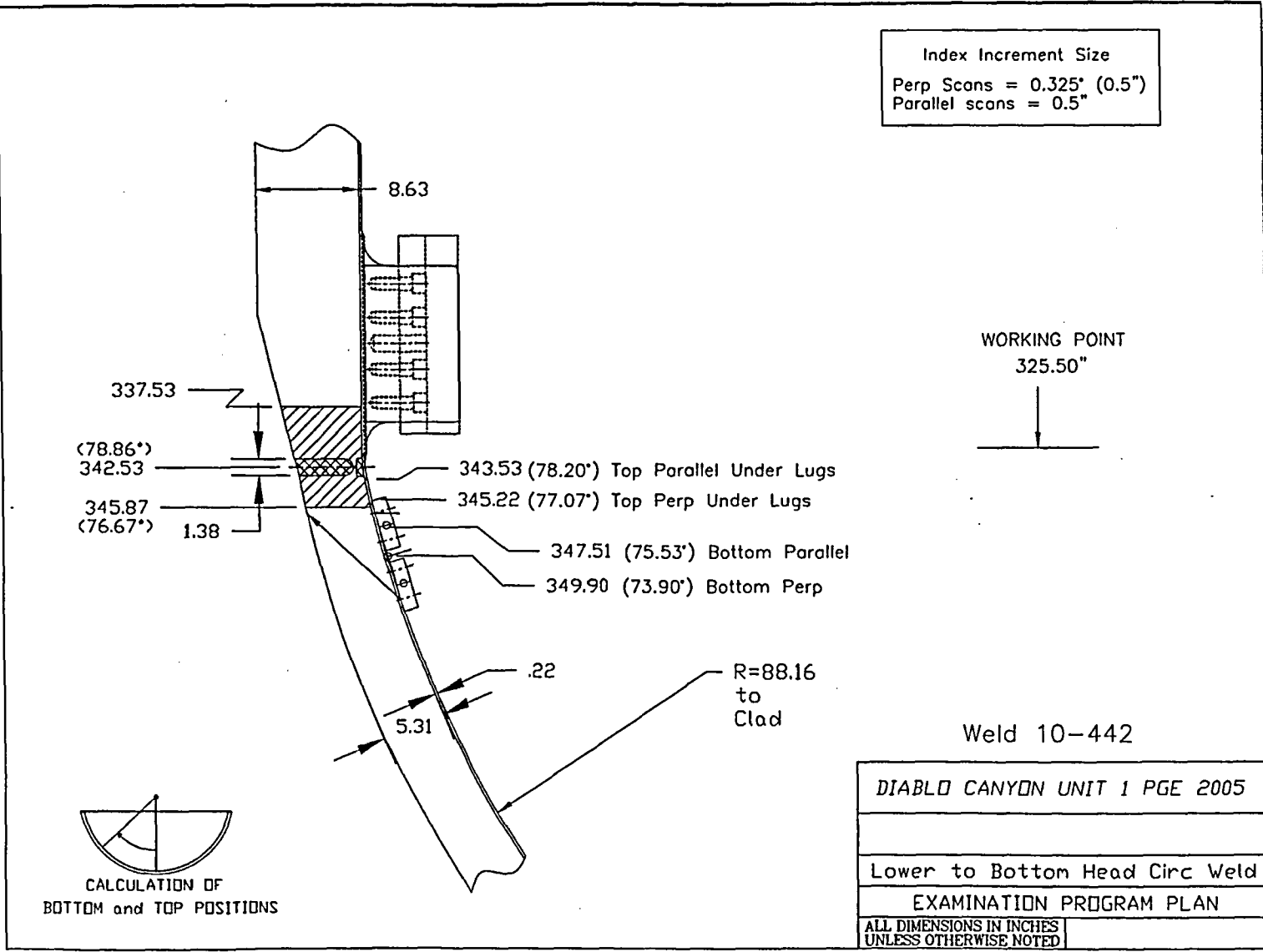
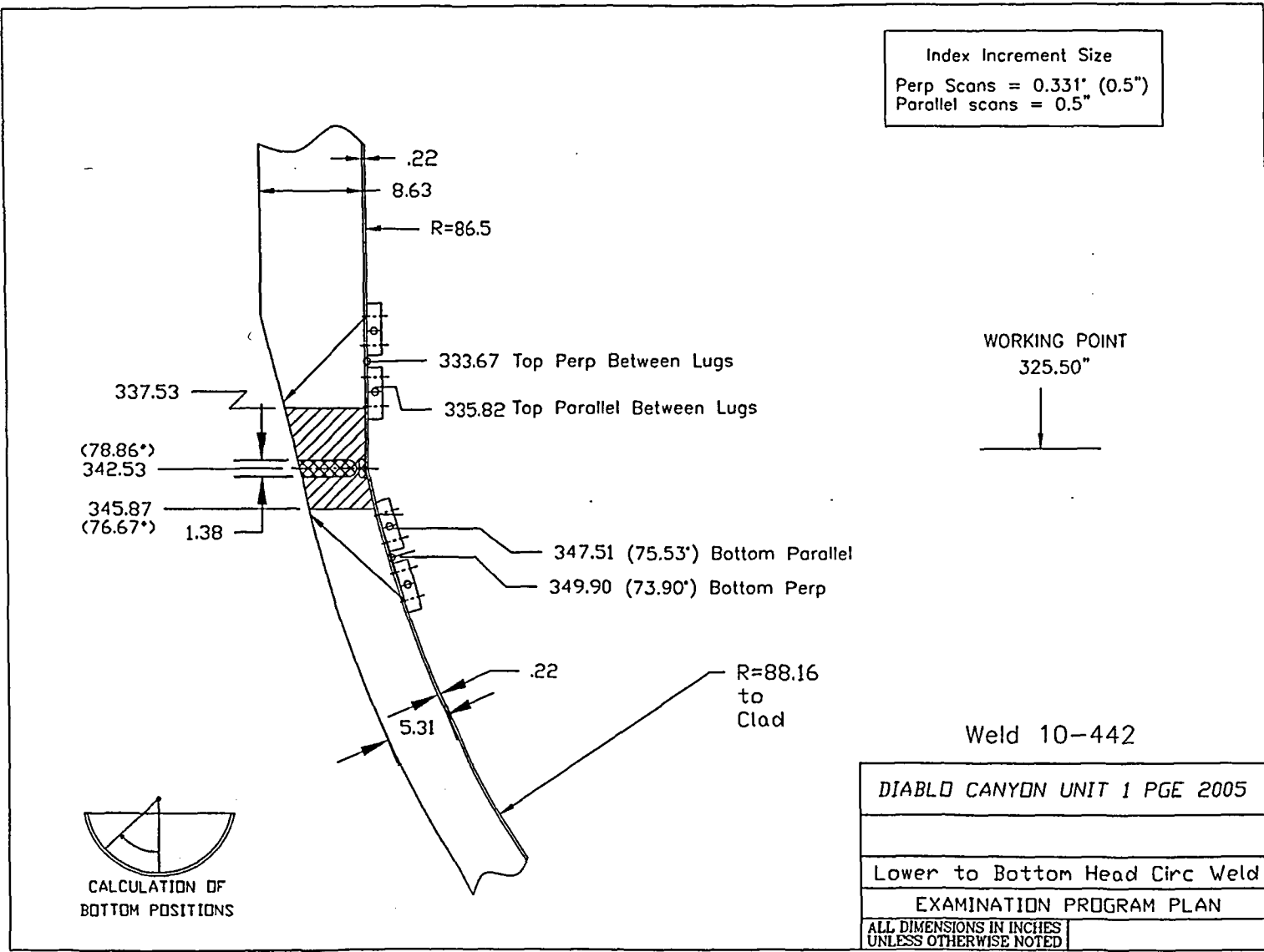


Diagram of DCPP Unit 1 Reactor Pressure Vessel Showing Area
 with No ISI Limitation
 Figure 3



DIABLO CANYON UNIT 1

RPV COVERAGE ESTIMATE BREAKDOWNS

DIRECTION / ORIENTATION

PARALLEL SCANS CCW/CW
 PERP. SCANS UP/DN

WELD DESCRIPTION Lower Shell to Lower Head Circ. Weld

WELD NO. 10-442

BEAM ANGLES

| BEAM DIRECTION | 45° L Dual | | 45° L Single | | 45° Shear | | | | | |
|---|------------|--------|--------------|--------|-----------|--------|------|--------|------|--------|
| | WELD | VOLUME | WELD | VOLUME | WELD | VOLUME | WELD | VOLUME | WELD | VOLUME |
| CCW | 59.37 | 66.2 | 77.1 | 85.0 | 77.1 | 85.0 | | | | |
| CW | 59.37 | 66.2 | 77.1 | 85.0 | 77.1 | 85.0 | | | | |
| UP | 63.9 | 63.9 | 63.9 | 63.9 | *100 | *99.0 | | | | |
| DOWN | 63.9 | 63.9 | 63.9 | 63.9 | *100 | *99.0 | | | | |
| * Area of single sided coverage below core support lugs. Limitation due to proximity of 6 core support lugs to weld. | | | | | | | | | | |
| Combined Average = 75.36% | | | | | | | | | | |

DCP Unit 1 Reactor Vessel Lower Shell to Lower Head Circumferential
 Weld (Weld No. 10-442) Coverage Percentages
 Table 1