

030-34197

VOID SHEET

TO: License Fee Management Branch

FROM: RI

SUBJECT: VOIDED APPLICATION

Control Number: 123410

Applicant: C. PAD TECHNOLOGIES, Inc.

Date Voided: 9-20-96

Reason for Void: Licensee applying for E License  
and does not want G License. After  
review. 030-34197

Rebecca J. Brown 9/24/96  
Signature Date

Attachment:  
Official Record Copy of  
Voided Action

FOR LFMB USE ONLY

Final Review of VOID Completed:

Refund Authorized and processed

☒ No Refund Due

Fee Exempt or Fee Not Required

Comments: After Review

Log completed

Processed by: BR

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PDR ADCK 03034197  
C PDR

1996 OCT -7 PM 1:40

ML10 0/1

030-34197



September 17, 1996

Ms. Kathy Dolce  
U.S. Nuclear Regulatory Commission,  
Region I  
476 Allendale Road  
King of Prussia, Pennsylvania  
19406-1415

Dear Ms. Dolce

In response to the letter of Aug 28, 1996, and your conversation with Mr. McEachern, it appears that it is in the best interest of CPAD to request an "Exempt Distribution License". Please void our initial request (mail control number 123410), a new NRC Form 313 will be completed and forwarded to the NRC headquarters as advised.

Thanks for your support in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Feagan", written over a horizontal line.

Mr. Scott Feagan  
President  
CPAD Technologies Inc.

cc: Mr. Brian Smith, NRC Headquarters  
Ms. Susan Greene, NRC Headquarters

123410

SEP 19 1996

CPAD Technologies Inc.

88 Slater Street, 8th Floor, Ottawa, Ontario, Canada K1P 5H1

Tel: 613.230.0606 Fax: 613.230.3806  
E-mail: cpadtech@cpadtech.com

OFFICIAL RECORD COPY ML 10



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 27, 1996

5393

Mr. Al McEachern, Director  
CPAD Technologies Inc.  
66 Slater Street  
Ottawa, Ontario  
Canada  
K1P 5H1

Dear Mr. McEachern:

This concerns information about an Ion Mobility Spectrometer (IMS) Detector which was submitted with your letter received July 10, 1996, and your subsequent conversation with Ms. Kathleen Dolce of Region I. We are in the process of reviewing the information and have identified areas where additional information or clarification is needed. As requested in your conversation with Ms. Dolce, the information was reviewed for distribution of the devices under an exempt distribution license under 10 CFR 32.26. As per 10 CFR 32.26, these devices will be used by persons defined in 10 CFR 30.20. It is our understanding that a letter will be submitted explaining this change. Because 10 CFR 32.26 contains different requirements than 10 CFR 32.51, which your original submittal requested the devices to be distributed under, additional information will be necessary and some changes will be required to be made to the information originally submitted.

Devices manufactured under 10 CFR 32.26 must be designed for the purpose of protecting life or property from fires and airborne hazards. Accordingly, a case will need to be made for the IMS Detector to be manufactured under use 10 CFR 32.26.

It was noted in the engineering drawings submitted that a statement was made on each that it is considered to be the property of CPAD Technologies Inc. The NRC can handle information submitted by licensees on a company proprietary manner (i.e., not to be disclosed to the public) when the materials are submitted in accordance with 10 CFR 2.790(b). In addition to the markings on the material to be considered proprietary, an affidavit is required to be submitted requesting that the materials be considered proprietary. Once this has been received, the NRC will consider the request on its merits.

To aid in the development of this additional information, I have enclosed a copy of "Supplemental Information to Request a Safety Evaluation and Registration of Sealed Sources or Devices Containing Byproduct Material" which contains all of the regulations relevant to your submittal. Because of this, some of the following questions will only reference sections of the regulations instead of including the regulation text. In addition, I am including a copy of Regulatory Guide 10.10, "Guide for the Preparation of Applications for Radiation Safety Evaluation and Registration of Devices Containing Byproduct Material," which provides guidance on submitting requests to the U.S. NRC for radiation safety evaluation and registration of devices containing byproduct material.

A. McEachern

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In order to complete our review, please provide the following:

1. With respect to the model number scheme that is proposed to be used, we recommend that you include IMS as a prefix (i.e., IMS-xxxx-yyyy). In your application, the "xxxx" represents the model number. Please explain the meaning of different model numbers, if used.
2. Devices distributed under 10 CFR 32.26 do not require leak testing by their users.
3. Please provide the extremes of environmental and operating conditions (e.g., temperature, humidity, corrosive atmosphere, vibration, etc.) the device may experience during normal use. In addition, please provide a brief description of the function and operation of the device.
4. Please provide the expected useful life of the device.
5. Please provide the total quantity of byproduct material expected to be distributed in the product annually.
6. Devices distributed under 10 CFR 32.26 must be labeled in accordance with 10 CFR 32.29(b). The following requests for information all pertain to labeling.
  - A label must be placed on the detector that contains the following: (1) the words "Contains Radioactive Material," (2) the name of the radionuclide and quantity of activity, and (3) the identity of the 10 CFR 32.26 licensee. The label must be durable, legible, and readily visible when the detector is removed from the analytical unit (box that contains the IMS detector). Please provide the wording or samples of the label to be placed on the detector.
  - In addition to the label that will be placed on the detector itself, a label must be placed on the outside of the analytical unit. This label must contain, as a minimum, the same information as that required to be on the detector. Additional information may be included.
  - These labels need to be permanently affixed to the device and made of a material that will retain its integrity during use. Please indicate the materials of construction of the labels. In addition, please provide information on the label adhesive, such as solubility, effective temperature range, etc.
  - In addition to these labels, the point of sale package must be labeled or marked in accordance with 10 CFR 32.29(b)(3). This label or marking must contain the following: (1) the name of the radionuclide and quantity of activity, (2) the identity of the 10 CFR 32.26 licensee, and (3) the following or similar words "This detector contains radioactive material and has been manufactured in compliance with U.S. NRC safety criteria in 10 CFR 32.27. The purchaser is exempt from any regulatory requirements." The label or marking must be legible and readily visible on the package. Please provide the wording or samples of the label or marking to be placed on the point of sale package.



A. McEachern

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7. With respect to prototype testing, please provide details on the condition of the devices tested when each test was completed (i.e., did the device fall apart, any visible damage, condition of source, etc.).
8. Please provide complete radiation profiles for the IMS Detector assembly and the analytical unit containing the maximum activity for the source. Indicate whether the radiation profiles are derived from calculation or from surveying the device. If they are derived from surveying the device, please provide a description of the instruments used to perform the surveys. The radiation profiles must be provided at 5 and 25 centimeters from the external surface of the detector. These measurements must be made with the detector inside and outside of the analytical unit.
9. 10 CFR 32.29 (a) requires that adequate quality control procedures be carried out to assure that each production lot meet the quality control standards approved by the NRC. Please provide a description of the quality control program that is used for the manufacture of the IMS Detector. Please note that your quality control program must ensure that devices meet all specifications provided in your application. Materials that do not meet the minimum specifications will not be authorized under the certificate.
10. Dose assessments must be provided that demonstrate that the device meets the safety criteria in 10 CFR 32.27. (i.e., certain dose limits under normal use and disposal conditions). Therefore, please review these requirements (see enclosure) and submit sufficient information to prove that the safety criteria can be met.
11. With respect to the degree of access to human beings to the product during normal handling and use, the device should have safety features in place to prevent the inadvertent access to the source by the user. Please provide a description of the safety features of the IMS Detector. Typical safety features include tamper resistant screws, use of adhesives, and filled screw heads.
12. Please address the potential for galvanic corrosion of the device, in particular the locations where different materials come into contact.
13. For each engineering drawing provided in your application, please provide a parts list including the materials of construction.
14. The registration certificate for the Nuclear Radiation Developments, Inc. source model number N-1001 states that the source can be made with one of several backing foils. Please provide the backing foil used for the sources to be used in the IMS Detector.

We look forward to receiving the requested information as soon as possible. If you have any questions, please contact me at (301) 415-5723 or Mr. John Lubinski at (301) 415-7868.

Sincerely,

Original Signed by

Brian W. Smith, Health Physicist  
Sealed Source Safety Section  
Medical, Academic, and Commercial  
Use Safety Branch  
Division of Industrial and  
Medical Nuclear Safety  
Office of Nuclear Material Safety  
and Safeguards

Enclosures: As stated

cc: Mr. Gordon Coulter, Coulter Sales  
Ms. Kathleen Dolce, Region I

Distribution:

SSSS r/f

SSD-96-66

NE01

*th*

DOCUMENT NAME: P:\SSSS\CPADDEF.LTR

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	SSSS	<input checked="" type="checkbox"/>	SSSS	<input checked="" type="checkbox"/>					
NAME	Bsmith	<input checked="" type="checkbox"/>	JLubinski	<input checked="" type="checkbox"/>					
DATE	08/ /96	<input checked="" type="checkbox"/>	08/ /96	<input checked="" type="checkbox"/>					

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123410

AUG 28 1996

Docket No. 030-34197  
Control No. 123410

Mr. Al McEachern  
Director, Business Development  
CPAD Technologies Inc.  
66 Slater Street, 6th Floor  
Ottawa, Ontario  
Canada K1P 5H1

Dear Mr. McEachern:

This is in reference to your application dated June 20, 1996 requesting a license to distribute generally licensed devices. This also refers to the August 19, 1996 telephone conversation between you and Kathleen Dolce. In order to continue our review, we need the following additional information:

1. If you would prefer to have a general distribution license, then the following additional information is needed:
  - a. 10 CFR 32.51(a)(3)(iii) requires, in part, that the words, "Caution Radioactive Material," be on the label. In addition, the name of the manufacturer or initial transferor must also be indicated on this label. Please provide the actual labels for the device.
  - b. Please confirm that you will provide a copy of 10 CFR 31.5 to users.
  - c. Please submit the instructions to users. Typical instructions include:
    - (1) Do not install, remove, or service the device at any time.
    - (2) Ensure that all labels and instructions affixed to the device are not removed and that the labels are maintained in a legible condition.
    - (3) Ensure that tests (leak tests/shutter tests) indicated on the labels are performed at the required time.

- (4) Ensure that any service to the source or shield (including removing and relocating) are performed only by the manufacturer or other specifically licensed organization.
  - (5) Maintain records of testing and servicing. You are also required to maintain records of receipt:
    - source certificates
    - radiation survey upon installation
    - serial and model numbers of source and housing
  - (6) Do not abandon the device containing the radioactive material.
  - (7) Removal and disposal of sources will be accomplished through the manufacturer or other qualified specific licensee.
  - (8) Refer to attached 10 CFR 31.5(c)(8) and (9) regarding transfer of the device.
- d. Please indicate that the leak test frequency is every 6 months or provide the information contained in 10 CFR 32.51(b).
  - e. Please provide the model number for the device.
  - f. Please confirm that you will submit quarterly transfer reports to the NRC in accordance with 10 CFR 32.52.
  - g. Please describe how the disposal of the product will be handled. Typically, the products are returned to the manufacturer for disposal (return address is on the product) or sent to a licensed low-level radioactive waste disposal facility.
2. If you would prefer to have an exempt distribution license, please request this action (mail control number 123410) be voided and submit a completed NRC Form 313 to U.S. Nuclear Regulatory Commission, Director of Nuclear Material Safety and Safeguards, Washington, D.C. 20555-0001. Exempt licenses are issued from NRC's headquarters office.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I Office and refer to Mail Control No. 123410. If you have any technical questions regarding this deficiency letter, please call Kathleen Dolce at (610) 337-5251.

A. McEachern  
CPAD Technologies Inc.

-3-

In order to continue prompt review of your application, we request that you submit your response to this letter within 30 calendar days from the date of this letter.

Sincerely,

**ORIGINAL SIGNED BY:**

Francis M. Costello, Chief  
Nuclear Materials Safety Branch 3  
Division of Nuclear Materials Safety

Docket No. 030-34197  
Control No. 123410

Enclosures:

1. 10 CFR Parts 2, 19, 20, 21, 30, 31, 32, 71, and 170
2. NRC Form 313

DOCUMENT NAME: R:\WPS\DLTR\D5423849.01

To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNrIS/RI	N	DNMS/RI				
NAME	Dr Ice\kd1		Costello				
DATE	08/28/96		08/X/96	08/	/96	08/	/96

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**WE HAVE MOVED, PLEASE CHECK OUR NEW ADDRESS!**

**FACSIMILE**



**FACSIMILE**

**Date & Time:** Monday, August 19, 1996 2:59 PM

**Pages To Follow:** 3

**Send To**

**Name:** Frank Costello  
**Company:** NRC

**FAX:** 610-337-5269  
**Phone:** 610-337-5275

**From**

**Name:** Al McEachern  
  
**Address:** CPAD Technologies Inc.  
66 Slater Street, 6th Floor  
Ottawa, Ontario K1P 5H1

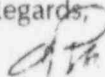
**Phone:** (613) 230-0609  
**FAX:** (613) 230-3805

**CC:**

**Subject:** NRC LICENSE APPLICATION

**Notes:** Further to our conversation this date, this fax contains the information that I have been asked to forward to you by the FAA.

The news that the device review will be completed this week is encouraging, hopefully the word that our license has been approved, will not be too far behind. Thanks for your support..

Regards,  


**OFFICIAL RECORD COPY**

**ML 10**

123410 / 123411

**FAX REC'D**

**AUG 19 1996**

**WE HAVE MOVED, PLEASE CHECK OUR NEW ADDRESS!**

**WARNING!**

This CPAD Technologies Inc. transmission is intended for the addressee. It may contain privileged or confidential information, any unauthorized disclosure is strictly prohibited by law. If you have received this transmission in error, please notify us immediately so that we may correct our transmission. Please then destroy the original. Thank you.

08/19/96

14:02

AAR 500 AVIATION SECURITY R&amp;D → 16132303805

NO.125

001

**CPAD**

Date

Aug 19, 1996

Number of pages including cover sheet

TO: Andy Rybak  
CPAD

FROM: PAUL JANKOWSKI

AVIATION SECURITY  
R&D, AAR-500

Phone 613 - 230 - 0609

Fax Phone 613 230 - 3805

Phone 609-485-4870

Fax Phone 609-383-1973

CC:

Martin Corrigan

## REMARKS:



Urgent



For your review



Reply ASAP



Please Comment

Please forward this to your NRC  
Point of Contact.

Thanks

Paul J

08/19/96

14:02

AAR 500 AVIATION SECURITY R&amp;D → 16132303805

NO.125

002



U.S. Department  
of Transportation  
Federal Aviation  
Administration

William J. Hughes Technical Center

Atlantic City Intl Airport  
New Jersey 08405

AUG 19 1996

Mr. Andy A. Rybak, Executive Vice-President  
CPAD Technologies, Inc.  
66 Slater Street  
Ottawa, Ontario  
CANADA K1P5H1

Dear Andy:

1. The CPAD Orion Plus Trace Explosive Detection System was recently evaluated in the Aviation Security Laboratory to determine its suitability to be added to the list of devices assessed by the Federal Aviation Administration as effective for the purposes of screening luggage and cargo at U.S. airports under Security Directives SD-96-02 and SD-96-03.
2. We have determined that your equipment is acceptable for this application based on your successful performance in our laboratory evaluation.
3. We will issue a recommendation to the Office of Civil Aviation Security to add your device to the approved list of equipment contained in the directives, as soon as we are in receipt of information from your company indicating that CPAD Technologies Inc. has received a license from the Nuclear Regulatory Commission (NRC) to sell the CPAD Orion Plus within the U.S.
4. I offer my congratulations on a successful performance, and look forward to receiving a copy of the license so that your device can help implement the Security Directives.
4. Please furnish this information to my attention, or to Dr. Susan Hallowell. Our fax number is 609-383-1973.

08/19/96

14:02

AAR 500 AVIATION SECURITY R&amp;D → 16132303805

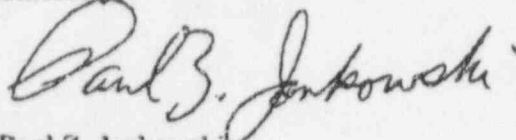
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2

5. If there are any questions, please contact me at 609-485-4870 or Susan at 609-485-4771.

Sincerely,



Paul Z. Jankowski  
Program Lead, Trace Detection,  
AAR-520

030-34197

CPAD Technologies Inc.  
66 Slater Street, 6th Floor  
Ottawa, Ontario  
K1P 5H1  
Tel: (613) 230-0609  
Fax: (613) 230-3805

U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety and Safeguards  
Division of Industrial & Medical Nuclear Safety  
Washington, DC 20555  
USA

To Whom It May Concern:

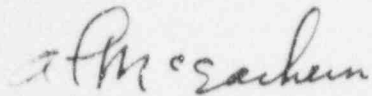
Reference conversations with Mr. Steven Baggett, May 30, 1996, and Ms. Sandra Kimberly, May 28, 1996.

CPAD Technologies Inc. is submitting the attached documentation concerning the application for a General License, Device Review, and a Possession License, authorizing the distribution of a detection system containing a by-product material, specifically, Nickel-63.

As suggested in the conversation with Mr. Baggett, the fee is not enclosed due to the uncertainty on CPAD's part as to what the fee structure will be, and due to the unknown changes to the fees that were effective June 1, 1996. The fee(s) will be submitted when requested.

If further information is required concerning this application, please feel free to contact the undersigned. Thank you for your consideration in this matter.

Sincerely,



A.L. McEachern  
Director, Business Development

Enclosures



## APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. 030-34197

## APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U. S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

## IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,  
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,  
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U. S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO  
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,  
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION II  
101 MARIETTA STREET, NW, SUITE 2900  
ATLANTA, GA 30323-0199

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,  
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION III  
801 WARRENVILLE RD  
LISLE, IL 60532-4351

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW  
MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING,  
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U. S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S.  
TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH  
U. S. NUCLEAR REGULATORY COMMISSION, REGION V  
1450 MARIA LANE  
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☒ A. NEW LICENSE  
☐ B. AMENDMENT TO LICENSE NUMBER \_\_\_\_\_  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

## 2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

CPAD Technologies Inc.  
66 Slater Street, 6th Floor  
Ottawa, Ontario  
Canada K1P 5H1

## 3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Coulter Sales  
444 Barney's Joy Road  
South Dartmouth, Massachusetts  
02748-1004 USA

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Al McEachern

## TELEPHONE NUMBER

613-230-0609

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS
9. FACILITIES AND EQUIPMENT	10. RADIATION SAFETY PROGRAM
11. WASTE MANAGEMENT	12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY TBD AMOUNT ENCLOSED \$ TBD
13. CERTIFICATION (Must be completed by applicant). THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF. WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.	

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Al McEachern, Director, Development

SIGNATURE

*Al McEachern*

DATE

20 June 96

## FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

**APPLICATION FOR LICENSE**

**NRC FORM 313**

**ITEMS 5 AND 6**

**GENERAL LICENSE AND DEVICE APPLICATION**

5. **RADIOACTIVE MATERIAL:** Nickel-63

The Nickel-63 source is purchased from NRD Static Controls and is registered with the NRC as N1001. The source is 3.3 millicuries in strength and is plated on a nickel substrate 0.008" thick.

The maximum amount that will be possessed at any one time will be 16.5 millicuries.

6. **PURPOSE FOR WHICH THE LICENSED MATERIAL WILL BE USED.**

The Nickel-63 source is used in Ion Mobility Spectrometer (IMS) detectors. These detectors are a component of CPAD's Explosives Detection System, and the Narcotics & Explosives Detection System.

CPAD will be selling these systems in the U.S. upon obtaining the appropriate license.

## 1.0 APPLICANT

This application is being submitted by CPAD Technologies Inc., a Canadian firm. The device referred to in this application is manufactured by CPAD and will be transferred to the U.S. through the U.S. office under a possession license issued under 32.51.

CPAD is submitting this application for a device review and a general license under provisions 31.5.

Head Office:

CPAD Technologies Inc.  
66 Slater Street  
Ottawa, Ontario  
Canada  
K1P 5H1

Contact: Mr. Al McEachern  
Director, Business Development

Tel: 613-230-0609  
Fax: 613-230-3805

U.S. Office:

Coulter Sales  
444 Barney's Joy Road  
South Dartmouth, Massachusetts  
02748-1004

Contact: Mr. Gordon Coulter

Tel: 508-636-6944  
Fax: 508-636-3948

## 2.0 DEVICE TYPE

The device is intended for use under a general license, specifically 31.5, for the purpose of detecting organic compounds. The device is called an Ion Mobility Spectrometer (IMS) Detector. This device contains a Nickel-63 source.

## 3.0 MODEL NUMBER

The designated model number for a device containing the Nickel-63 source will be **xxxxxx** followed by the serial number **yyyyy**.

i.e. **xxxxxx yyyyy**

## 4.0 OTHER COMPANIES INVOLVED

CPAD Technologies Inc. of Canada purchases the Nickel source from a U.S. firm:

NRD Static Control Products  
2937 Alt Boulevard North  
Grand Island, NY 14072-1292

**5.0 RADIOACTIVE SOURCE MODEL DESIGNATION**

The Nickel source purchased from NRD is registered with the NRC as N1001.

**6.0 RADIONUCLIDES AND MAXIMUM ACTIVITY**

Each device contains a Nickel-63 source of 3.3 millicuries.

**7.0 LEAK TEST FREQUENCY**

A leak test will be conducted before shipment and a copy of the test results will accompany the system. Follow on leak tests will be conducted every twelve months.

**8.0 PRINCIPAL USE CODE**

The principal use code is "N." The Nickel-63 is used as an ion generating source for the IMS Detector.

**9.0 DESCRIPTION OF THE DEVICE**

The device referred to in this application is called an Ion Mobility Spectrometer (IMS). This device is used to detect organic compounds. These compounds are injected into the IMS via a carrier gas (air or nitrogen). Upon entering the IMS, the molecules contained in the carrier gas are ionized by the Nickel-63 source. These ionized molecules then drift down a drift region and are separated according to their mass.

The IMS Detector measures 1.86" in length and 2.5" in diameter. The IMS Detector is then placed inside a metal box measuring 12" in length, 6" in height, and 2" in depth. This box is referred to as the Analytical Unit.

**10.0 PURPOSE OR INTENDED USE OF THE DEVICE**

It is intended that this device will be used in a number of products manufactured by CPAD for the purpose of detecting organic compounds. CPAD currently manufactures Explosives Detection Systems and Narcotics Detection Systems, which incorporate one or two of the devices referred to in this application. Although these detection systems may change and new products will be introduced, the "device" referred to in this application, which will be used as a component in many of these systems, will not change from the description contained in this application, without an amendment request.

The device is designed to be installed in a fixed location within the system; it does not move.

## 11.0 RADIATION SAFETY FEATURES OF THE DEVICE

In this particular case, the safety concerns revolve around the Nickel-63 source. Specifically: its mounting, access to the source, shielding, materials of construction, its ability to withstand harsh conditions with no external radiation leaks, and the proper labelling of the device.

### 11.1 Method of Construction

Materials for construction are aluminium and teflon, with all screws and bolts being stainless steel. The specific materials for each component is indicated in the appropriate drawings.

Figure A (drawing number MA-A-077) depicts the final assembly of the IMS Detector. The Detector is then installed inside the Analytical Unit shown in Figure B (drawing number MA-A-078).

### 11.2 General Description

The IMS is composed of:

- i) The source holder sub-assembly. Drawing number IM-B-035.
- ii) The source cover sub-assembly. Drawing number IM-B-037
- iii) The base. Drawing number IM-B-001.
- iv) The source base. Drawing number IM-0-002.

The source holder sub-assembly is attached to the source base, then the base is slid over the source holder sub-assembly and firmly secured to the source base enclosing the entire IMS. See drawing number IM-B-040.

### 11.3 Method of Assembly

#### a. Source Holder Sub-Assembly

The assembly of the source is depicted in drawing number IM-0-035. A breakdown of the specific items found in this drawing are as follows:

Item # 3 reference drawing number IM-B-020

Item # 4 reference drawing number IM-B-022

Item # 5 reference drawing number IM-B-023

Item # 6 reference drawing number IM-B-024

Item # 7 stainless steel screen

Item # 10 **Nickel-63 source**



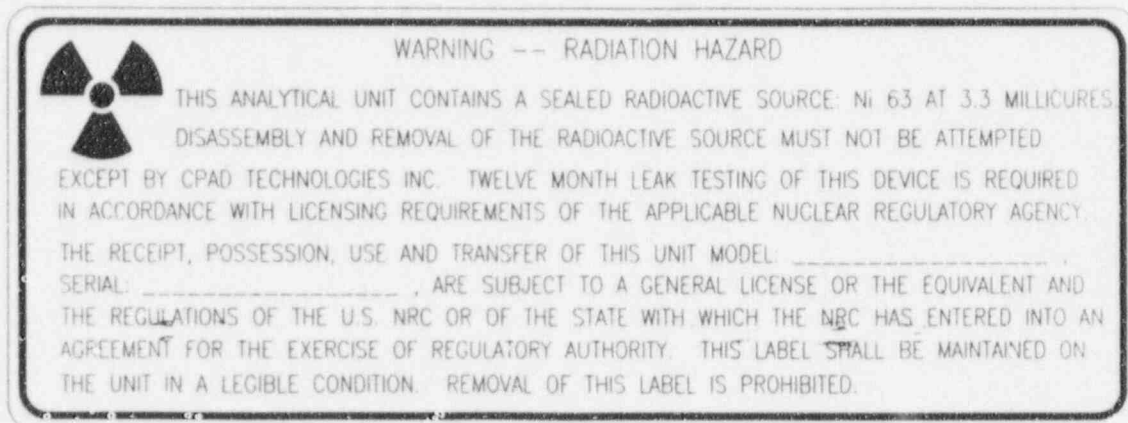
Method of assembly: Reference drawing number IM-B-035.

- i) The Nickel-63 source, item # 10 is pressed into the back of the recessed hole located in the centre of item # 4, which is constructed of aluminium.
  - ii) Item # 4 containing the Nickel-63 source is placed into item # 3, which is constructed of teflon.
  - iii) Item # 5 is then placed on the front of item # 4 .
  - iv) Item # 7, the stainless steel screen, is then placed in the centre of the front face on item # 5.
  - v) Item # 6, constructed of aluminium, is used to secure the Nickel-63 source firmly into item # 3. Item # 6 fits tightly into item # 3, and is secured by two stainless steel bolts, item # 15, and the nuts and washers item #s 1, 16, and 17. This process sandwiches the Nickel-63 source into a securely tight enclosure and does not allow any movement.
- b. Assembly of the Source Holder Sub-assembly to the Source Base.
- i) The source base is constructed from aluminium bar stock as per drawing number IM-B-002.
  - ii) The completed source holder sub-assembly is then attached to the source base. This is accomplished by inserting the source holder sub-assembly item # 1 on drawing number IM-B-036 at the teflon end, into the source base item # 2 drawing number IM-B-036. These two components are then screwed together using the screws designated as item # 5 on the drawing.
- c. Assembly of the Base to the Source Base.
- i) The base is constructed from aluminium bar stock as per drawing number IM-B-001.
  - ii) The base is then secured to the source base as depicted in drawing number IM-B-040 with four stainless steel screws item # 7.
- The completed IMS Detector showing the overall dimensions can be seen in Figure A (drawing number MA-A-077).
- d. Assembly of IMS Detector in the Analytical Unit.
- The completed IMS Detector is securely fastened inside the Analytical Unit, sandwiched between the two sides and screwed to the box using three stainless steel screws as depicted in Figure B (drawing number MA-A-078).
- The method and materials of construction outlined above allows for optimal security and safety of the Nickel-63 source by:

- i) The method of mounting the Nickel-63 source in the source holder sub-assembly ensures the source will stay put in the sub-assembly even under extreme conditions.
- ii) Shielding of the source is three fold. First, in the source holder, second, in the source base assembly, and third, by placing the IMS Detector in the Analytical Unit.
- iii) Access to the source by human hands is impossible as there are no openings or orifices large enough in the Analytical Unit to allow human hands to penetrate.

#### 11.4 Labelling

A warning label (drawing number LA-FI-007) will be affixed to the device in the location depicted in Figure C (drawing number MA-A-079). This location should ensure visibility of the label in most cases regardless of the type of equipment the device will be installed in. If the installation does not allow for easy visibility, a second label will be affixed to a surface that is visible. The label will be an adhesive type with the radiation symbol being a magenta colour on a yellow background. The label will read as follows:



#### 11.5 Manual

All manuals supplied with any systems containing a Nickel-63 source will have:

- a. On the inside of the front cover an 8 1/2" x 11" page containing the same words as depicted on the label above, and an additional sentence located at the end stating: "For additional instructions on leak testing and servicing refer to the section entitled "Radioactive Device" contained in this manual".
- b. A separate section entitled "Radioactive Device", containing the following information:

##### General

This equipment contains a radioactive device(s). Which is licensed under the U.S. NRC and is subject to licensing requirements. Each device contains 3.3 millicuries of Nickel-63.

There is no direct radiation hazard from this source which is sealed inside the IMS Detector. No attempt should be made to open and service the device or to remove the source.

### Leak Test Requirements

Each device must be leak tested at regular intervals, not to exceed twelve months. Leak test kits and the required analysis may be obtained from the National Leak Test Centre.

### Procedure for Leak Testing

Turn the system off and let stand for one hour. Using the swabs supplied with the leak test kit, wipe the entire outer surface of the device including the gas flow line labelled "EXIT" attached to the device. Handle the sampled in accordance with the instructions provided with the test kit.

### Servicing

Under no circumstances should any attempt be made to open and service this device.

In the event the device requires servicing, contact the CPAD U.S. representative at:

Coulter Sales  
444 Barney's Joy Rd.  
South Dartmouth, Massachusetts  
02748-1004

Contact: Mr. Gordon Coulter  
Tel: 508-636-6944  
Fax: 508-636-3948

## 11.6 Prototype Testing

CPAD has been manufacturing and selling Explosives Detection Systems commercially in Canada and other parts of the world for three years. To date no contamination or leakage has been recorded. As part of the prototype testing, a device which was manufactured in 1992 will be wiped, and the results submitted along with the results from an evaluation according to ANSI N542.

The designated classification code of this device is ANSI 77C32211.

The following tests have been conducted in accordance with the ANSI standard. Testing was carried out in the first instance with the IMS Detector Installed in the Analytical Unit; to get closer to the "source", the IMS was removed from the Analytical Unit.

The IMS selected for testing is identified as IMS-1-013, and contained a Nickel-63 source supplied by NRD in September 1994. (See Appendix A for test results)

1) Baseline Test

The Analytical Unit with the IMS installed was wiped tested to determine the baseline. The results are identified as Code A-1 and Code A-2.

2) External Pressure Test

A vacuum chamber was constructed, and the IMS Detector installed in the Analytical Unit was placed in the chamber. Using a vacuum pump, the pressure in the chamber was brought down to 4 psi, and held there for five minutes. The chamber was then brought back to atmospheric pressure, and the procedure repeated a second time. The IMS Detector was then wipe tested. A second set of tests was done with the IMS removed from the Analytical Unit. The results are identified as Code B-1, Code B-2, Code C-1, and Code C-2.

3) The Hammer Impact Test

A steel hammer of 50.9 g mass was constructed according to the ANSI standard and dropped once from a height of 1 m on the IMS Detector. The IMS Detector was placed on a cement floor during this test. A dry wipe test was performed. The results are identified as Code D-1 and Code D-2.

4) High Temperature Test

The IMS Detector was placed in a convection oven at 36 degrees C and was brought to a temperature of 260 degrees C in 6 minutes, and was maintained at that temperature for one hour. Air was passed through the IMS during the one hour heating period. The IMS was removed from the oven and left to cool for 40 minutes, after which a wipe test was performed. The results are identified as Code E-1 and Code E-2.

5) Low Temperature Test

The IMS Detector was placed into a styrofoam container, which was filled with dry ice, and left there for one hour. The IMS was removed from the container and was allowed to warm up for one hour and thirty minutes. Air was passed through the IMS for 10 minutes, after which a wipe test was carried out. The results are identified as Code F-1 and Code F-2.

6) The Drop Test

The IMS Detector was dropped ten times from a height of 1.5 m on a steel plate in such a way that all surfaces were impacted at least once. A dry wipe test was performed. The results are identified as Code G-1 and G-2.

7) History Test

A device similar to the one tested above that was Manufactured in September 1992, was wipe tested using the dry wipe method. In this case, the Analytical Unit containing the IMS was wiped and then a side panel was removed to expose the IMS, which was also wiped. The results are identified as Code H-1.

## **12.0    INSTALLATION**

The IMS will be installed in the Analytical Unit by CPAD Technologies Inc. of Canada and therefore will never come in contact with any other person other than the manufacturer.

## **13.0    SERVICING**

In the event a device requires servicing, the device will be returned to Canada where a person at the licensed facility will perform the work. No servicing or opening of the device is to be performed in the U.S. office.



## **APPENDIX A**

### **LEAK TEST RESULTS**



DIRECTORATE OF FUEL CYCLE  
AND MATERIALS REGULATION

Telephone: (613) 943-1568

January 31, 1996

N. Barton Radiation Protection Services  
38 Auriga Drive  
Suite 269  
Nepean, Ontario  
K2E 8A5

Dear Mr. Barton:

This is to inform you that your equipment and procedures have been assessed by Atomic Energy Control Board (AECB) staff and found to satisfy the criteria set out in regulatory guide R-116 (Requirements for Leak Testing Selected Sealed Radiation Sources). The name and location of your organization and the name of the appropriate contact person will be maintained in our database. This information will be provided to AECB licensed users of leak test services upon request and to applicants for new licences.

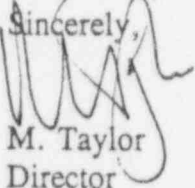
Please note that this is restricted to the isotopes specified in your submission, namely:

- |           |           |           |            |
|-----------|-----------|-----------|------------|
| 1. Co-60  | 4. Am/Be  | 7. Am-241 | 10. Cd-109 |
| 2. Sr-90  | 5. Ir-192 | 8. Fe-55  |            |
| 3. Cs-137 | 6. Cm-244 | 9. Ni-63  |            |

Future re-assessments of your equipment and procedures will be done periodically. If future assessments continue to be positive, information on your organization will continue to be made available as described above. Future re-assessments will likely be coordinated with your regularly scheduled licence inspections.

If you have any questions regarding this matter, please forward them to the Materials Regulation Division at the above address.

Sincerely,

  
M. Taylor  
Director

Materials Regulation Division

c.c.: CRO

ASG/MRD/96-0413

Canada

Fax/Télécopieur: (613)995-5086  
Envoy: AECBREG

## WIPE TEST INFORMATION

CODE A	initial test on complete Analytical Unit Counts/50 min 2096 paper Counts/50 min 2132 cotton swab	27 May 96
CODE B	Pressure test on Complete Analytical Unit Counts/50 min 2184 paper Counts/50 min 2024 cotton swab	27 May 96
CODE C	Pressure test IMS Counts/50 min 2119 paper Counts/50 min 2147 cotton swab	27 May 96
CODE D	Hammer impact test IMS Counts/50 min 2089 paper Counts/50 min 2016 cotton swab	28 May 96
CODE E	High temperature test IMS Counts/50 min 2040 paper Counts/50 min 2139 cotton swab	28 May 96
CODE F	Low temperature test IMS Counts/50 min 2103 paper Counts/50 min 2073 cotton swab	29 May 96
CODE G	Drop test IMS Counts/50 min 2213 paper Counts/50 min 2077 cotton swab	29 May 96
CODE H	History test complete Analytical Unit plus exposed surface of IMS Counts/50 min 2123 paper	29 May 96

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code A - 1

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2096

E = detector efficiency: .003

Activity (Bq) < 18.7      counts - bkgd.  
= 
$$\frac{\quad}{3000 \text{ sec} \times E}$$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L6  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code A - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2132  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code B - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2184

E = detector efficiency: .003

Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan



Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code B - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2024

E = detector efficiency: .003

Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code C - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2119  
E = detector efficiency: .003  
Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code C - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2147

E = detector efficiency: .003

Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
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AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code D - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2089

E = detector efficiency: .003

Activity (Bq) ≤ 18.7                      counts - bkgd.  
= 
$$\frac{\quad}{3000 \text{ sec} \times E}$$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: *Paul Finnigan*

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code D - 2

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2016

E = detector efficiency: .003

Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code E - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2040  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan



Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code E - 2

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2139

E = detector efficiency: .003

Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code F - 1

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2103

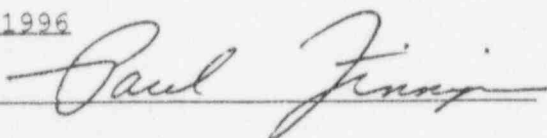
E = detector efficiency: .003

Activity (Bq)  $\leq 18.7$   $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code F - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2073

E = detector efficiency: .003

Activity (Bq)  $\leq 18.7$                       counts - bkgd.  
=  $\frac{\quad}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code G - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2213  
E = detector efficiency: .003  
Activity (Bq)  $\leq \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$   
18.7

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code G - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2077  
E = detector efficiency: .003  
Activity (Bq)  $\leq \frac{18.7 \text{ counts - bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 29, 1996  
Sample I.D.: Code H  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2123

E = detector efficiency: .003

Activity (Bq) < 18.7      counts - bkgd.  
=  $\frac{\quad}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan



## APPENDIX B

### ASSOCIATED DRAWINGS

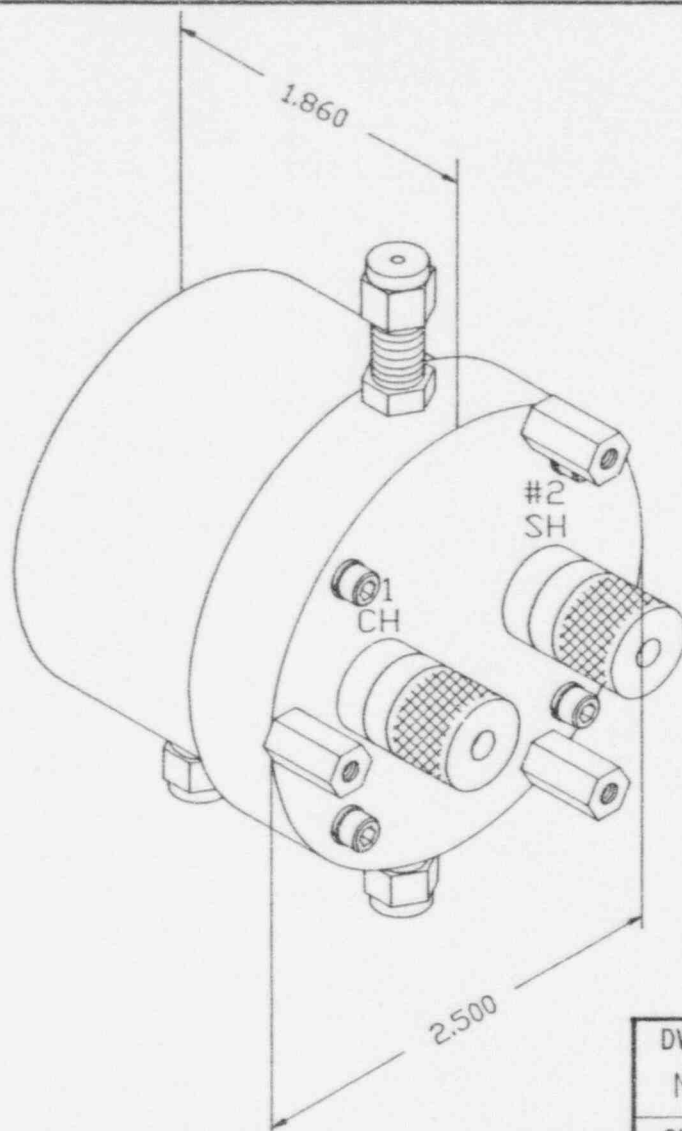



FIGURE A

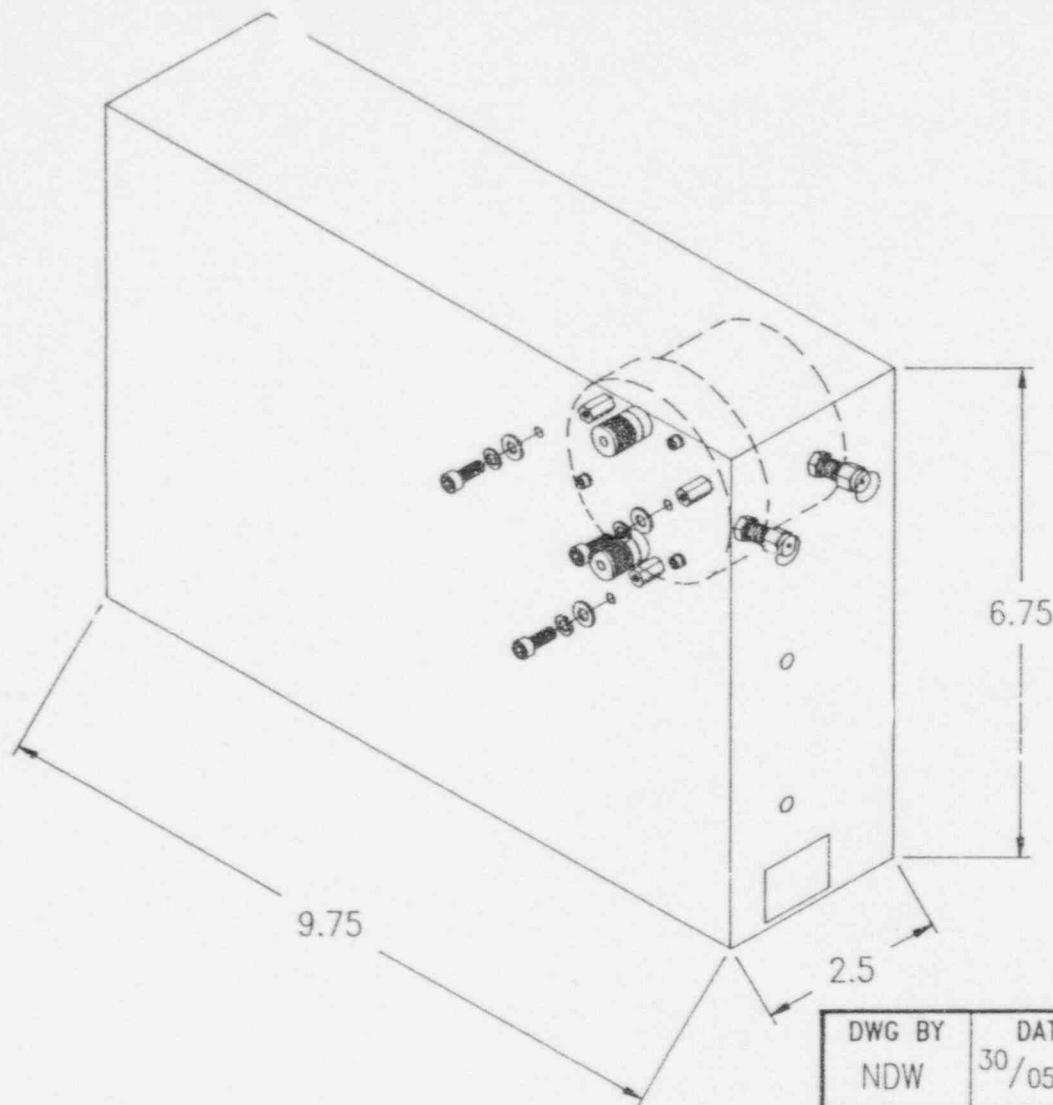
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF **CPAD TECHNOLOGIES INC.** AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF **CPAD TECHNOLOGIES INC.**

SYM	REVISION	DATE	BY	CHK

MA-A-077

ORIGINAL  
Do Not Copy

DWG BY NDW		DATE 30/05/96			
CHK BY RMJ		DATE 03/06/96			
APPD BY WK		DATE 04.06.96			
SCALE NTS				TITLE IMS ASSEMBLY PICTORIAL REPRESENTATION	
SIZE A		SHEET 1 OF 1		DWG NO MA-A-077	
				REV -	



SYM	REVISION	DATE	BY	CHK

MA-A-078

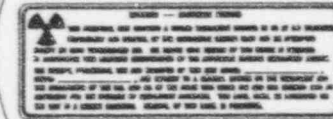
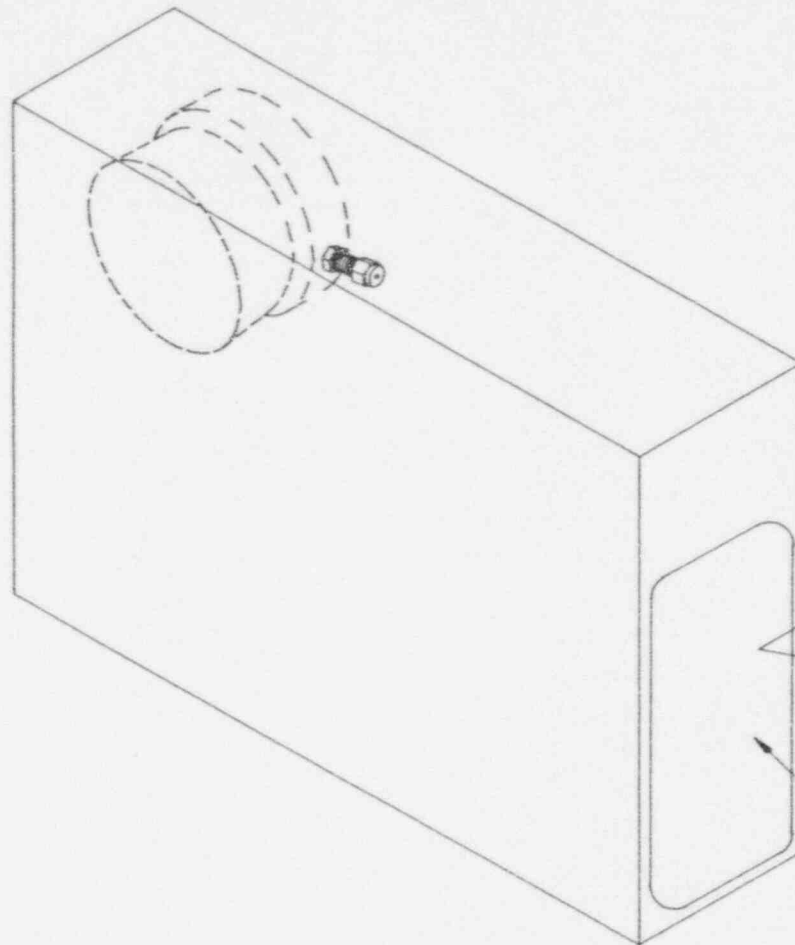
ORIGINAL  
Do Not Copy

FIGURE B

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DWG BY NDW	DATE 30/05/96
CHK BY RMJ	DATE 03/06/96
APPD BY WK	DATE 04.06.96
SCALE NTS	

TITLE <b>ANALYTICAL BOX</b> PICTORIAL REPRESENTATION			
SIZE <b>A</b>	SHEET 1 OF 1	DWG NO <b>MA-A-078</b>	REV -




LABEL LOCATION ON BOX

SEE DWG # LA-B-007

ORIGINAL  
Do Not Copy

FIGURE C

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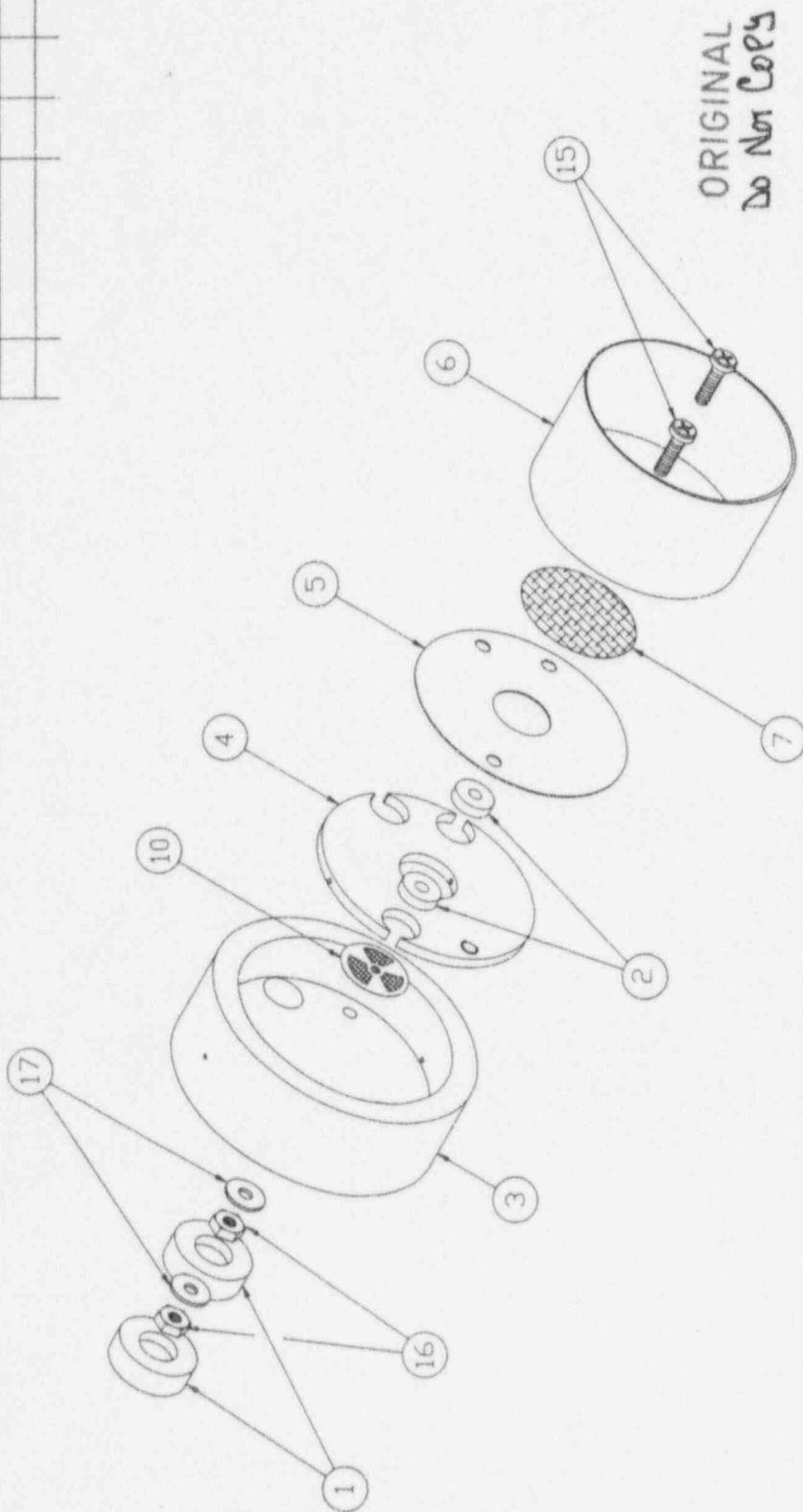
DWG BY NDW		DATE 30/05/96			
CHK BY RMJ		DATE 03/06/96			
APPD BY WK		DATE 04.06.96			
SCALE NTS				TITLE ANALYTICAL BOX PICTORIAL REPRESENTATION	
SIZE A		SHEET 1 OF 1		DWG NO MA-A-079	REV -

SYM	REVISION	DATE	BY	CHK

MA-A-079

IM-B-035

SYM	REVISION	DATE	BY	CHK



**CPAD**  
TECHNOLOGIES INC.

DWG BY RMJ	DATE 03/10/94
CHK BY WJK	DATE 04/06/96
APPD BY WJK	DATE 04/06/96

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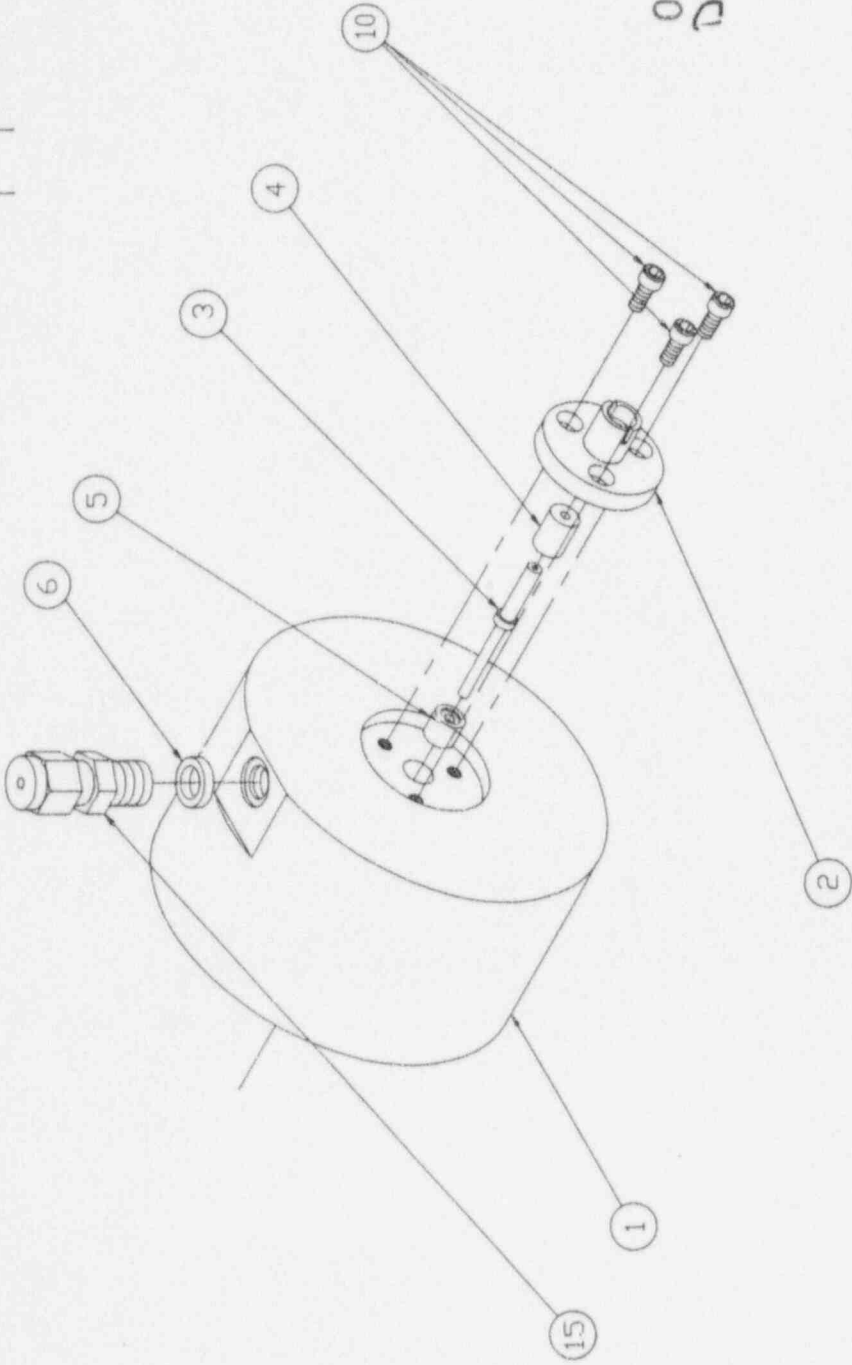
TITLE SOURCE HOLDER SUB-ASSEMBLY	SCALE 1:1
MATERIAL	FINISH

SIZE B	SHEET 1 OF 1	DWG NO IM-B-035	REV -
-----------	--------------	--------------------	----------

- INLESS OTHERWISE SPECIFIED
- DO NOT SCALE DRAWING.
  - DIMENSIONS ARE IN INCH
  - THREAD LENGTH DIMENSIONS ARE FULL THREADS.
  - TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
 DECIMAL  
 .XX ± .01  
 .XXX ± .005  
 .XXX ± .0005  
 FRACTIONAL  
 ANGULAR  
 ± .1
  - REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
  - ROUGHNESS OF SURFACE NOT TO EXCEED 6.3 IN
  - ALL RADII ARE .125 R
  -

IM-B-037

SYM	REVISION	DATE	BY	CHK



ORIGINAL  
Do Not Copy

<p>UNLESS OTHERWISE SPECIFIED</p> <p>1. DO NOT SCALE DRAWING.</p> <p>2. DIMENSIONS ARE IN INCH</p> <p>3. THREAD LENGTH DIMENSIONS ARE FULL THREADS.</p> <p>4. TOLERANCE ON DIMENSIONS (INCLUDING HOLES)</p> <p>DECIMAL  <math>.XX \pm .01</math>  <math>.XXX \pm .005</math>  <math>.XXXX \pm .0005</math></p> <p>FRACTIONAL  <math>\pm .1</math></p>		<p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF <b>CPAD TECHNOLOGIES INC.</b> AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF <b>CPAD TECHNOLOGIES INC.</b></p>		<p>DWG BY RMJ</p> <p>CHK BY W/K</p> <p>APPD BY W/K</p> <p>DATE 11/10/94</p> <p>DATE 04.08.98</p> <p>DATE 04.06.96</p> <p>SCALE 1:1</p>	<p><b>CPAD</b> TECHNOLOGIES INC.</p> <p>TITLE SOURCE COVER SUB-ASSEMBLY</p>	<p>SIZE B</p> <p>SHEET 1 OF 1</p> <p>DWG NO IM-B-037</p> <p>REV -</p>
---	--	--	--	--	---	---



IM-B-001

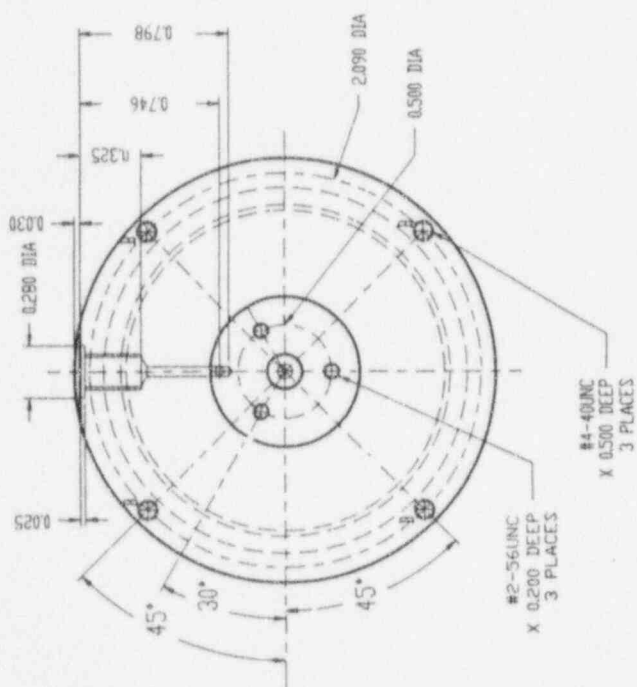
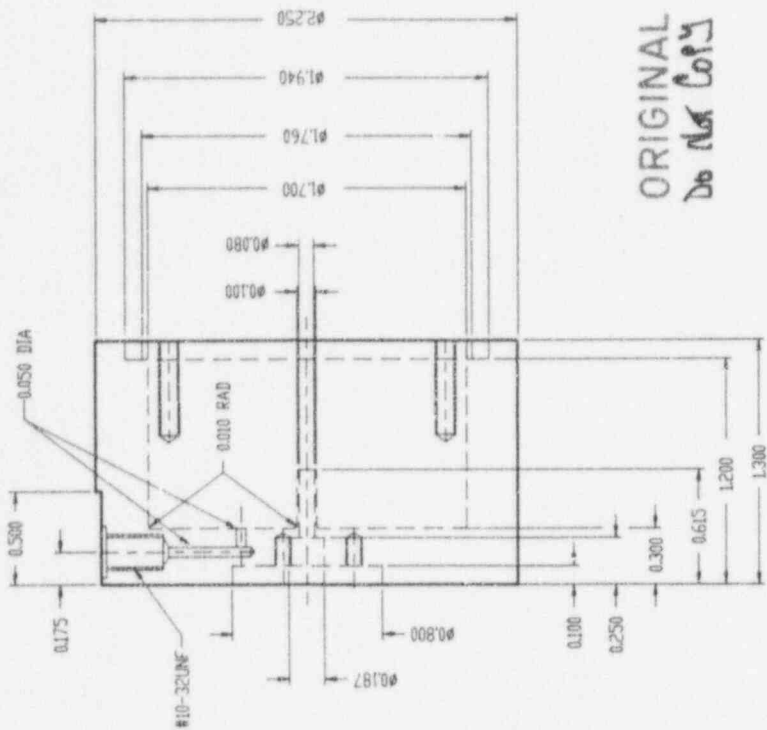
SYM

REVISION

DATE

BY

CHK



ORIGINAL  
Do Not Copy

**CPAD**  
TECHNOLOGIES INC.

DWG BY RMJ DATE 14/07/94  
CHK BY WJK DATE 04/06/96  
APPD BY WJK DATE 04/06/96

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UNLESS OTHERWISE SPECIFIED  
1. DO NOT SCALE DRAWING.  
2. DIMENSIONS ARE IN INCH  
3. THREAD LENGTH DIMENSIONS ARE FULL THREADS.  
4. TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
FRACTIONAL ANGULAR  
DECIMAL  
XXX ± .002  
XXXX ± .0005  
± .1

MATERIAL ALUMINUM BAR  
FINISH NONE

SCALE 1.5:1

SIZE B

SHEET 1 OF 1

DWG NO

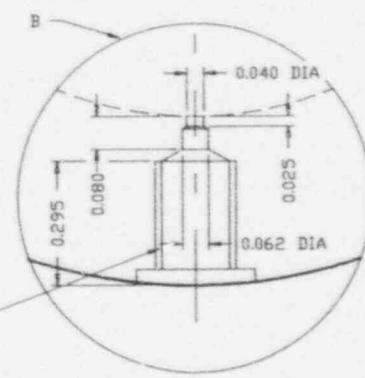
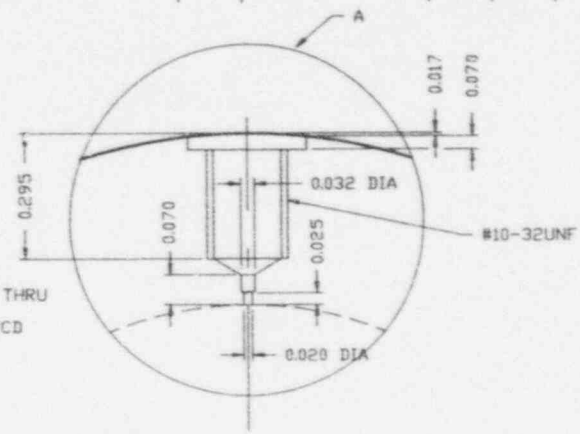
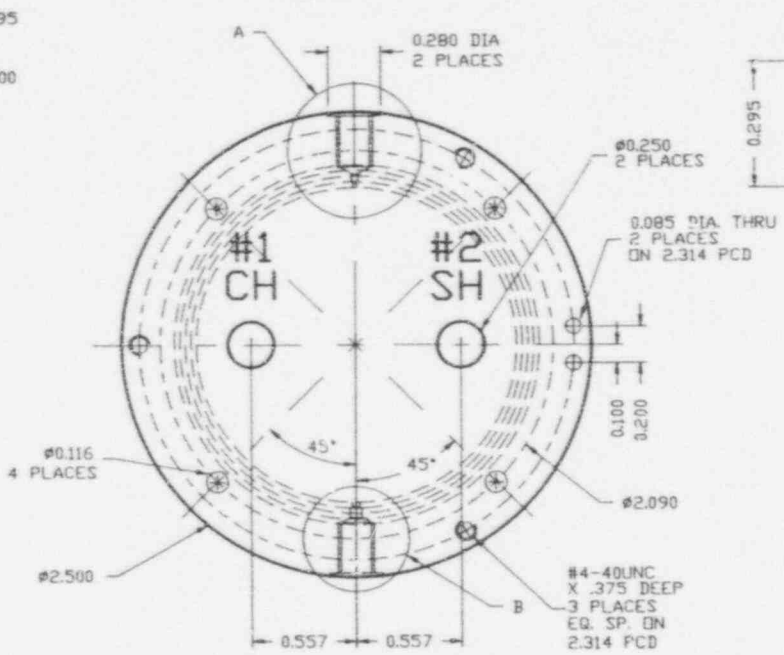
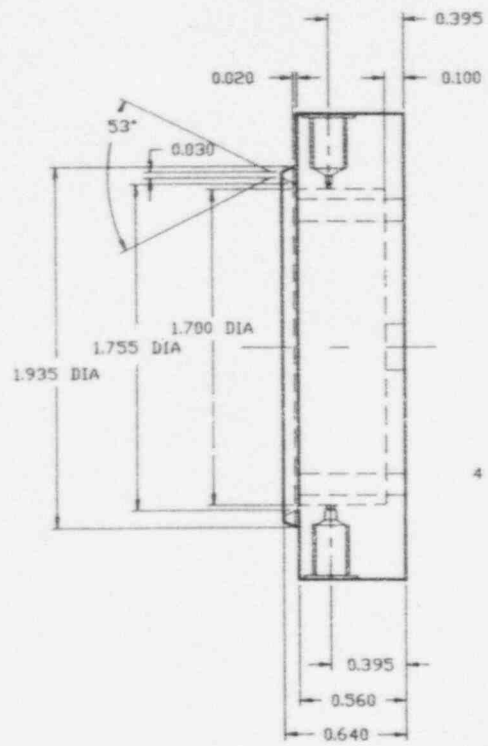
IM-B-001

REV

A

IM-B-002

SYM	REVISION	DATE	BY	CHK



ORIGINAL  
Do Not Copy

UNLESS OTHERWISE SPECIFIED	
1. DO NOT SCALE DRAWING.	5. REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
2. DIMENSIONS ARE IN INCH	6. ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN
3. THREAD LENGTH DIMENSIONS ARE FULL THREADS.	7. ALL RADII ARE .125 R
4. TOLERANCE ON DIMENSIONS (INCLUDING HOLES)	8. _____
DECIMAL .XX ± .01	_____
.XXX ± .002	_____
.XXXX ± .0005	_____
FRACTIONAL ± .1	_____
ANGULAR ± .1	_____

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MATERIAL	ALUMINUM ROD
FINISH	NONE

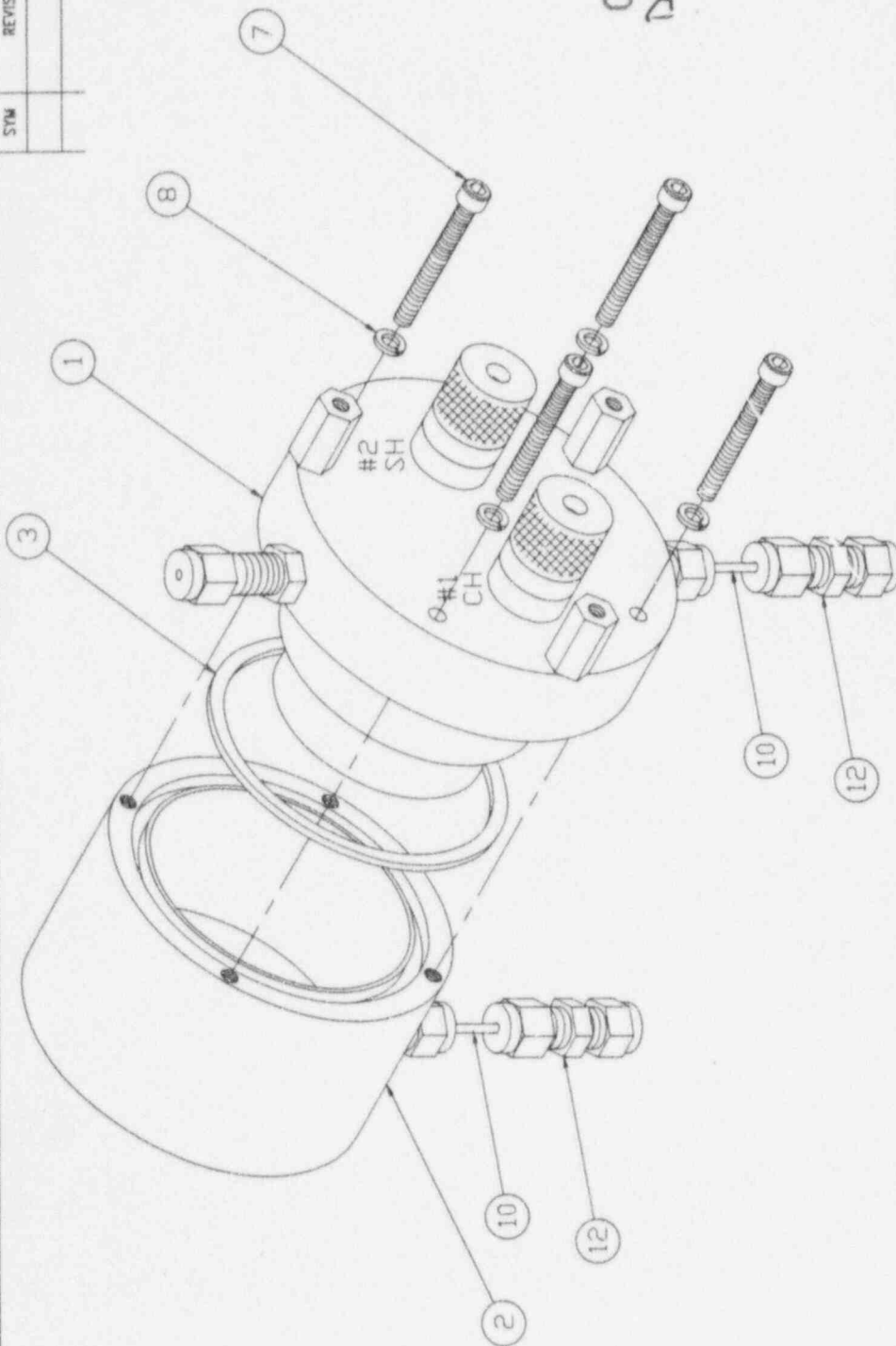
DWG BY	DATE
RMJ	14/07/94
CHK BY	DATE
WK	04.06.96
APPD BY	DATE
WK	04.06.96
SCALE	1.5:1

CPAD TECHNOLOGIES INC.	
TITLE	
SOURCE BASE	
SIZE	DWG NO
B	IM-B-002
SHEET 1 OF 1	REV
	-

IM-B-040

SYM	REVISION	DATE	BY	CHK

ORIGINAL  
Do Not Copy



<p>CPAD TECHNOLOGIES INC.</p>		<p>DATE 03/11/94</p>	
<p>DATE 04.06.96</p>		<p>DATE 04.06.96</p>	
<p>CHK BY W/K</p>		<p>APPD BY W/K</p>	
<p>TITLE</p>		<p>SCALE 1:1</p>	
<p>IMS ASSEMBLY</p>		<p>SIZE B</p>	
<p>SHEET 1 OF 1</p>		<p>REV -</p>	
<p>IM-B-040</p>			

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<p>MATERIAL</p>	
<p>FINISH</p>	

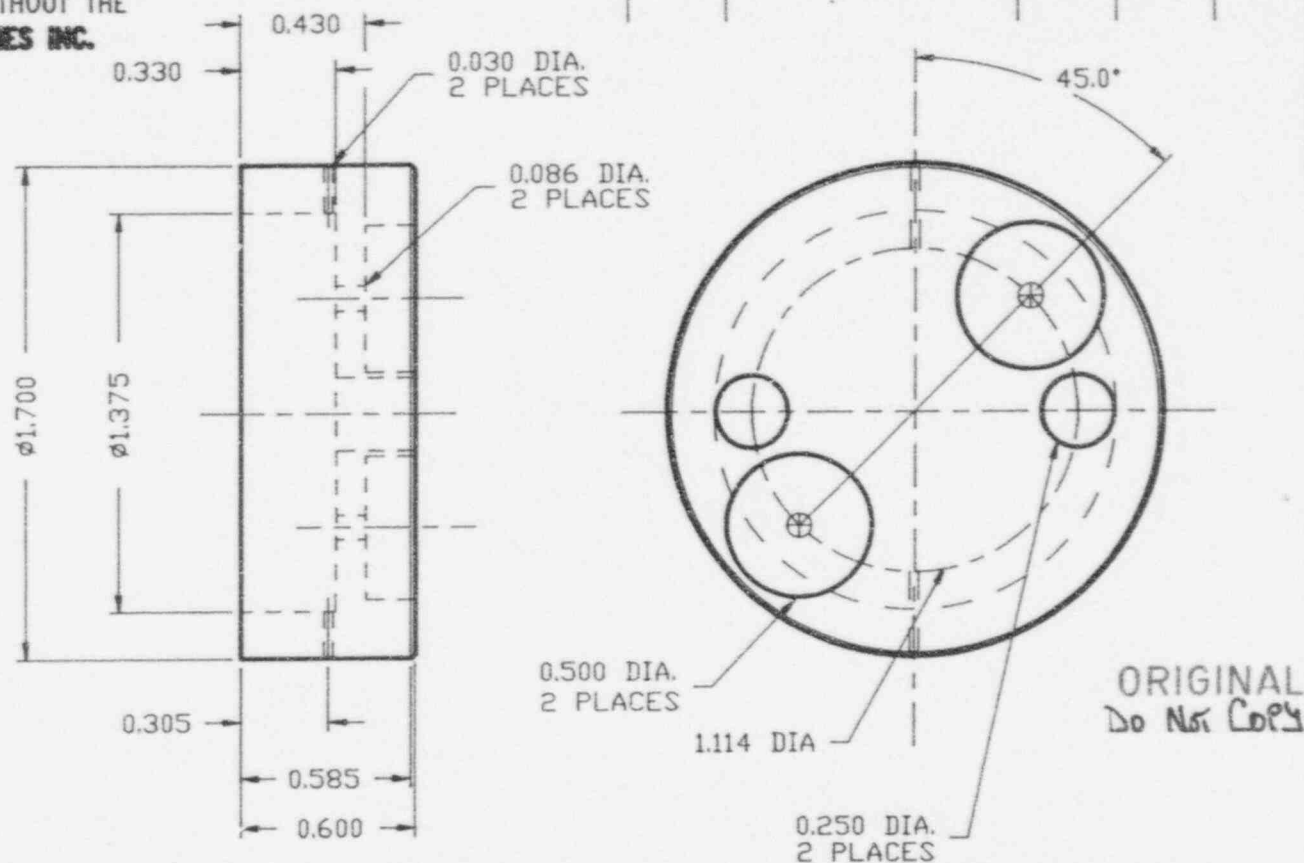
  

<p>UNLESS OTHERWISE SPECIFIED</p>	
<p>1. DO NOT SCALE DRAWING.</p>	<p>5. REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.</p>
<p>2. DIMENSIONS ARE IN INCH.</p>	<p>6. ROUGHNESS OF SURFACE NOT TO EXCEED 6.3 IN.</p>
<p>3. THREAD LENGTH DIMENSIONS ARE FULL THREADS.</p>	<p>7. ALL RADII ARE .125 R</p>
<p>4. TOLERANCE ON DIMENSIONS (INCLUDING HOLES)</p>	<p>8.</p>
<p>DECIMAL</p>	<p>.XX ± .01</p>
<p>.XXX ± .005</p>	<p>.XXXX ± .0005</p>
<p>FRACTIONAL</p>	<p>± .1</p>
<p>ANGULAR</p>	<p>± .1</p>

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SYM	REVISION	DATE	BY	CHK

IM-B-020



UNLESS OTHERWISE SPECIFIED

- DO NOT SCALE DRAWING.
- DIMENSIONS ARE IN INCH
- THREAD LENGTH DIMENSIONS ARE FULL THREADS.
- TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
DECIMAL .XX ± .01  
XXX ± .002

- REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
- ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN
- ALL RADII ARE .125 R

DWG BY RMJ DATE 14/07/94

CHK BY WK DATE 04.06.96

APPD BY WK DATE 04.06.96

SCALE 1.5 : 1

**CPAD**  
TECHNOLOGIES INC.

TITLE

TEFLON SOURCE BASE

MATERIAL TEFLON

FINISH

SIZE A

SHEET 1 OF 1

DWG NO

IM-B-020

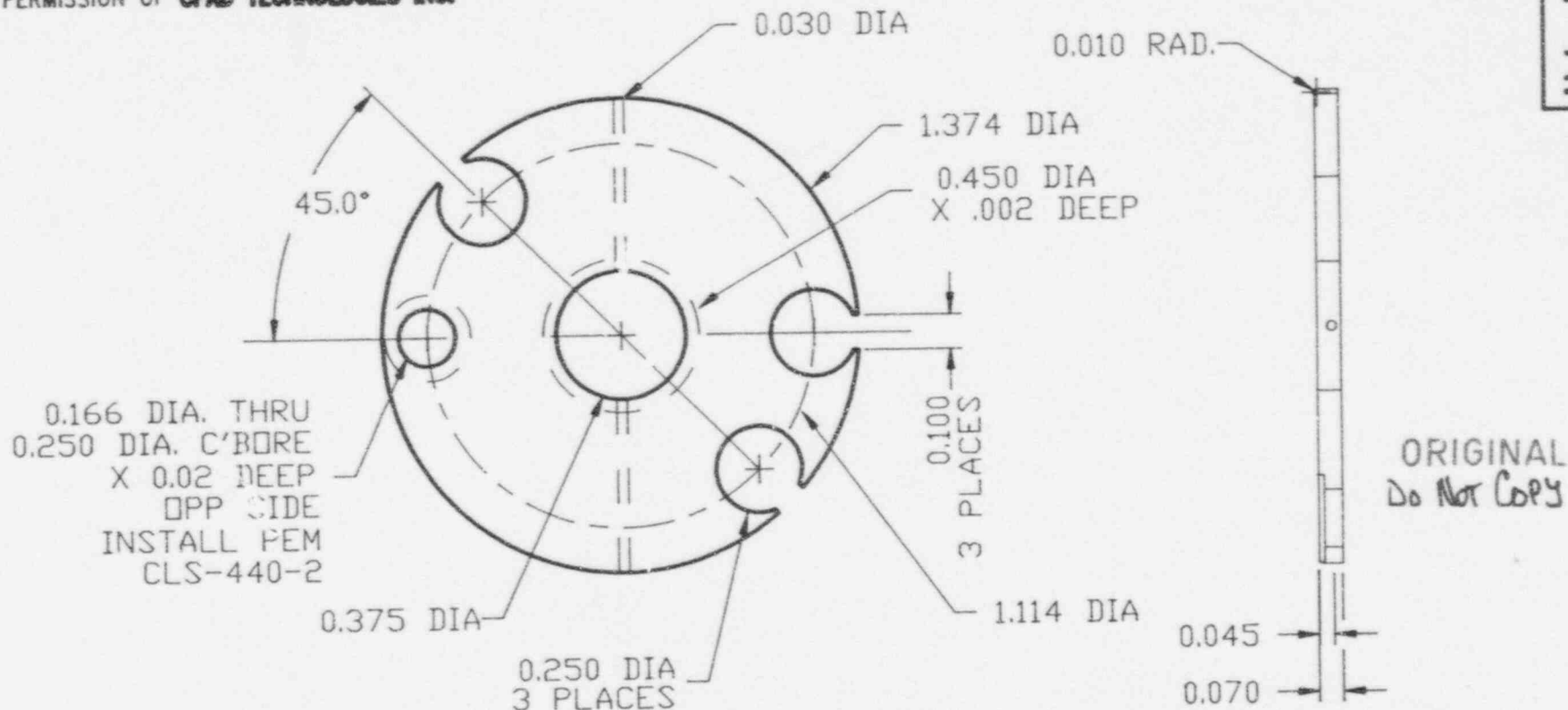
REV

-

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SYM	REVISION	DATE	BY	CHK

IM-B-022



- UNLESS OTHERWISE SPECIFIED
- DO NOT SCALE DRAWING.
  - DIMENSIONS ARE IN INCH
  - THREAD LENGTH DIMENSIONS ARE FULL THREADS.
  - TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
DECIMAL .XX ± .01  
XXX ± .002
  - REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
  - ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN
  - ALL RADII ARE .125 R

DWG BY RMJ  
DATE 12/07/94

CHK BY WK  
DATE 04.06.96

APPD BY WK  
DATE 04.06.96

SCALE  
2:1

**CPAD**  
TECHNOLOGIES INC.

TITLE  
SOURCE HOLDING WASHER

MATERIAL ALUMINUM SHEET

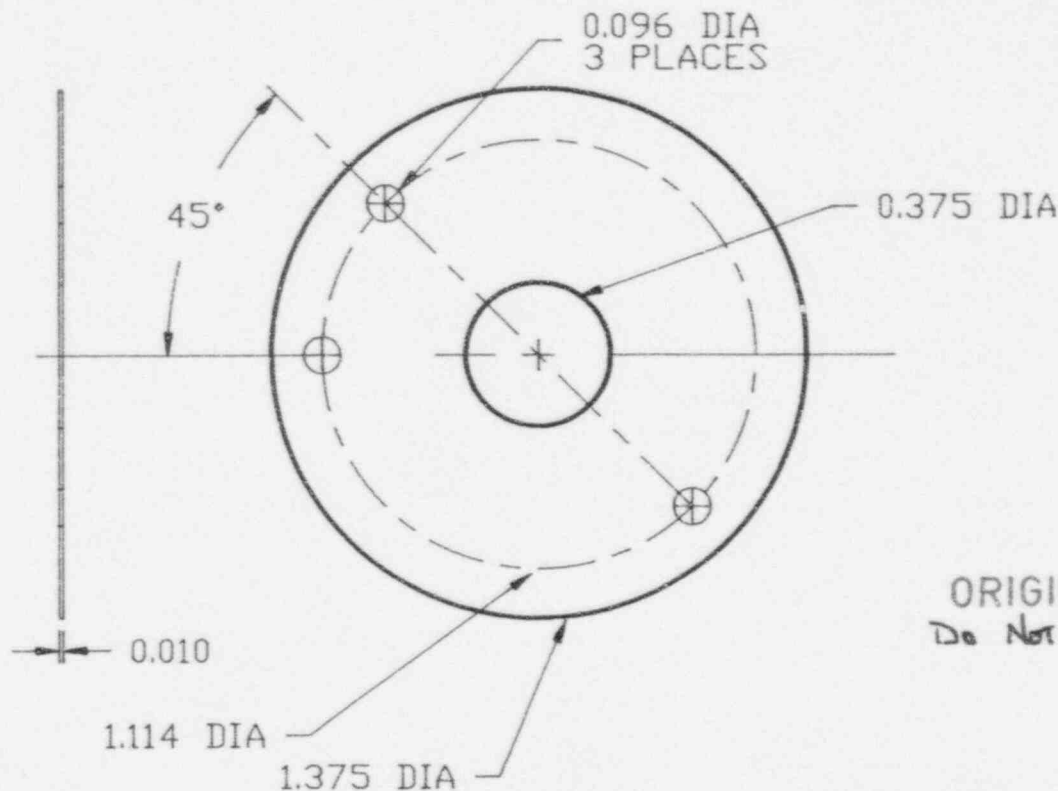
FINISH

SIZE A SHEET 1 OF 1 DWG NO IM-B-022 REV -

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SYM	REVISION	DATE	BY	CHK

IM-B-023



ORIGINAL  
Do Not Copy

UNLESS OTHERWISE SPECIFIED

- DO NOT SCALE DRAWING.
- DIMENSIONS ARE IN INCH
- THREAD LENGTH DIMENSIONS ARE FULL THREADS.
- TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
DECIMAL .XX ± .01  
XXX ± .002

- FRACTIONAL ANGULAR ± .1
- REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
- ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN
- ALL RADII ARE .125 R

DWG BY RMJ DATE 13/07/94

CHK BY WK DATE 04.06.96

APPD BY WK DATE 04.06.96

SCALE 2:1



TITLE

CUP  
WASHER SEPERATOP

MATERIAL TEFLON

FINISH

SIZE A

SHEET 1 OF 1

DWG NO IM-B-023

REV

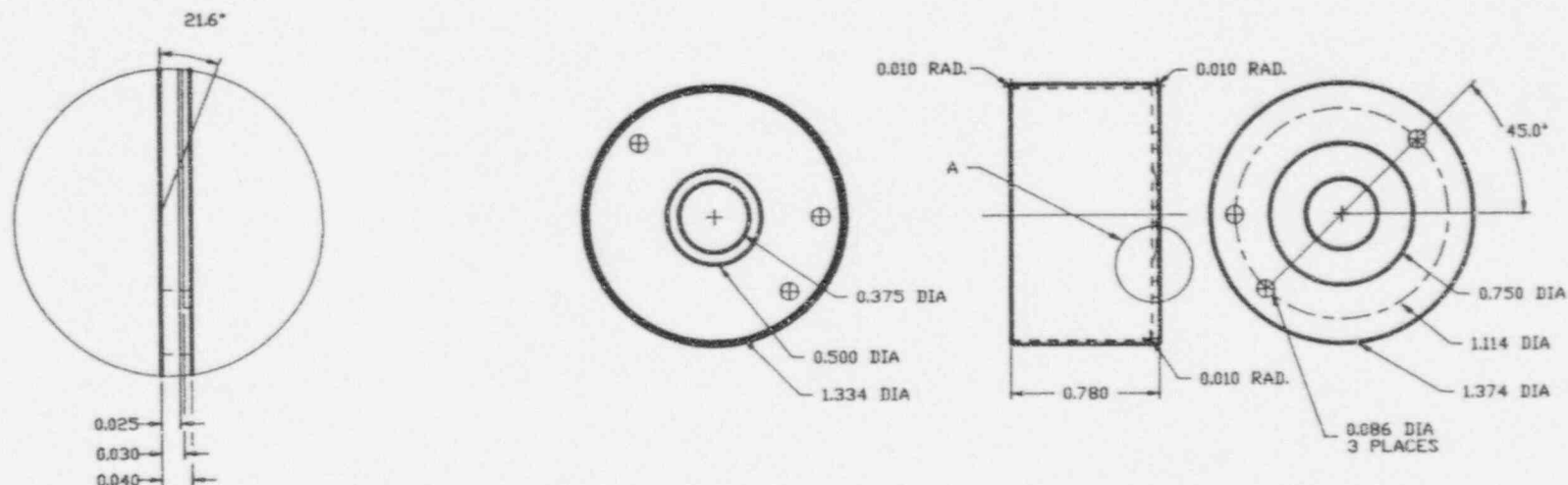
-



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SYM	REVISION	DATE	BY	CHK

IM-B-024



ORIGINAL  
Do Not Copy

UNLESS OTHERWISE SPECIFIED

- DO NOT SCALE DRAWING.
- DIMENSIONS ARE IN INCH
- THREAD LENGTH DIMENSIONS ARE FULL THREADS.
- TOLERANCE ON DIMENSIONS (INCLUDING HOLES)  
DECIMAL .XX ± .01  
XXX ± .002

- FRACTIONAL ± .1  
ANGULAR ± .1
- REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.
- ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN
- ALL RADII ARE .125 R

DWG BY RMJ DATE 13/07/94

CHK BY WK DATE 04.06.96

APPD BY WK DATE 04.06.96

SCALE 1:1

**CPAD**  
TECHNOLOGIES INC.

TITLE

CUP  
SCREEN HOLDER

MATERIAL ALUMINUM ROD

FINISH

SIZE A

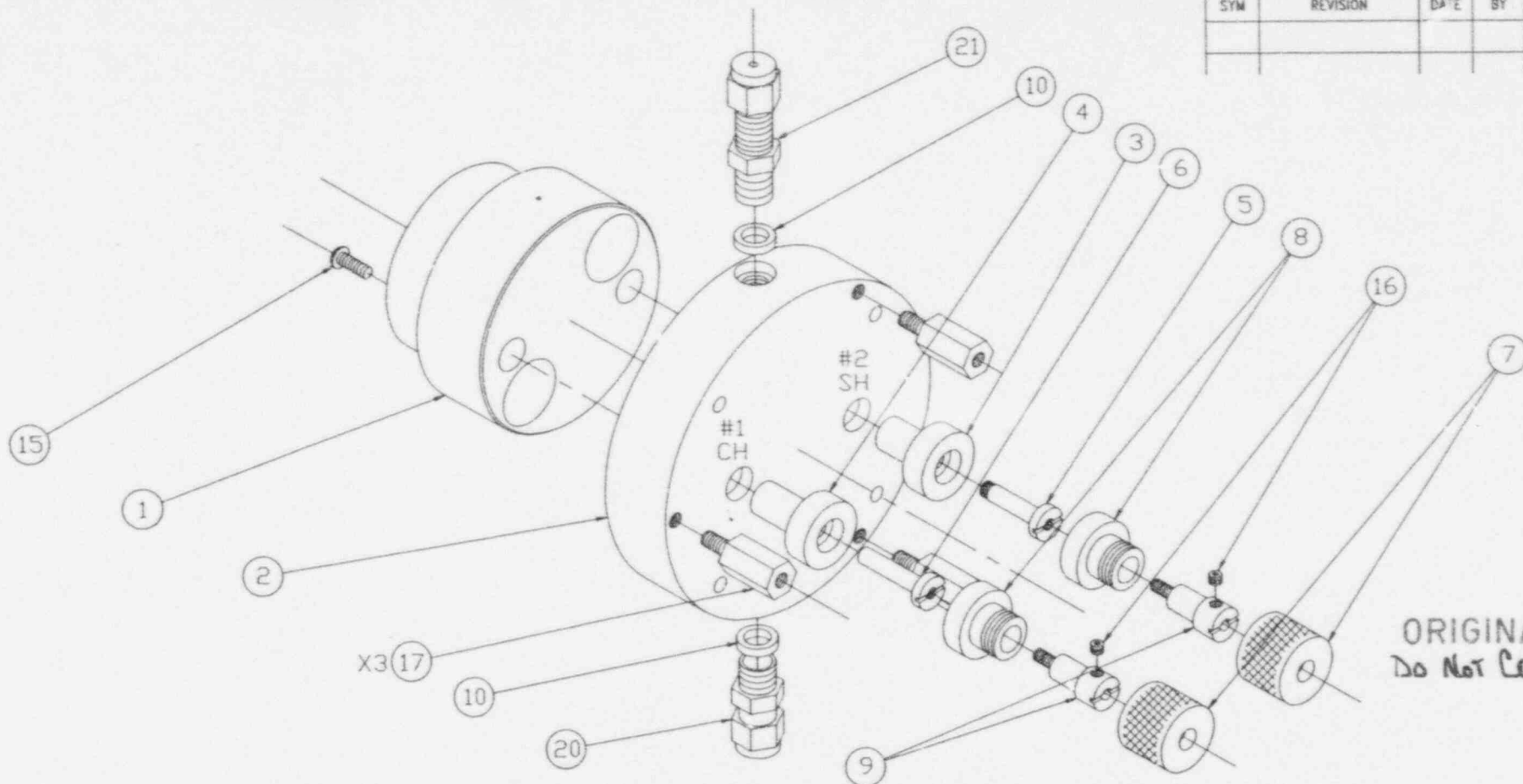
SHEET 1 OF 1

DWG NO IM-B-024

REV

-





SYM	REVISION	DATE	BY	CHK

IM-B-036

ORIGINAL  
Do Not COPY

<p>UNLESS OTHERWISE SPECIFIED</p> <p>1. DO NOT SCALE DRAWING.</p> <p>2. DIMENSIONS ARE IN INCH</p> <p>3. THREAD LENGTH DIMENSIONS ARE FULL THREADS.</p> <p>4. TOLERANCE ON DIMENSIONS (INCLUDING HOLES)</p> <p>DECIMAL .XX ± .01</p> <p>.XXX ± .005</p> <p>.XXXX ± .0005</p> <p>FRACTIONAL ± .1</p> <p>ANGULAR ± .1</p>		<p>5. REMOVE ALL BURRS AND SHARP CORNERS .015 MAX.</p> <p>6. ROUGHNESS OF SURFACE NOT TO EXCEED 63 IN</p> <p>7. ALL RADII ARE .125 R</p> <p>8. _____</p> <p>_____</p> <p>_____</p>		<p>THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF CPAD TECHNOLOGIES INC. AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF CPAD TECHNOLOGIES INC.</p> <p>MATERIAL _____</p> <p>FINISH _____</p>		<p>DWG BY RMJ</p> <p>CHK BY LWK</p> <p>APPD BY LWK</p>	<p>DATE 03/10/94</p> <p>DATE 04.06.96</p> <p>DATE 04.06.96</p>	<p><b>CPAD</b> TECHNOLOGIES INC.</p> <p>TITLE</p> <p>SOURCE BASE SUB-ASSEMBLY</p>		<p>SCALE 1:1</p>	<p>SIZE B</p>	<p>SHEET 1 OF 1</p>	<p>DWG NO IM-B-036</p>	<p>REV -</p>
---	--	--	--	--	--	--	--	---	--	------------------	---------------	---------------------	------------------------	--------------

LA-B-007

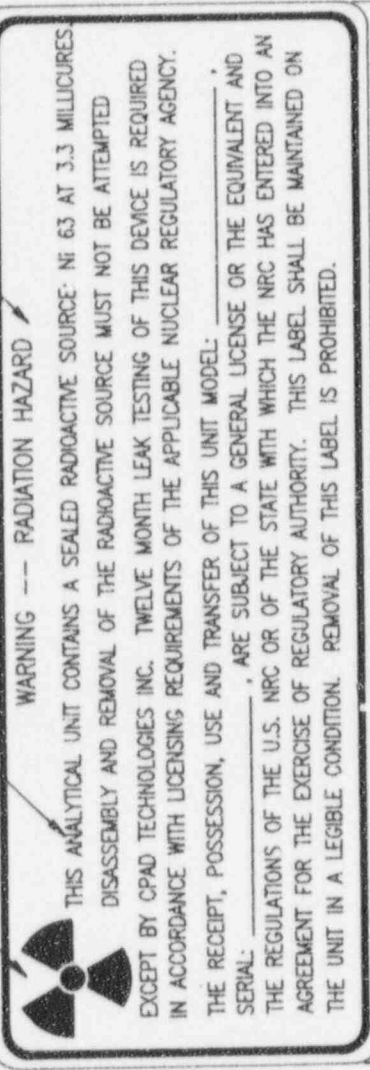
SYM	REVISION	DATE	BY	CHK

ATOMIC ENERGY STD.  
RADIATION SYMBOL  
C.365, SCHEDULE III

FONT .08 (NEW TIMES ROMAN 8)

BORDER .035 WIDE

FONT .095 (TIMES NEW ROMAN 10)




ORIGINAL  
Do Not Copy

NOTE : THE LABEL WILL BE AN ADHESIVE TYPE.  
WITH THE RADIATION SYMBOL AND TEXT COLORED  
MAGENTA ON A YELLOW BACKGROUND

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MANUFACTURE OR SALE OF APPARATUS WITHOUT THE  
WRITTEN PERMISSION OF **CPAD TECHNOLOGIES INC.**

DWG BY NDW	DATE 30/05/96
CHK BY RMJ	DATE 03/06/96
APPD BY WK	DATE 04/06/96

SCALE  
1:1



**RADIATION HAZARD**  
IMS WARNING LABEL

SIZE <b>A</b>	SHEET 1 OF 1	DWG NO <b>LA-B-007</b>	REV <b>-</b>
------------------	--------------	---------------------------	-----------------

NRC FORM 567  
(5-93)

U. S. NUCLEAR REGULATORY COMMISSION

REQUEST FOR A SEALED SOURCE OR  
DEVICE EVALUATION

INSTRUCTIONS: Send this request AND a copy of all related letters/applications and drawings to: The Sealed Source Safety Section, ATTN: Chief, OWFN Mail Stop 6 H3. Change the License Tracking System milestone to 19 and assign to reviewer code I-5.  
NOTE: Retain a copy of this request with the application and background files.

REQUESTER <i>RI</i>		REGION/LOCATION: <input checked="" type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> V <input type="checkbox"/> HQ <input type="checkbox"/> LFDCB	
TELEPHONE NUMBER	DATE <i>7/10/96</i>	TYPE OF ACTION REQUESTED (Check as appropriate)	
APPLICANT'S NAME <i>UPAD Technologies Inc</i>		<input type="checkbox"/> SOURCE REVIEW <input type="checkbox"/> AMENDMENT OF REGISTRATION SHEET NUMBER(S)	
MAIL CONTROL NUMBER(S) <i>123410</i>		<input checked="" type="checkbox"/> DEVICE REVIEW	
LETTER/APPLICATION DATE <i>6/20/96</i>		<input type="checkbox"/> CUSTOM REVIEW	
LICENSE NUMBER(S) <i>196W</i>			
COMMENTS:			

FOR SSSS USE ONLY			
REVIEWER	MODEL NUMBERS <i>IMS</i>	NUMBER ASSIGNED <i>96-66</i>	
DATE RECEIVED <i>7/10/96</i>	DATE ASSIGNED	DATE TO FEES <i>7/26/96</i>	

TYPE OF ACTION (Indicate the number of each type)			
COMMERCIAL DISTRIBUTION (FORMAL)		USE BY A SINGLE APPLICANT (CUSTOM)	
SOURCE (9C)	DEVICE (9A)	SOURCE (9D)	DEVICE (9B)
<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT	<input checked="" type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT	<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT	<input type="checkbox"/> NEW <input type="checkbox"/> AMENDMENT
<input type="checkbox"/> NO SAFETY EVALUATION REQUIRED <input type="checkbox"/> NO FEES REQUIRED		<input checked="" type="checkbox"/> LICENSING ACTION REQUIRED IF KNOWN	
<input type="checkbox"/> OTHER (Specify)		<input type="checkbox"/> YES <input type="checkbox"/> NO	

TOTAL NUMBER OF REVIEW HOURS	NOTES <i>Please contact Sheri Arredondo from RI who case has been assigned (610) 337-5342</i>
NUMBER OF DEFICIENCY LETTERS	
NUMBER OF DEFICIENCY CALLS	

FOR BILLING PURPOSES ONLY			
<input type="checkbox"/> NAME CHANGE	<input type="checkbox"/> ADDRESS CHANGE	<input type="checkbox"/> NEW REGISTRATION - ADD TO BILLING	<input type="checkbox"/> PRODUCT INACTIVE - REMOVE FROM BILLING

FOR FEE USE ONLY			
TYPE OF FEE <i>APP/3,400</i>	FEE CATEGORY <input checked="" type="checkbox"/> 9A <input type="checkbox"/> 9B <input type="checkbox"/> 9C <input type="checkbox"/> 9D		
AMOUNT RECEIVED <i>9,000</i>	CHECK NUMBER <i>0179</i>	<input type="checkbox"/> MATANN UPDATED AS REQUIRED	
DATE OF CHECK <i>8/6/96</i>	LOG <i>Jul 96 SS+D</i>	<input type="checkbox"/> MATSYS UPDATED AS REQUIRED	
APPROVED BY <i>sk</i>	DATE RETURN <i>8/13/96</i>	DATE	
COMMENTS			

For CPAD  
Technologies, Inc.

AGISS POWER TECHNOLOGIES CORPORATION

130 ALBERT STREET, SUITE 200  
OTTAWA, ONT. K1P 5G4  
(613) 230-0609 FAX: (613) 230-3805

0179

Aug 6 1976

PAY TO  
THE ORDER OF

U.S. Nuclear Regulatory Commission  
Nine thousand

U.S. FUNDS

\$ 9000.00

THE TORONTO-DOMINION BANK  
COMMERCIAL BANKING CENTRE  
106 SPARKS ST.  
OTTAWA, ONT. K1P 5S8

AGISS POWER TECHNOLOGIES CORPORATION

3J 4,400 I  
Jul. 8 I  
ANQDS APP  
3B 4,400 I  
Jul. 8 I  
7A 4,400 PER  
Jul 96 USD

FOR NRC license

*[Signature]*

⑈0000179⑈ ⑆32326⑈004⑆ 0260⑈736625⑈

NRC FORM 313

(6-93)

10 CFR 30, 32, 33

34, 35, 36, 39 and 40

U. S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES 6-30-96

## APPLICATION FOR MATERIAL LICENSE

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 9 HOURS. SUBMITTAL OF THE APPLICATION IS NECESSARY TO DETERMINE THAT THE APPLICANT IS QUALIFIED AND THAT ADEQUATE PROCEDURES EXIST TO PROTECT THE PUBLIC HEALTH AND SAFETY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. 030-34197

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY  
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,  
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,  
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION  
NUCLEAR MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO  
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA.  
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION II  
101 MARIETTA STREET, NW, SUITE 2900  
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,  
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
801 WARRENVILLE RD.  
USLE, IL 60532-4351

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW  
MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING,  
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-8064

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S.  
TERRITORIES AND POSSESSIONS IN THE PACIFIC, SEND APPLICATIONS TO:

RADIOACTIVE MATERIALS SAFETY BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION V  
1450 MARIA LANE  
WALNUT CREEK, CA 94596-5368

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

- ☒ A. NEW LICENSE  
☐ B. AMENDMENT TO LICENSE NUMBER \_\_\_\_\_  
☐ C. RENEWAL OF LICENSE NUMBER \_\_\_\_\_

2. NAME AND MAILING ADDRESS OF APPLICANT (Include Zip code)

CPAD Technologies Inc.  
66 Slater Street, 6th Floor  
Ottawa, Ontario  
Canada K1P 5H1

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Coulter Sales  
444 Barney's Joy Road  
South Dartmouth, Massachusetts  
02748-1004 USA

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Al McEachern

TELEPHONE NUMBER

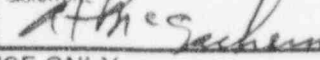
613-230-0609

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time	6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED
7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE	8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS
9. FACILITIES AND EQUIPMENT	10. RADIATION SAFETY PROGRAM
11. WASTE MANAGEMENT	12. LICENSEE FEES (See 10 CFR 170 and Section 170.31) FEE CATEGORY TBD AMOUNT ENCLOSED \$ TBD
13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION	

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE Business  
Al McEachern, Director, Development

SIGNATURE



DATE

20 June 96

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
-------------	---------	--------------	-----------------	--------------	----------

OFFICIAL RECORD COPY ML 10



## APPLICATION FOR LICENCE

### NRC FORM 313

#### ITEMS 5 THROUGH 11

### POSSESSION LICENSE APPLICATION

#### ITEM 5. RADIOACTIVE MATERIAL.

Radioactive Material: Nickel-63

The Nickel-63 source is purchased from NRD Static Controls and is registered with the NRC. The registration number is N1001. The source is 3.3 millicuries in strength and is plated on a nickel substrate 0.008" thick.

The maximum amount that will be possessed at any one time will be 16.5 millicuries.

#### ITEM 6. PURPOSE FOR WHICH THE LICENSED MATERIAL WILL BE USED.

The Nickel-63 source will be used as an ionizing source in an Ion Mobility Spectrometer (IMS) Analytical Unit. The unit will be identified by Model No. and Serial No.

The Analytical Units will be incorporated into a number of different systems manufactured by CPAD Technologies Inc. of Canada for the purpose of detecting organic compounds. CPAD is currently using the Nickel-63 source in its Explosives Detection System, and the Narcotics & Explosives Detection System.

It is CPAD's intention to market the Detection Systems in the U.S.

#### ITEM 7. RESPONSIBLE INDIVIDUAL.

The Analytical Unit will be manufactured and installed as a component in the Detection System at the Canadian facility, and all servicing of the Analytical Unit will be done in Canada. No individual in the U.S. will handle, install or come into contact with the Nickel-63 source. CPAD's U.S. agent/distributor will only handle completed systems for delivery to a customer. The role of the U.S. agent/distributor will be to ensure all proper procedures have been satisfied according to the license agreement. The agent/distributor will not require any training on how to handle a radioactive source. The CPAD agent/distributor who will handle all systems that contain a Nickel-63 source is Mr. Gordon Coulter, address:

Coulter Sales  
444 Barney's Joy Rd.  
South Dartmouth, Massachusetts  
02748-1004

It is expected that Detection Systems will have to be demonstrated and evaluated at locations other than the location identified above; it is for this reason that CPAD requests that the license have a provision for temporary job sites.

#### **ITEM 9. FACILITIES AND EQUIPMENT.**

Special facilities are not required as there will be no handling, installing or servicing at the U.S. agent/distributor location. If any repairs are require to the Analytical Unit it will be returned to CPAD Canada.

CPAD's U.S. office will be used to transfer systems to persons generally licensed and to maintain all records in accordance with 10 CFR section 32.51.

#### **ITEM 10. RADIATION SAFETY PROGRAM.**

##### **1. Quality Assurance**

CPAD procures the registered and tested Nickel-63 source from NRD Static Controls of the U.S.. The source is then incorporated into the IMS Detector. The Detector is designed to ensure no leakage from the source is possible under normal and extreme operating conditions. Tests conducted on the IMS Detector according to ANSI classification far exceeded the normal operating conditions of any system manufactured by CPAD and no leakage was detected. (See Section 2.4 and Appendix A)

CPAD has been manufacturing and selling Detection Systems commercially in Canada and other parts of the world for three years. To date no contamination or leakage has been recorded. Prior to shipping any system containing a Nickel-63 source, CPAD Canada will perform a leak test, and a copy of the results will be included as part of the required documentation with the shipment.

Figure A (drawing number MA-A-077) depicts the final assembly drawing of an IMS Detector. The Detector is mounted into a metal box, a drawing of which is shown at Figure B (drawing number MA-A-078). The box with the IMS detector is referred to as the Analytical Unit. Figure C ( drawing number MA-A-079) shows the location of the "Radiation Hazard" warning.

##### **2. Radiological Safety Instructions**

###### **2.1 Labelling**

The Analytical Unit will have a "Radiation Hazard " warning affixed as shown in Figure C (drawing number MA-A-079). If the installation of the Analytical Unit in the main system restricts the visibility of the warning label, a second label will be affixed to the system to ensure visibility. The label will be an adhesive type with the radiation symbol being a magenta colour on a yellow background. The label will read as follows:



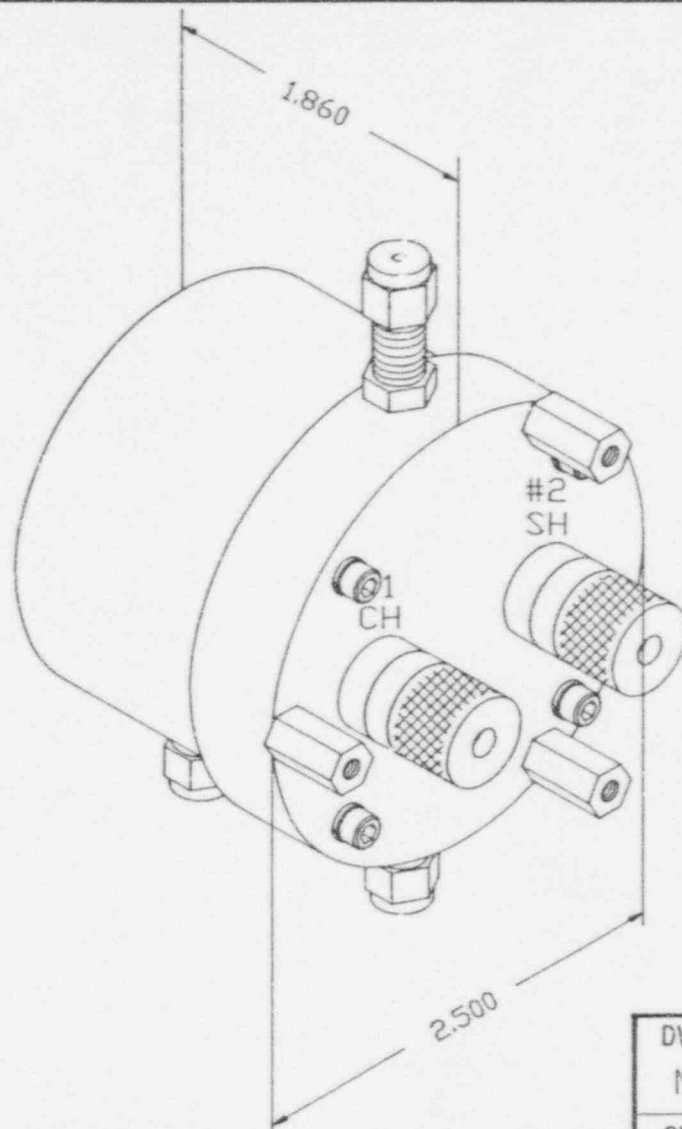


FIGURE A

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF **CPAD TECHNOLOGIES INC.** AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF **CPAD TECHNOLOGIES INC.**

SYM	REVISION	DATE	BY	CHK

MA-A-077

ORIGINAL  
Do Not Copy

DWG BY NDW	DATE 30/05/96
CHK BY RMJ	DATE 03/06/96
APPD BY WK	DATE 04.06.96
SCALE NTS	

**CPAD**  
TECHNOLOGIES INC.

TITLE

IMS ASSEMBLY  
PICTORIAL REPRESENTATION

SIZE  
**A**

SHEET 1 OF 1

DWG NO

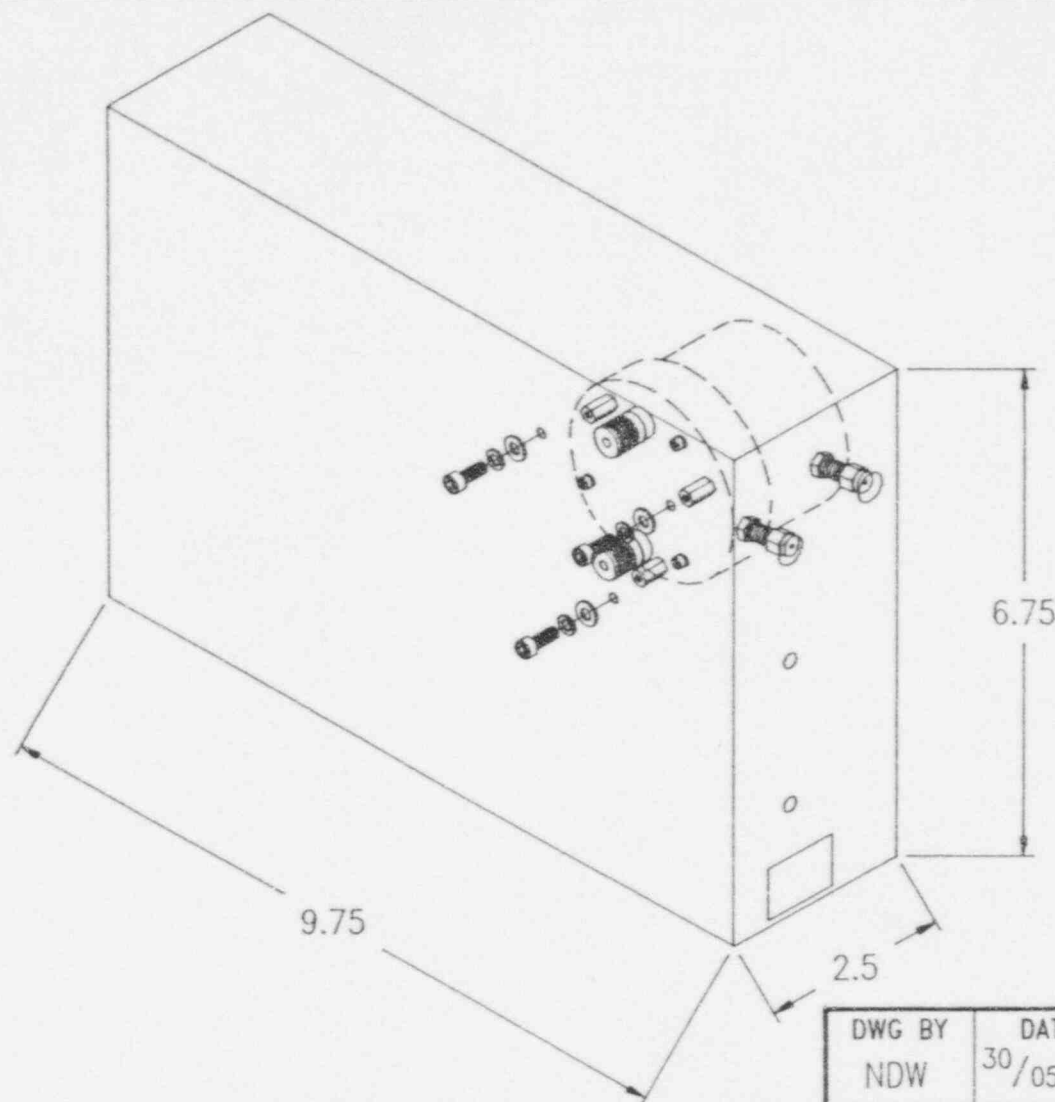
MA-A-077

REV

-

SYM	REVISION	DATE	BY	CHK

MA-A-078



ORIGINAL  
Do Not Copy

FIGURE B

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF **CPAD TECHNOLOGIES INC.** AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF **CPAD TECHNOLOGIES INC.**

DWG BY NDW	DATE 30/05/96
CHK BY RMJ	DATE 03/06/96
APPD BY WK	DATE 04.06.96
SCALE NTS	

**CPAD**  
TECHNOLOGIES INC.

TITLE

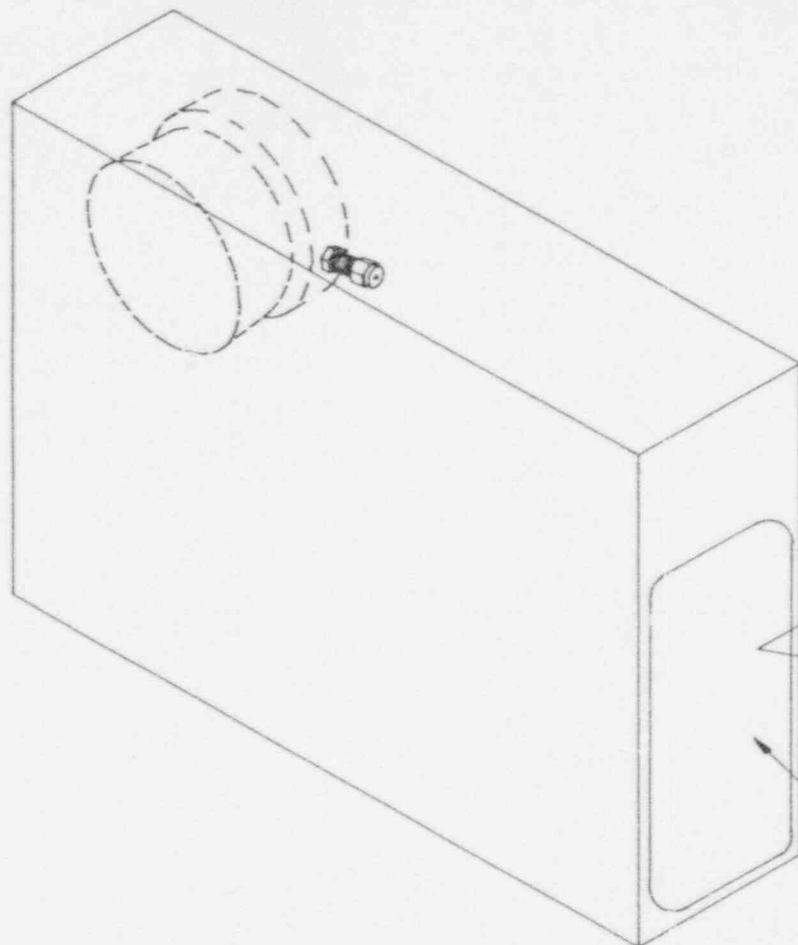
**ANALYTICAL BOX**  
PICTORIAL REPRESENTATION

SIZE  
**A**

SHEET 1 OF 1

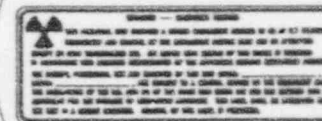
DWG NO  
**MA-A-078**

REV  
-



SYM	REVISION	DATE	BY	CHK

MA-A-079




SEE DWG # LA-B-007

LABEL LOCATION ON BOX

FIGURE C

ORIGINAL  
DO NOT COPY

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF **CPAD TECHNOLOGIES INC.** AND SHALL NOT BE REPRODUCED, COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS WITHOUT THE WRITTEN PERMISSION OF **CPAD TECHNOLOGIES INC.**

DWG BY NDW		DATE 30/05/96			
CHK BY RMJ		DATE 03/06/96			
APPD BY WK		DATE 04.06.96		TITLE ANALYTICAL BOX PICTORIAL REPRESENTATION	
SCALE NTS		SIZE A	SHEET 1 OF 1	DWG NO MA-A-079	REV -

## APPENDIX A

### LEAK TEST RESULTS



Atomic Energy  
Control Board

Commission de contrôle  
de l'énergie atomique

Ottawa, Canada  
K1P 5S9

**DIRECTORATE OF FUEL CYCLE  
AND MATERIALS REGULATION**

Telephone: (613) 943-1568

January 31, 1996

N. Barton Radiation Protection Services  
38 Auriga Drive  
Suite 269  
Nepean, Ontario  
K2E 8A5

Dear Mr. Barton:

This is to inform you that your equipment and procedures have been assessed by Atomic Energy Control Board (AECB) staff and found to satisfy the criteria set out in regulatory guide R-116 (Requirements for Leak Testing Selected Sealed Radiation Sources). The name and location of your organization and the name of the appropriate contact person will be maintained in our database. This information will be provided to AECB licensed users of leak test services upon request and to applicants for new licences.

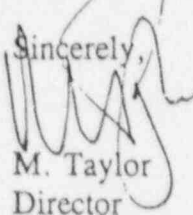
Please note that this is restricted to the isotopes specified in your submission, namely:

- |           |           |           |            |
|-----------|-----------|-----------|------------|
| 1. Co-60  | 4. Am/Be  | 7. Am-241 | 10. Cd-109 |
| 2. Sr-90  | 5. Ir-192 | 8. Fe-55  |            |
| 3. Cs-137 | 6. Cm-244 | 9. Ni-63  |            |

Future re-assessments of your equipment and procedures will be done periodically. If future assessments continue to be positive, information on your organization will continue to be made available as described above. Future re-assessments will likely be coordinated with your regularly scheduled licence inspections.

If you have any questions regarding this matter, please forward them to the Materials Regulation Division at the above address.

Sincerely,

  
M. Taylor  
Director

Materials Regulation Division

c.c.: CRO

ASG/MRD/96-0413

**Canada**

- 7 -

Fax/Télécopieur (613)995-5086  
Envoyé AECBREG

## WIPE TEST INFORMATION

CODE A	Initial test on complete Analytical Unit Counts/50 min 2096 paper Counts/50 min 2132 cotton swab	27 May 96
CODE B	Pressure test on Complete Analytical Unit Counts/50 min 2184 paper Counts/50 min 2024 cotton swab	27 May 96
CODE C	Pressure test IMS Counts/50 min 2119 paper Counts/50 min 2147 cotton swab	27 May 96
CODE D	Hammer impact test IMS Counts/50 min 2089 paper Counts/50 min 2016 cotton swab	28 May 96
CODE E	High temperature test IMS Counts/50 min 2040 paper Counts/50 min 2139 cotton swab	28 May 96
CODE F	Low temperature test IMS Counts/50 min 2103 paper Counts/50 min 2073 cotton swab	29 May 96
CODE G	Drop test IMS Counts/50 min 2213 paper Counts/50 min 2077 cotton swab	29 May 96
CODE H	History test complete Analytical Unit plus exposed surface of IMS Counts/50 min 2123 paper	29 May 96

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code A - 1

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2096


E = detector efficiency: .003

Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 



Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code A - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2132  
E = detector efficiency: .003  
Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code B - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2184  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code B - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2024  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code C - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2119  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code C - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-250 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2147  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$  =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code D - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2089  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone\*: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code D - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2016

E = detector efficiency: .003

Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan



Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.

Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8

AECB Lic.#: 5-10813-98

Telephone#: 613-224-9939

Contact Person: Al McEachern

MEASURER

Name: P. Finnigan

Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8

Telephone: (613) 731-0643

Sampling Date: May 27, 1996

Sample I.D.: Code E - 1

Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler

Background (counts/50 min.): 2065

Sample (counts/50 min.): 2040

E = detector efficiency: .003

Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code E - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2139  
E = detector efficiency: .003  
Activity (Bq) < 18.7 =  $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: 

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code F - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2103  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions:  $<$  the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code F - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2073  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code G - 1  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2213  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $\frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 27, 1996  
Sample I.D.: Code G - 2  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2077  
 $\epsilon$  = detector efficiency: .003  
Activity (Bq)  $\leq$  18.7      counts - bkgd.  
=  $\frac{\quad}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: *Paul Finnigan*

Leak Test Measuring Certificate

LICENSEE

Co.Name: CPAD Technologies Inc.  
Address: 40 Camelot Drive, Nepean, Ontario K2G 5X8  
AECB Lic.#: 5-10813-98  
Telephone#: 613-224-9939  
Contact Person: Al McEachern

MEASURER

Name: P. Finnigan  
Address: 1612 Drake Avenue, Ottawa, Ontario K1G 0L8  
Telephone: (613) 731-0643  
Sampling Date: May 29, 1996  
Sample I.D.: Code H  
Date of last calibration and verification check: May 1, 1996

MEASUREMENT

Measuring method: HP-260 probe with scaler  
Background (counts/50 min.): 2065  
Sample (counts/50 min.): 2123  
E = detector efficiency: .003  
Activity (Bq)  $\leq 18.7$   $= \frac{\text{counts} - \text{bkgd.}}{3000 \text{ sec} \times E}$

Conclusions: < the AECB leak test criteria of 200 Bq

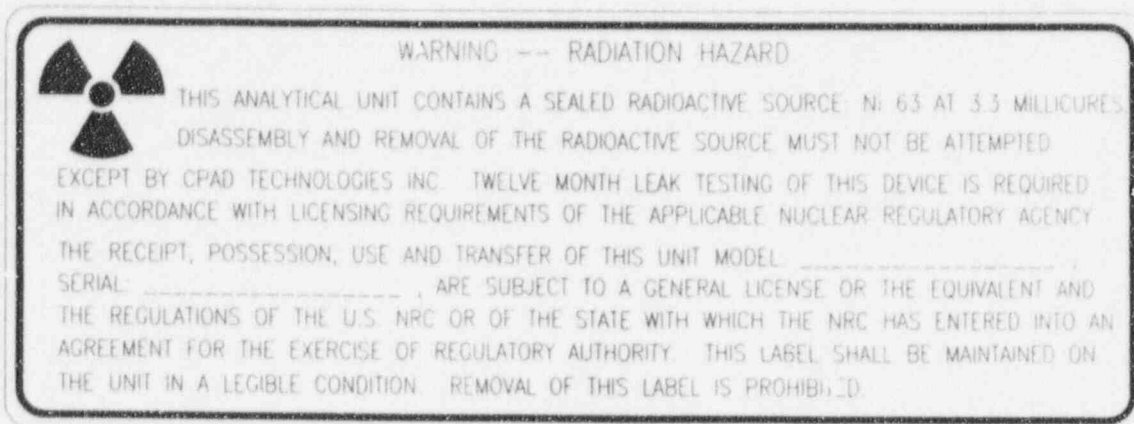
Actions: None required

Measuring Date: May 30, 1996

Signature of Measurer: Paul Finnigan



## APPENDIX B



### IMPORTANT

Before operating this system, check to ensure:

- 1) A copy of the leak test results have been included as part of the documentation with the system.
- 2) A copy of the U.S. NRC regulation part 10 CFR section 31.5 is included with the documentation.
- 3) A label containing the same words as depicted above is affixed to the device or on some other visible part.
- 4) The device has not been damaged from shipping.

If any of the above items are missing or the device appears damaged, **DO NOT OPERATE** the system, and contact CPAD Technologies Inc. office in the U.S. at 508-636-6944.

For further instructions on leak testing and servicing refer to the section entitled "Radioactive Device" contained in this manual.

## LICENSE FEE REQUIREMENTS

ATTN: S. Kimberley T-9E1C  
LICENSE FEE AND DEBT COLLECTION BRANCH  
DIVISION OF ACCOUNTING AND FINANCE  
OFFICE OF THE CONTROLLER  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

301-415-6096

CPAD Technologies, Inc.  
ATTN: A.L. McEachern  
Director, Business Development  
66 Slater Street, 6th Floor  
Ottawa, Ontario K1P 5H1

## TYPE OF ACTION

- ☒ NEW LICENSE  
☐ RENEWAL OF LICENSE  
☐ AMENDMENT TO LICENSE

REQUESTED DATE

6-20-96

LICENSE NUMBER

NEW APPLICATIONS

CONTROL NUMBER

123411 and 123410

## I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
3B	\$ 1,200.00	\$	\$
3J	\$ 4,400.00	\$	\$
9A	\$ 3,400.00	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$

FEE(s) DUE \$ 9,000.00  
PAYMENT RECEIVED \$  
AMOUNT DUE \$ 9,000.00

☒ Your request was received without the prescribed application fee.

☐ We received your Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_. Payment of the additional fee noted above is required.

☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

SIGNATURE -- LICENSE FEE ANALYST

Sandra Kimberley

LFDCB

sk

7/24/96

LFDCB

Distribution:

C/DHF/KFAR/S/P (LF-3.2.2)  
R/FCC: S. Kimberley, HDS  
CC: RL

DATE

7/24/96

BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

(FOR LFMS USE)  
INFORMATION FROM LTS

Program Code: 03214  
Status Code: 3  
Fee Category: \_\_\_\_\_  
Exp. Date: 0  
Fee Comments: \_\_\_\_\_  
Decom Fin Assur Req'd: \_\_\_\_\_

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: CPAD TECHNOLOGIES INC.  
Received Date: 960703  
Docket No.: 3034197  
Control No.: 123410  
License No.: \_\_\_\_\_  
Action Type: New Licensee

2. FEE ATTACHED

Amount: \_\_\_\_\_  
Check No.: /

3. COMMENTS

*Copy provided to SSSS*  
Signed CBagle  
Date 7/10/96

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered ☒)

1. Fee Category and Amount: 3B \$1,200

2. Correct Fee Paid. Application may be processed for:

Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License ☒ \_\_\_\_\_

3. OTHER \_\_\_\_\_

Signed \_\_\_\_\_  
Date 8/15/96

Log July 8  
Remitter AGT SS POWER Tech. Corp.  
Check No. 0179 89000  
Amount \$1,200  
Fee Category 3B  
Type of Fee A.P.P.  
Date Check Rec'd 7/13/96  
Date Completed \_\_\_\_\_  
By: \_\_\_\_\_

See also 123411  
and  
SS&D Log  
Jul 96

1026 JUL 16 AM 11:29