

CEOG

COMBUSTION ENGINEERING OWNERS GROUP

Westinghouse Electric Company LLC	Calvert Cliffs Nuclear Power Plant, Inc. Calvert Cliffs 1, 2	Entergy Operations, Inc. ANO 2 WSES Unit 3	Korea Hydro & Nuclear Power Company YGN 3, 4 Ulchin 3,4	Omaha Public Power District Ft. Calhoun
Arizona Public Service Co. Palo Verde 1, 2, 3	Nuclear Management Company Palisades	Florida Power & Light Co. St. Lucie 1, 2	Dominion Nuclear Connecticut, Inc. Millstone 2	Southern California Edison SONGS 2,3

January 15, 2002
CEOG-02-019

Project 692

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

**Subject: Transmittal of draft Common Q Presentation Slides for Meeting with
NRC Staff on February 6, 2002 [Contains Proprietary Material]**

The purpose of this letter is to request a meeting with NRR, Angelo Marinos and Keith Mortensen, et. al., on Wednesday, February 6, 8:00 - 2:30 P.M. to discuss Common Q equipment qualification and closeout of open issues.

The CEOG requests that the enclosed proprietary information be withheld from public disclosure pursuant to 10 CFR 2.790. Consideration for exempting the enclosed material from mandatory public disclosure is contained in the enclosed affidavit. Consistent with staff needs, forwarded with this submittal are one proprietary and one non-proprietary copy of the subject information.

Please feel free to call Virgil Paggen (860-731-6287) or Gordon Bischoff if you have any questions.

Very truly yours,



Richard A. Bernier, Chairman
CE Owners Group

Enclosure: As stated

xc: J. S. Cushing, US NRC
G. C. Bischoff, WEC
C. B. Brinkman, WEC
S. W. Lurie, WEC

D047



I, Philip W. Richardson, depose and say that I am the Licensing Project Manager of Westinghouse Electric Company LLC (WEC), duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and described below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations for withholding this information.

The information for which proprietary treatment is sought is contained in the following:

- ***Westinghouse Electric Company LLC, "Common Q Equipment Qualification Test Program Update," slide package dated February 6, 2002.***

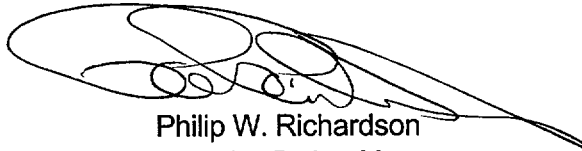
Pursuant to the provisions of Section 2.790(b)(4) of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information included in the document listed above should be withheld from public disclosure.

1. The information sought to be withheld from public disclosure is owned and has been held in confidence by WEC. It consists of information concerning the Common Qualified Platform equipment qualification test program and information for closure of open items identified in the staff's Safety Evaluation of August 11, 2000.
2. The information consists of analyses or other similar data concerning a process, method or component, the application of which results in substantial competitive advantage to WEC.
3. The information is of a type customarily held in confidence by WEC and not customarily disclosed to the public.
4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.
5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements that provide for maintenance of the information in confidence.
6. Public disclosure of the information is likely to cause substantial harm to the competitive position of WEC because:
 - a. A similar product is manufactured and sold by major competitors of WEC.
 - b. WEC has invested substantial funds and engineering resources in the development of this information. A competitor would also required considerable time and inconvenience, and have to undergo similar expense in order to acquire equivalent information.
 - c. The information consists of technical data and equipment qualification information for a digital Common Qualified Platform, the application of which provides WEC a competitive economic advantage. The availability of such information to competitors would enable them to design their product to better compete with WEC, take marketing or other actions to improve their product's position or impair the position of WEC's product, and avoid

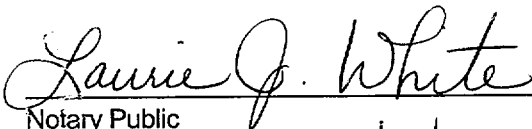


- developing similar technical analysis in support of their processes, methods or apparatus.
- d. In pricing WEC's products and services, significant research, development, engineering, analytical, manufacturing, licensing, quality assurance and other costs and expenses must be included. The ability of WEC's competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.
 - e. Use of the information by competitors in the international marketplace would increase their ability to market competing systems by reducing the costs associated with their technology development.

Sworn to before me this
15th day of January 2002



Philip W. Richardson
Licensing Project Manager


Notary Public

My commission expires: 8/31/04

NOW PROPRIETARY
INFORMATION
FOR
ADAMS

“DRAFT Version”
August 2001 thru January 2002
Common Q Equipment Qualification
Test Program Update

February 6, 2002



00000A. 1



NRC Open SER Hardware Issues

- Common Q Qualification required the following to closeout Generic Open SER Issues:
 - Develop and test a new Analog Input Module (AI685)
 - Design and test a Flat Panel Display System
 - Design and test a Power Supply
 - PM 646A Hardware Watchdog Timer
 - Additional EMC Tests on PM 646

Approach

- Perform testing in a manner that will minimize risk to reach closure on Common Q
- Reuse as much previous test procedures, process and results as possible
- Create separate test cells for the different products / requirements
- Modify test method where the risk is minimized
- Report results to NRC as a revision to previous Topical submittal utilizing defined methodology

Process

- Process utilized configured equipment to be tested into test cells as defined below:
 - Test Cell 1 was configured as two test cells and shipped at different schedules
 - Test Cell 1A - Flat Panel Display and CPC Power Supply
 - Test Cell 1B - AC 160 and PAMS Power Supply

Test Sequence Performed

- Test Cell 1A Environmental Test
- Test Cell 1A Seismic Test
- Test Cell 1B Environmental Test
- Test Cell 1A and 1B Re-Configured and EMC Testing Commenced
- Test Cell 1B Re-Configured and Seismic Test
- Test Cell 1B and 1A Re-configured and EMC Test Completed
- Additional EMC Test for Power Supplies

Test Complexities / Issues

- Testing at Wyle was conducted from 8/4 thru 9/22
- NRC and Customer witnesses at testing
 - APS Representative witnessed Group 1A Seismic
 - NRC Representative witnessed Portions of EMC and Seismic
- Subsequent EMC Testing performed at Retlif Labs on Power Supplies from 10/29 to 11/15
- Additional Testing was also performed on the new AC160 AI685 Modules at Retlif Labs

Test Complexities / Issues (cont.)

- Complexity of test specimens and off line monitoring included:
 - PC Node Box(s) running new QNX Software
 - Power Supplies included Analog Control and Remote Sense Features
 - Majority of Off-Table / Out of Chamber Monitoring was performed by Computer Based (I.e QNX) systems
 - Specimen stimulation was performed by Computer based systems (I.e. I/O Simulator, PC Display Generators, Ethernet Data packet generator. Etc.)
 - Selected Precision Sources and Strip chart
 - Multi-Channel Data Loggers
- Availability of test Facility
 - EMC and Seismic Facility not available for contiguous testing

Test Complexities / Issues (cont.)

- New Common Q equipment tested for first time included:
 - AI685 High Performance Analog Input Card production prototype
 - Production Prototypes of the CPC and PAMS Power Supply Systems
 - 120vac (300vdc internal)
 - Auctioneered and separate modes
 - Supply fault / performance monitoring
 - Micro, Mini and Maxi modules
 - Three (12", 15" & 18") Flat Panel Displays
 - PC Node Box ("x86 SBC w/Custom Digital I/O Board, Custom P/S, Ethernet FO Media Converter, IRIG B Time Sync Board
 - CI 527 Communication Interface

Mechanical Pre-Aging

- Electro-Mechanical components that are potentially susceptible to wear and are required to operate were aged to end of life condition prior to commencement of tests
 - Cycling relays under load for fixed number of cycles
 - PM646A WDT
 - Digital Output Card Relays

Environmental Test



Seismic



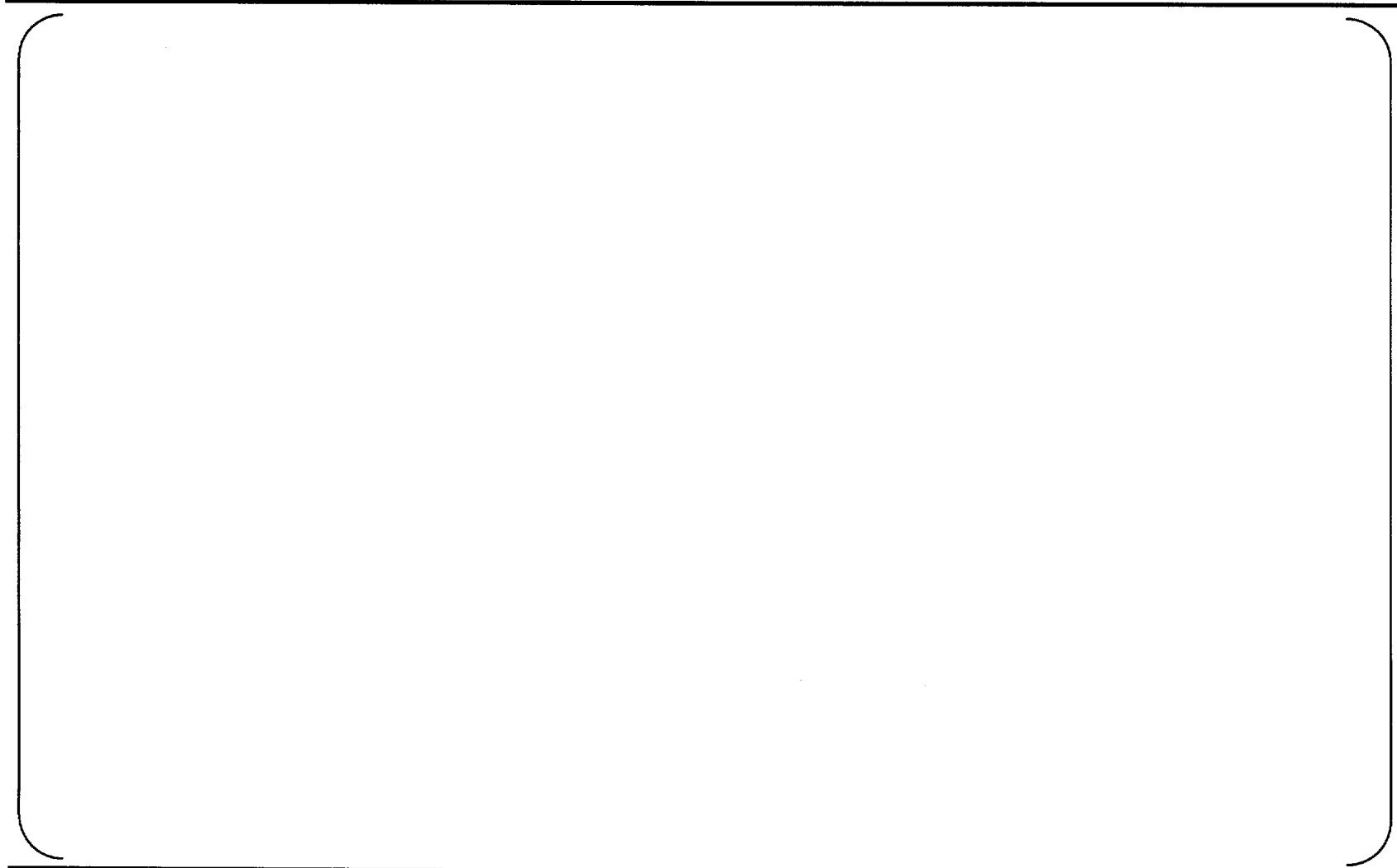
EMC Test



New Hardware

- The following slides depict the significant new equipment that was put through the test program including:
 - Flat Panel Displays
 - PC Node Box
 - Power Supplies

Internal 12” Flat Panel Display



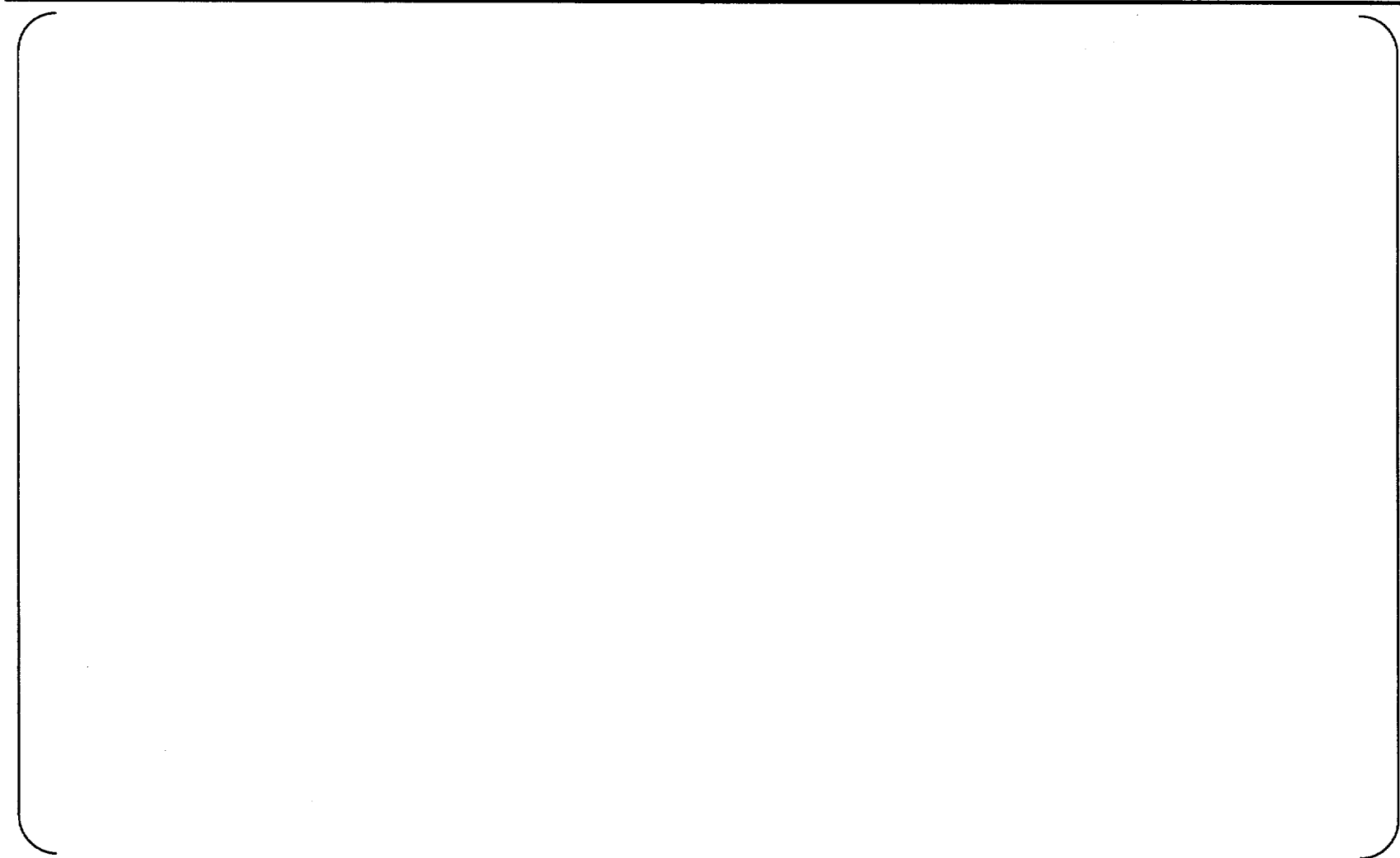
14



00000A. 14



Internal 15” Flat Panel Display



15



00000A. 15



Internal 18” Flat Panel Display



16



00000A. 16



CPC Power Supply Specimen



17



00000A. 17



P/S Fan Drawer



18



00000A. 18



P/S Fan Monitor Circuit



19



00000A. 19



Power Supply Surge Device Panel



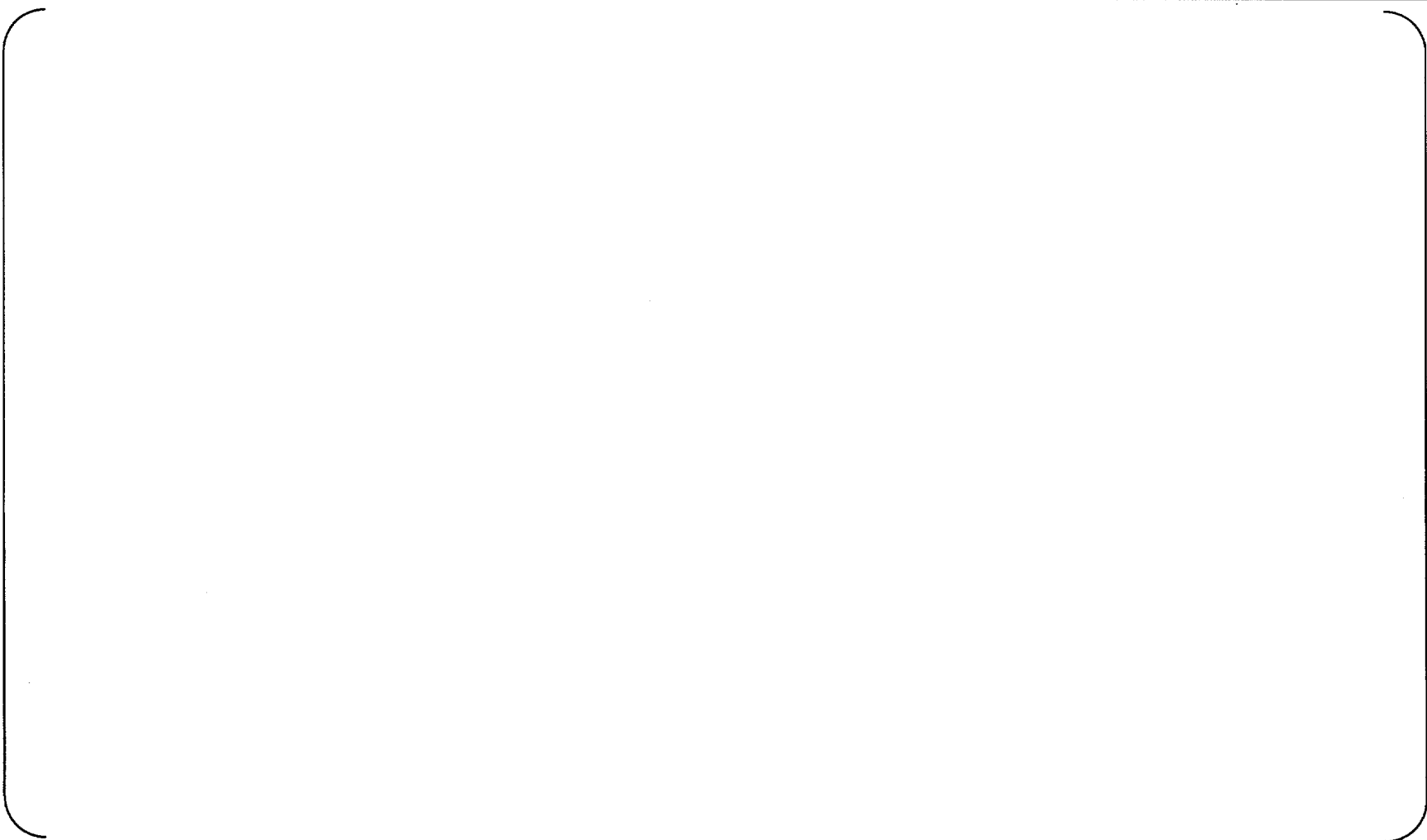
20



00000A. 20



P/S Micro Module



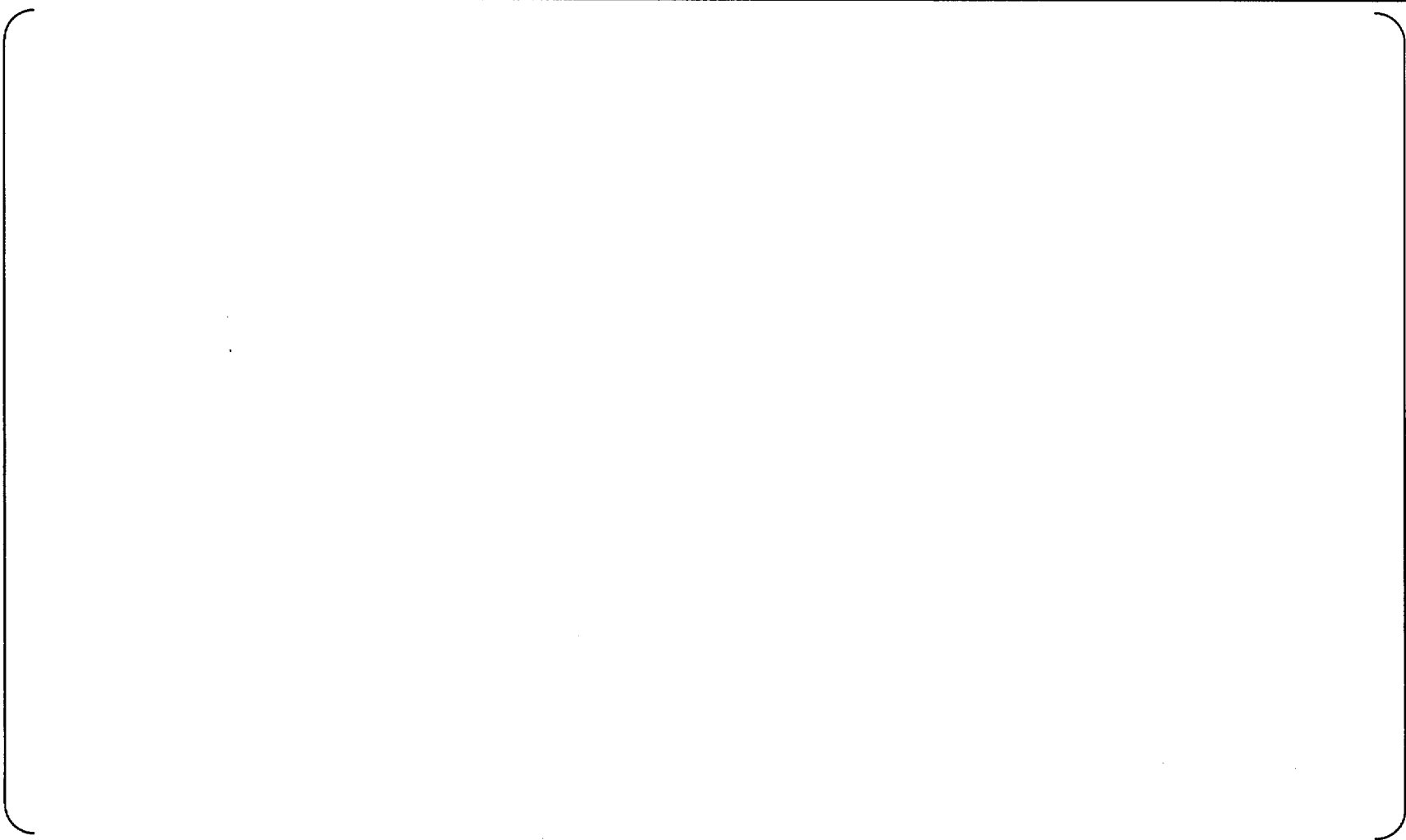
21



00000A. 21



PC Node Box Rear View



22



00000A. 22



PC Node Box Interior View



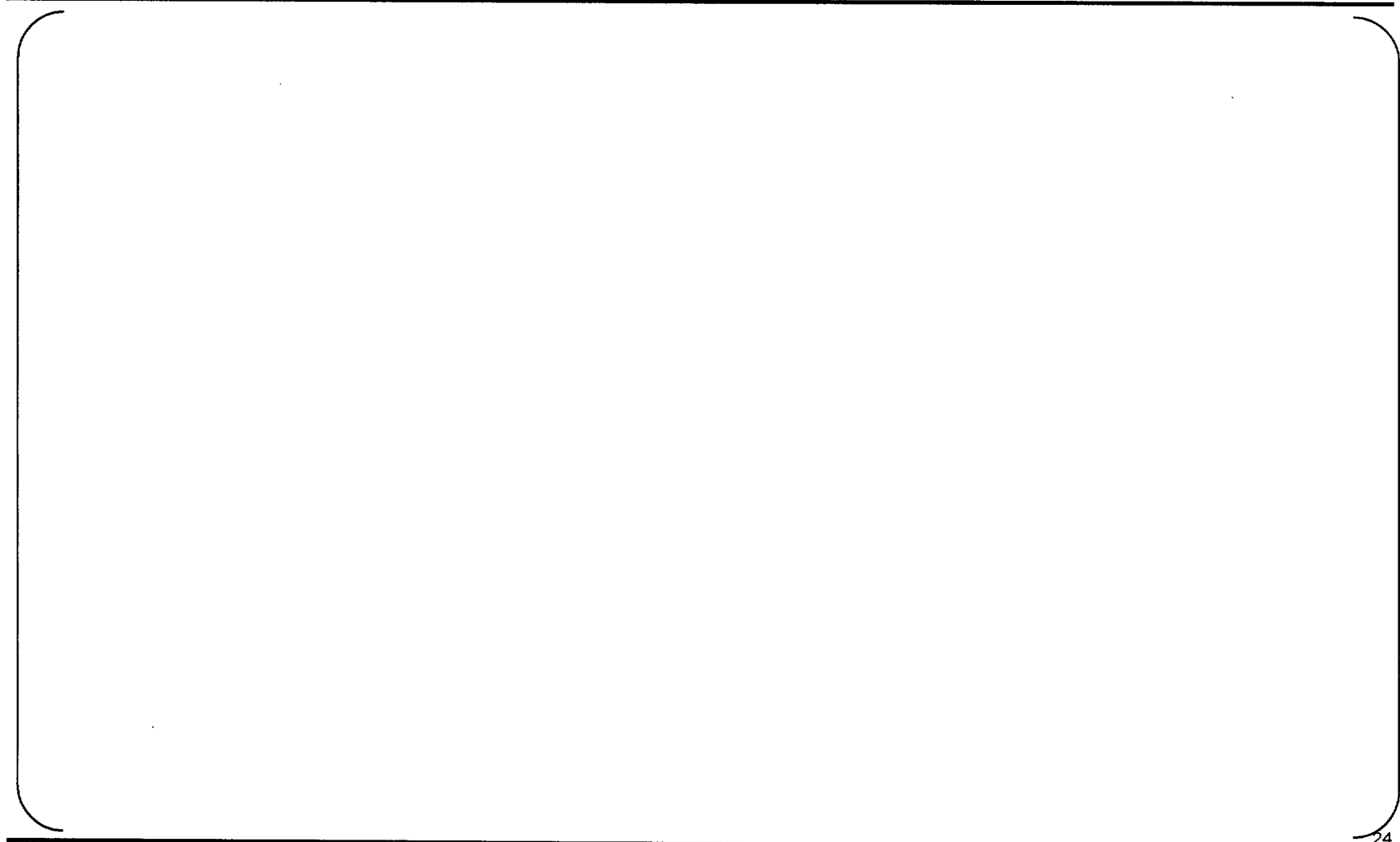
23



00000A. 23



PC Node Box Front View



00000A. 24



CI 527 PCI AF 100 Comm. Interface



25



00000A. 25



Environmental Test



Environmental 1A Specimen Front View



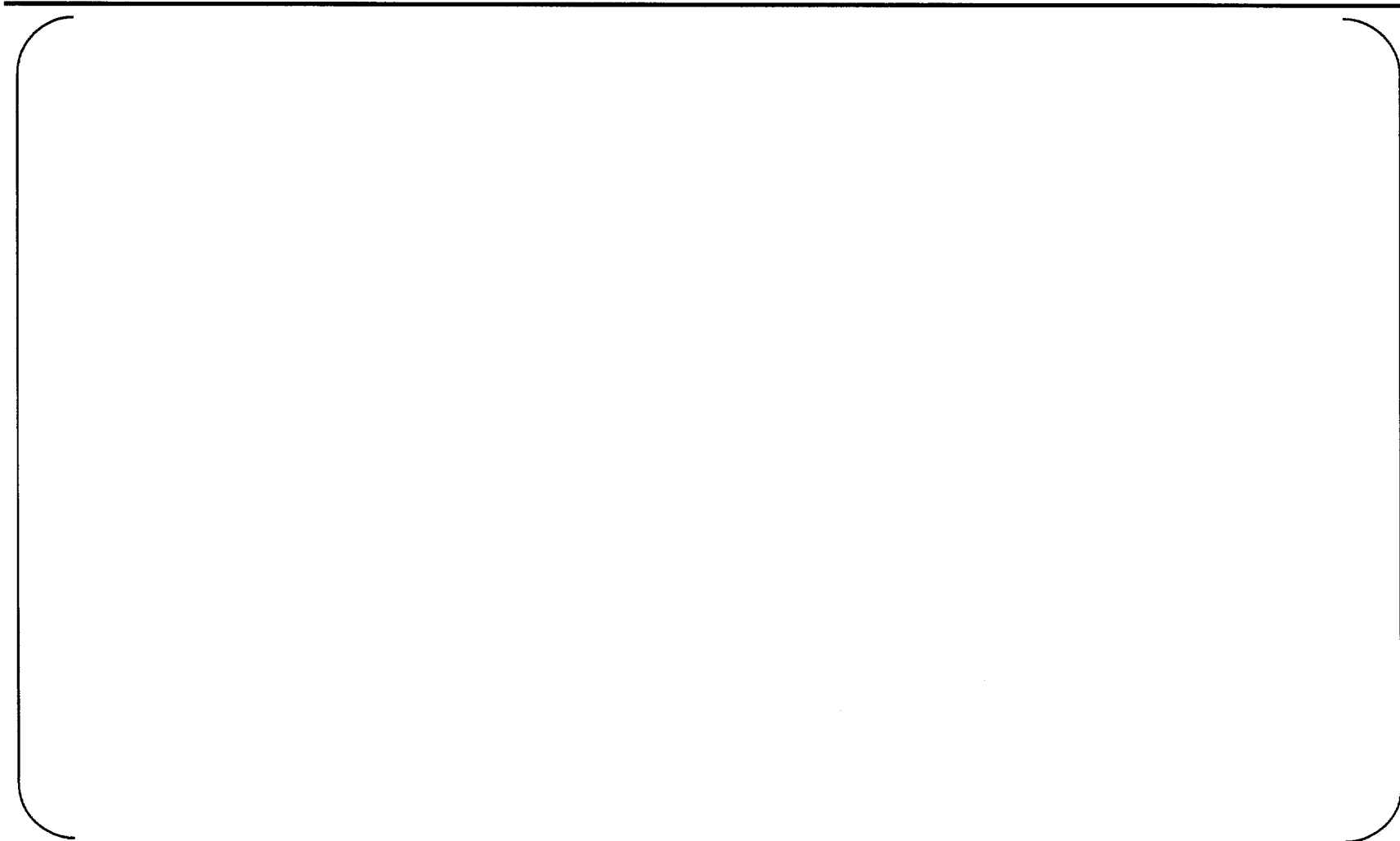
27



00000A. 27



Environmental 1B Specimen Front View



28



00000A. 28



Environmental 1B Specimen Rear View



29



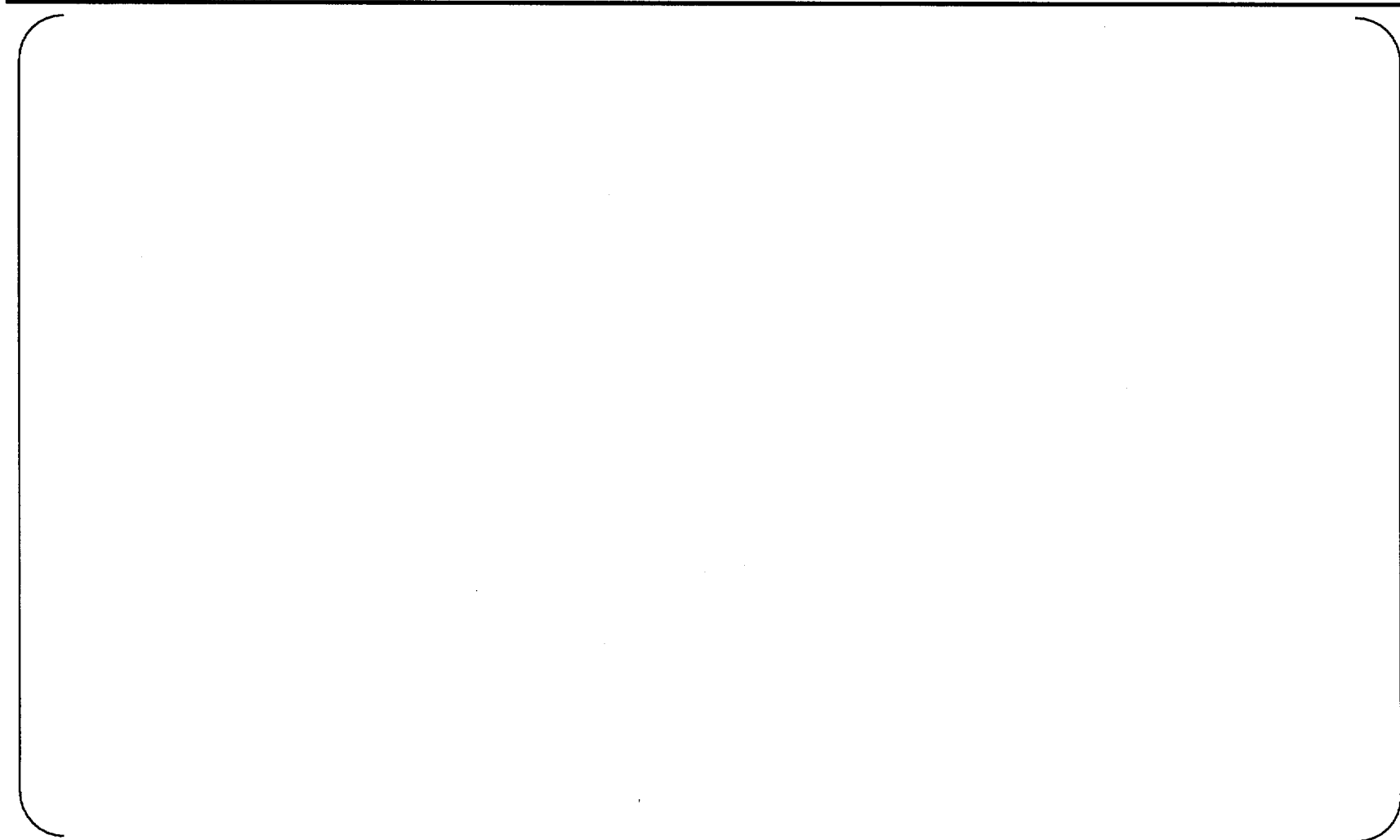
00000A. 29



Seismic Test



Seismic Test Specimen 1A



31



00000A. 31



PC Node Box Seismic Specimen 1A



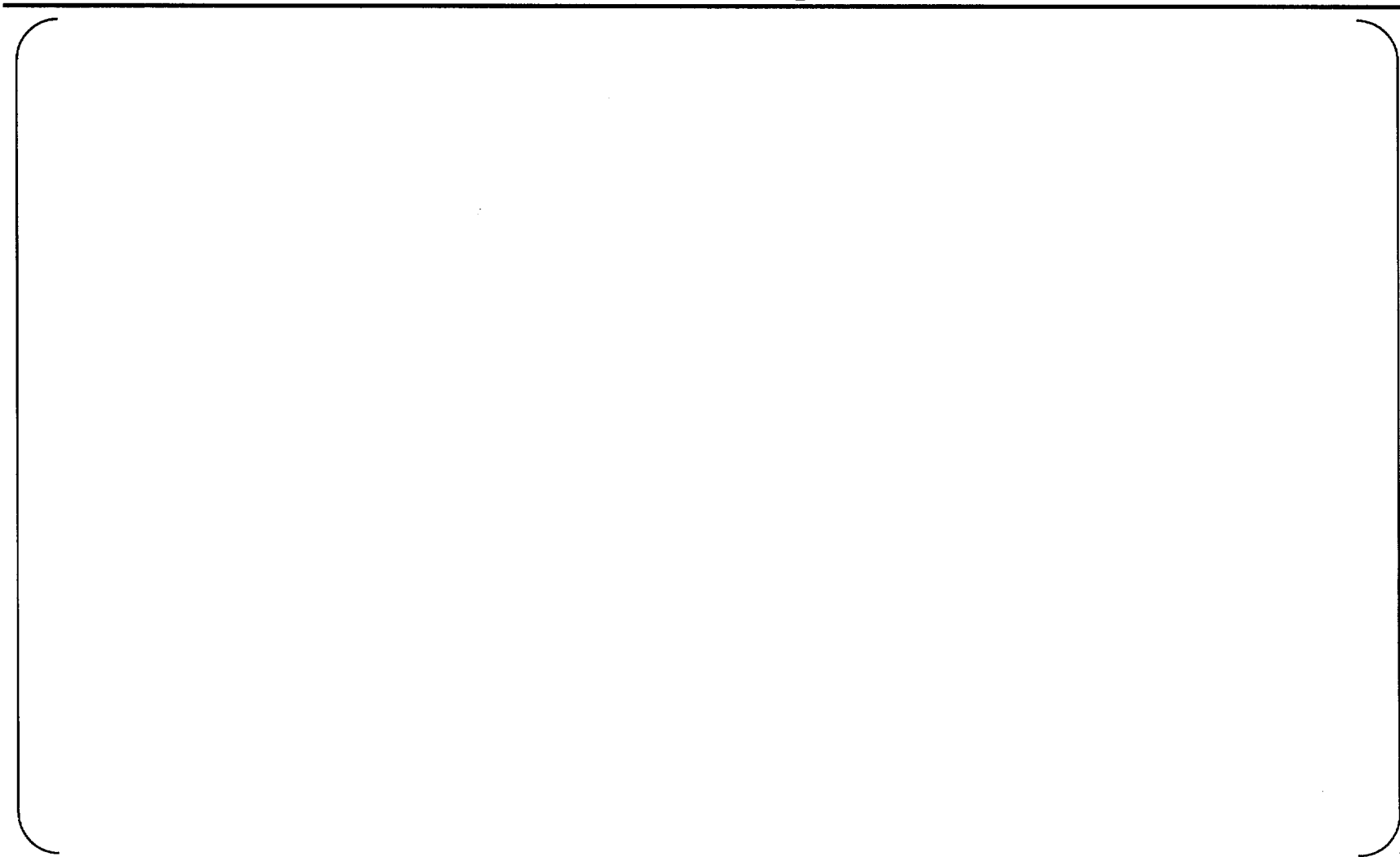
32



00000A. 32



PC Node Box Seismic Specimen 1A



33



Seismic Test Specimen 1B



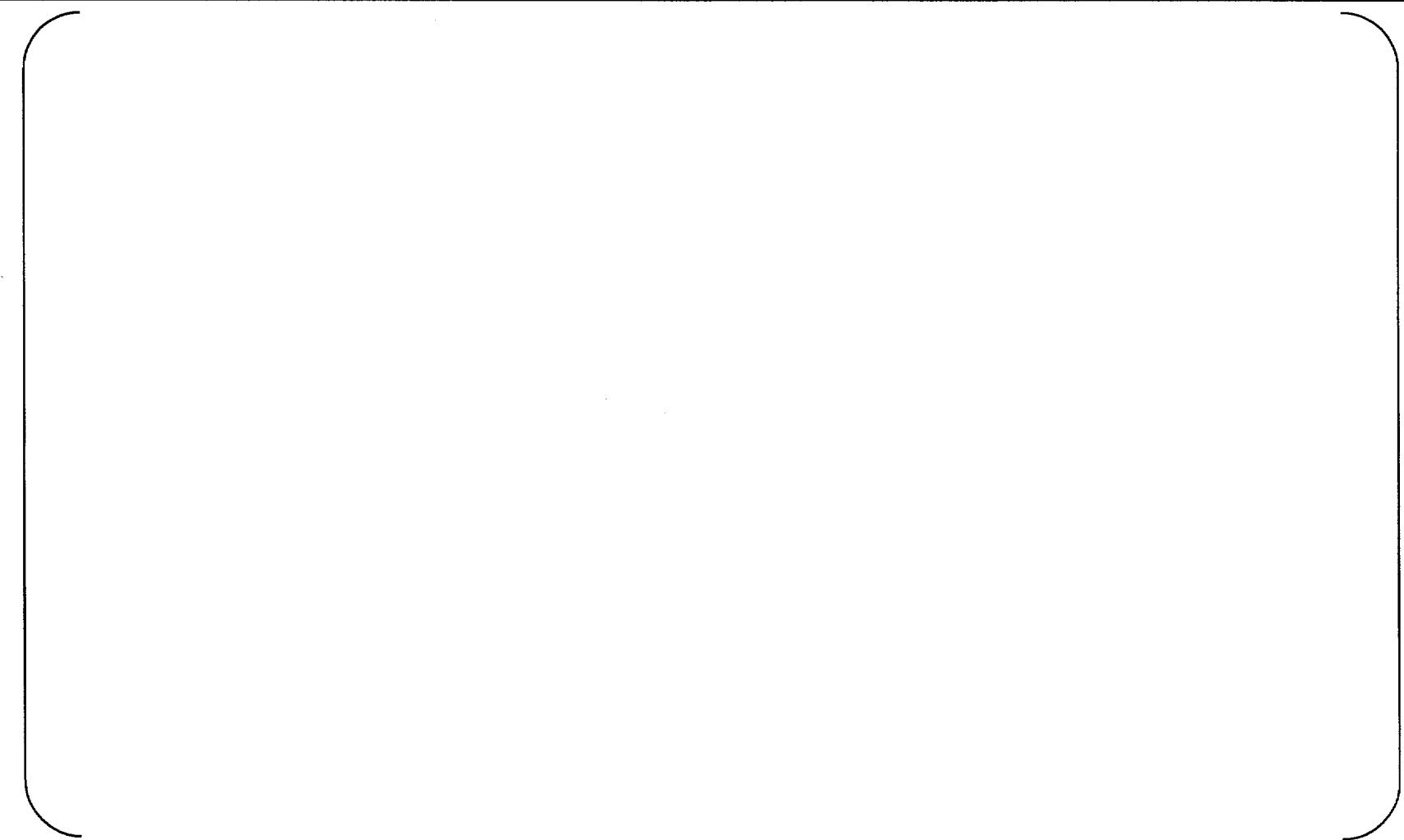
34



00000A. 34



AC160 Specimen Front View



AC160 Specimen Rear View



36



00000A. 36



EMC Test



EMC RE 102 Test - Wyle



38



EMC EFT Test Setup - Wyle



39



EMC CS 114 Probe Setup - Wyle



EMC Power Supply Testing at Retlif



41



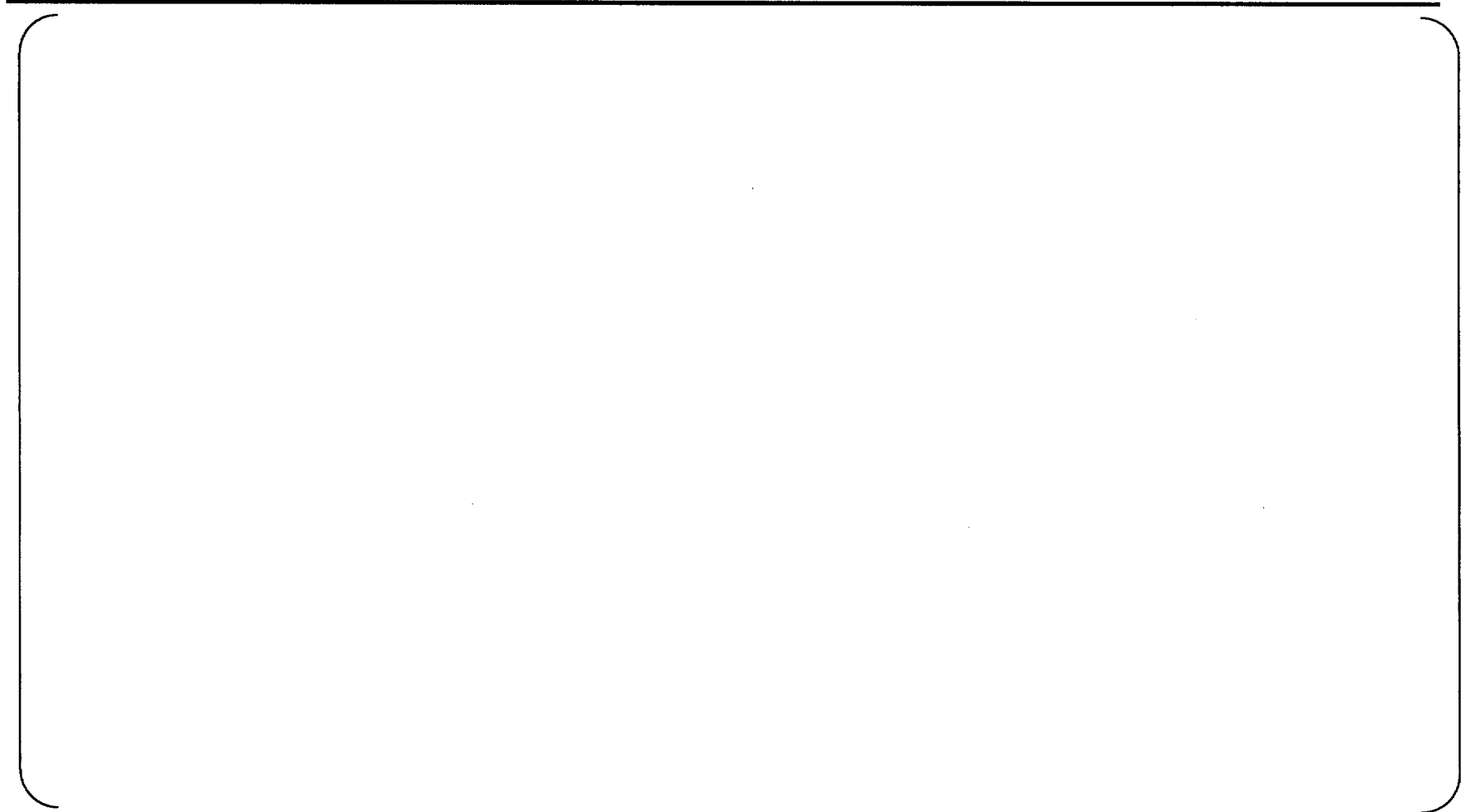
Test Results Summary



Environmental Testing



Seismic Testing



Seismic Comparison 1999 vs 2001



45



00000A. 45



EMC Testing



46



00000A. 46



Closeout Plan



Plan to Closeout Remaining Issues

- Test Reports
 - Complete Test Facility(s) test data and test report review
 - Complete Test Report(s)
- NRC SER Open Issues
 - Discuss approach w/NRC defining results of test program and follow-up tests
 - Document results / agreements in formal letter requesting closeout of generic hardware issues
- Detailed schedule being prepared to define above items