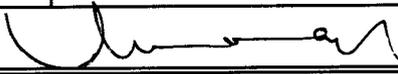


SOFTWARE RELEASE NOTICE

1. SRN Number: PA-SRN-253		
2. Project Title: PCSA Tool Development		Project No. 20.01402.671
3. SRN Title: MELCOR Version 1.8.5		
4. Originator/Requestor: Bruce Mabrito		Date: 8/24/2001
5. Summary of Actions <input checked="" type="checkbox"/> Release of new software <input type="checkbox"/> Release of modified software: <input type="checkbox"/> Enhancements made <input type="checkbox"/> Corrections made <input type="checkbox"/> Change of access software <input type="checkbox"/> Software Retirement		
6. Persons Authorized Access		
Name	Read Only/Read-Write	Addition/Change/Delete
Roland Benke	RO	New
James Weldy	RO	New
Mike Smith	RO	New
Oleg Povetko	RO	New
Lane Howard	RO	New
Patrick LaPlante	RO	New
Gordon Wittmeyer	RO	New
Biswajit Dasgupta	RO	New
Darius Daruwalla	RO	New
Asad Chowdhury	RO	New
7. Element Manager Approval: 		Date: 8-28-2001
8. Remarks:		

SOFTWARE SUMMARY FORM

01. Summary Date: 08/24/2001		02. Summary prepared by (Name and phone) Roland Benke (210) 522-5250		03. Summary Action: NEW	
04. Software Date: 02/12/2001		05. Short Title: MELCOR , Version 1.8.5			
06. Software Title: MELCOR, Version 1.8.5				07. Internal Software ID: NONE	
08. Software Type: <input type="checkbox"/> Automated Data System <input checked="" type="checkbox"/> Computer Program <input type="checkbox"/> Subroutine/Module		09. Processing Mode: <input type="checkbox"/> Interactive <input checked="" type="checkbox"/> Batch <input type="checkbox"/> Combination		10. APPLICATION AREA a. General: <input checked="" type="checkbox"/> Scientific/Engineering <input type="checkbox"/> Auxiliary Analyses <input type="checkbox"/> Total System PA <input type="checkbox"/> Subsystem PA <input type="checkbox"/> Other b. Specific:	
11. Submitting Organization and Address: Sandia National Laboratories Albuquerque, NM 87185-0739			12. Technical Contact(s) and Phone: Roland Benke (CNWRA) (210) 522-5250		
13. Software Application: MELCOR was used to calculate the building discharge fraction for the release of radioactive material from the breach of spent nuclear fuel assemblies (i.e., the fraction of radionuclides released into the building air that are transported through the building ventilation and subsequently released into the atmosphere).					
14. Computer Platform PC		15. Computer Operating System: DOS based		16. Programming Language(s): None (executable)	
17. Number of Source Program Statements: N/A		18. Computer Memory Requirements: unknown		19. Tape Drives: N/A	
20. Disk/Drum Units: 50 MB including output files and the original manuals		21. Graphics: Not required			
22. Other Operational Requirements: CD drive to read files off the CD					
23. Software Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Limited <input type="checkbox"/> In-House ONLY			24. Documentation Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Inadequate <input type="checkbox"/> In-House ONLY		
<p align="center"><i>Roland Benke 8/28/2001</i></p> <p>Software Developer: Developed by others, not at CNWRA Date: 8/24/2001</p>					

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
→ ACQUIRED SOFTWARE NOT TO BE MODIFIED ←

Software Title/Name: MELCOR
Version: 1.8.5
Demonstration workstation: PC located in the 2nd floor, Room # A204
Operating System: DOS
User: Roland Benke

NOTE: Acquired software may or may not meet all requirements and will be evaluated on a case-by-case basis.

Installation Testing [TOP-018, Section 5.6]

Has *installation testing* been conducted for each intended computer platform and operating system?
Yes: No: N/A:
Computer Platforms: PC Operating Systems: DOS
Location of Acceptance Test Results: QA folder
Comments: Can be installed on other PCs. Currently, the PCSA ^{Tool (see} ~~tools~~ ^{will be used by Bis Dasgupta)} ~~uses~~ ^{uses} MELCOR. RB 9/20/2001

Software Output [TOP-018, Section 5.5.4]

Is software designed so that individual runs are uniquely identified by date, time, name of software and version?
Yes: No: N/A:
Date and Time Displayed: Yes
Name/Version Displayed: Yes
Comments: Attached printouts of first and last page for output runs 3AHL CWAQ2.
NOTE: Output identification content and format is typically taken as is.

Medium Documentation [TOP-018, Section 5.5.6]

The physical labeling of software medium (tapes, disks, etc.) contains: Program Name, Module/Name/Title, Module Revision, File type (ASCII, OBJ, EXE), Recording Date, and Operating System(s)?
Yes: No: N/A:
Comments: EXE are labeled

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
→ACQUIRED SOFTWARE NOT TO BE MODIFIED ←

User Documentation [TOP-018, Section 5.5.7]

Is there a Users' Manual for the software and is it up-to-date?

Yes: No: N/A:

User's Manual Version and Date: V.1.8.5, May 2000

Comments: NUREG/CR-6119, Vol. 1 Revision 2; SAND2000-2417/1

Are there basic instructions for the *installation* and *use* of the software?

Yes: No: N/A:

Location of Instructions: QA Software folder, on CD ROM

Comments:

Configuration Control [TOP-018, Section 5.7, 5.9.3]

Is the Software Summary Form (Form TOP-4-1) completed and signed?

Yes: No: N/A:

Date of Approval: 8/28/2001

Is the list of files attached to the Software Summary Form complete and accurate?

Yes: No: N/A:

Comments:

Also included on the software CD ROM

Is the source code available or, is the executable code available in the case of (acquired/commercial codes)?

Yes: No: N/A:

Location of Source Code: QA Software folder, on CD ROM

Comments:

Source code is available but not being used, therefore, it is not being put under control. Only the executable code is being used and controlled.

Have all the script/make files and executable files been submitted to the Software Custodian?

Only the executable files are being submitted.

Yes: No: N/A:

Location of executable files: QA Software folder, on CD ROM

Comments:

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT
FOR
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Software Release [TOP-018, Section 5.9]

Upon acceptance of the software as verified above, has a Software Release Notice (SRN), Form TOP-6 been issued and does the version number of the software match the documentation?

Yes: No: N/A:

SRN Number: PA-SRN-253

Comments:

Software Validation [TOP-018, Section 5.10]

Has a Software Validation Test Plan (SVTP) been prepared for the *range of application* of the software?

Yes: No: N/A:

Version and Date of SVTP: 11/13/01

Date Reviewed and Approved via QAP-002: 11/13/2001

Comments: SVTP was signed by Dr. Chowdhury 11/13/2001 -
[Signature] 11/26/2001

Has a Software Validation Test Report (SVTR) been prepared that documents the results of the validation cases, interpretation of the results, and determination if the software has been validated?

Yes: No: N/A:

Version and Date of SVTR: _____

Date Reviewed and Approved via QAP-002: _____

Comments: Software Validation Test Report (SVTR) due to be prepared. Deadline has been set for November 13, 2001.

Additional Comments:

Roland R. Beve 9/20/2001
 Software Evaluator/User/Date

[Signature] 9/20/2001
maria Padilla
 Software Custodian/Date

MEMORANDUM

Date: August 27, 2001

To: Bruce Mabrito

From: Roland Benke

Subject: Installation test for MELCOR, Version 1.8.5, acquired software

Attachment: Printouts of the intended solution plots (from *Ex5_0.pdf*)
CD containing MELCOR executables, code manuals, and installation test files

The MELCOR software provided is DOS-based for use on an IBM-compatible personal computer. There are two executables for MELCOR Version 1.8.5, named *MELGEN_3.exe* and *MELCOR_3.exe*. The input file must be executed first using *MELGEN_3* followed by the execution of *MELCOR_3*. Two post-processing executables, *hisplm.exe* and *popwin.exe*, generate plots to display the output results.

An installation test was performed for MELCOR Version 1.8.5. The files for the installation test are contained in the */Melcor/Install Test* directory. A sample input file, named *Ex5_0.txt*, was executed using the *melgen.bat* and *melcor.bat* batch files, and the resulting output files are contained in the */Melcor/Install Test* directory. The results were post-processed into plots for comparison with the intended solution plots (located in */Melcor/Install Test/Solution Plots/Ex5_0.pdf*). Printouts of the intended solution plots (from *Ex5_0.pdf*) are attached to this memo. The *hisplm.bat* batch file created the *pophis* file from the *Ex5.ptf* output and *Ex5_0.txt* input files. The output plots from *pophis* were then viewed on the screen using the *popwin.bat* batch file. The output plots were compared by visual inspection to the intended solution plots. Because each of the output plots showed the same results as the intended solution plots, MELCOR Version 1.8.5 passed the installation test.

MELCOR message output 3AHL CWAQZ 8/30/01 11:32:04
WHB Assembly Cell
Listing written TIME= 0.00000E+00 CYCLE= 0
Listing written TIME= 1.00627E+03 CYCLE= 337
Listing written TIME= 2.02558E+03 CYCLE= 354
Listing written TIME= 3.02558E+03 CYCLE= 364
Listing written TIME= 4.02558E+03 CYCLE= 374
Listing written TIME= 5.02558E+03 CYCLE= 384
Listing written TIME= 6.02558E+03 CYCLE= 394
Listing written TIME= 7.02558E+03 CYCLE= 404
Listing written TIME= 8.02558E+03 CYCLE= 414
Listing written TIME= 9.02558E+03 CYCLE= 424
Listing written TIME= 1.00256E+04 CYCLE= 434
Listing written TIME= 2.01628E+04 CYCLE= 454
Listing written TIME= 3.00711E+04 CYCLE= 474
Listing written TIME= 4.02920E+04 CYCLE= 494
Listing written TIME= 5.01467E+04 CYCLE= 514
Listing written TIME= 6.01822E+04 CYCLE= 533
Listing written TIME= 7.09130E+04 CYCLE= 552
Listing written TIME= 8.04689E+04 CYCLE= 572
Restart written TIME= 9.00043E+04 CYCLE= 589
Listing written TIME= 9.00043E+04 CYCLE= 589
Normal termination TIME= 9.00043E+04 CYCLE= 589

MELCOR BASE CODE VERSION
1.8.5(A) SEP-25-2000

DEVELOPMENT VERSION
BASE CODE QZ

PEDIGREE OF THIS CODE
Linked from X-files

PACKAGE VERSION SUMMARY

PROG	OS	<3/25/94>
EXEC	QZ	<9/25/00>
BH	QZ	<9/25/00>
BUR	QW	<2/10/00>
CAV	QQ	<02/14/99>
CF	QR	<05/06/99>
COR	QZ	<9/25/00>
CVH	QZ	<9/25/00>
DCH	QR	<05/06/99>
EDF	LS	<11/18/92>
EOS	QZ	<9/25/00>
ESF	QZ	<9/25/00>
FDI	QZ	<9/25/00>
FL	QZ	<9/25/00>
HS	QZ	<9/25/00>
MP	QZ	<9/25/00>
RN1	QZ	<9/25/00>
RN2	QZ	<9/25/00>
SPR	QY	<5/24/00>
TF	KZ	<8/19/92>
TP	MJ	<1/04/91>
UTIL	QZ	<9/25/00>

LAST PACKAGE MODIFICATION <09/25/00>

Contains bug fixes beyond 1.8.5(A)
Fixes included are 1-8
CORRAD, CORRN1, CORSLU, CORSPD, CORSPR, 11 DCH Routines
EDFPOS, PARPS1, RN1CHK, RN1PS2

Opening user input file 8unif.inp

Computer environment = DV5

1

EDIT OF USER INPUT RECORD IMAGES

Identifier fields between 4 and 12 characters long are allowed.
The first 80 columns of each input record are processed.
The maximum number of data records that may be processed is ****.

MEMORANDUM

Date: July 16, 2002
To: Asadul Chowdhury
From: Roland Benke 
Subject: Validation of MELCOR Version 1.8.5

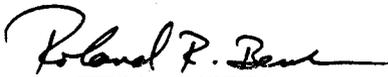
This memorandum documents the validation of MELCOR Version 1.8.5. The steps in the attached Software Validation Test Plan for MELCOR Version 1.8.5 were followed, and the validation test was passed. The output plots from the validation test (as displayed in the POPWIN Graphics Display Window) were printed as screen captures and have been attached. Additional validation work on MELCOR Version 1.8.5 is documented in NUREG/CR-6119, Volume 3 ("MELCOR Computer Code Manuals," NRC: Washington, DC, September 2001), which is also attached to this memorandum. If you have any questions, please do not hesitate to call me at (210) 522-5250.

SOFTWARE VALIDATION TEST PLAN FOR MELCOR VERSION 1.8.5

October 19, 2001

Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
San Antonio, Texas

Author

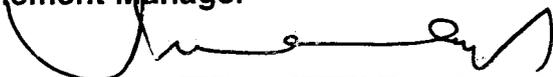


Roland Benke

November 13, 2001

Date

Element Manager



Asadul Chowdhury

11-13-01

Date

1.0 Scope of the Validation

MELCOR Version 1.8.5 is an acquired software not to be modified and is under configuration control at the Center for Nuclear Waste Regulatory Analyses, software release number 253. MELCOR Version 1.8.5 (U.S. Nuclear Regulatory Commission, 2000) was developed by Sandia National Laboratories, Albuquerque, NM for the Office of Nuclear Regulatory Research of the U. S. Nuclear Regulatory Commission (NRC), Washington, DC under the NRC supervision of Dr. Farouk Eltawila and Dr. Ali Behbahami (NRC Job Code W6203). All references to MELCOR in this plan refer to MELCOR Version 1.8.5.

The validation test simulates the flow and transport of aerosols and vapors through defined control volumes and includes a heat source, heat structures, a hydrogen source for oxidation, a valve for containment failure, degassing of water vapor, a filter vent, and pool scrubbing. This validation test does not exercise the nuclear reactor core module of the MELCOR code.

2.0 References

U.S. Nuclear Regulatory Commission. MELCOR Computer Code Manuals. Version 1.8.5. NUREG/CR-6119, Rev. 2. U.S. NRC: Washington, DC. October 2000.

3.0 Environment

3.1 Software

MELCOR Version 1.8.5 is DOS-based. The validation test will be conducted under a Windows NT Version 4.0 operating system. The following list of files are required for the test.

- Input file
 - Ex5_0.txt
- Batch files
 - 1 run melgen.bat
 - 2 run melcor.bat
 - 3 run hispltm.bat
 - 4 run popwin.bat
- Executable files
 - MELGEN_3.exe
 - MELCOR_3.exe
 - Hispltm.exe
 - popwin.exe
- Solution file
 - Ex5_0.pdf

3.2 Hardware

The hardware required is an IBM-compatible personal computer with a CD-ROM drive.

4.0 Prerequisites

The input and batch files must be located in the same directory. The executable files must be located in a directory, named Exe, which must be at the same level as the directory containing the input and batch files (i.e., the batch files call the executables with the path ..\Exe\

5.0 Assumptions and Constraints

None.

6.0 Test Case

6.1 Vapor/Aerosol Test

This test involves executing a sample input file and comparing the plotted output with known solutions, prepared by the code developers. This test simulates a fission product release and the flow and transport of aerosols and vapors through defined control volumes. The test includes a heat source, heat structures, a hydrogen source for oxidation, a valve for containment failure, degassing of water vapor, a filter vent and pool scrubbing.

The MELCOR code has been incorporated into the PCSA Tool. However, not all components of the MELCOR code have been incorporated into the PCSA Tool. The objective of this text is to validate the components of the MELCOR code that are utilized by the PCSA Tool. In fact, the PCSA Tool's use of MELCOR does not invoke oxidation, containment failure, degassing, filtering, pool scrubbing, or the nuclear reactor core module.

6.2 Test Input

The files required for the test are listed in section 3.1 Software, and the setup of the test input is described in section 4.0 Prerequisites.

6.3 Test Procedure

The steps of the test procedure are listed below.

Step 1: Execution of Melgen

Execute the batch file *1 run melgen.bat* and enter *Ex5_0.txt* after the Melgen input file prompt.

Step 2: Execution of Melcor

Execute the batch file *2 run melcor.bat* and enter *Ex5_0.txt* after the Melcor input file prompt.

Step 3: Execution of Hispltm

Execute the batch file *3 run hispltm.bat* and enter *i=Ex5_0.txt o=Ex5.ptf* after the prompt for execution parameters. Execution of Hispltm creates the *pophis* file.

Step 4: Execution of Popwin

Execute the batch file *4 run popwin.bat* and enter *pophis* after the prompt. Enter *R* when prompted for the "CRT display format desired." Execution of Popwin generates plots to display the output results.

After the prompt "What next," enter *N* to view the next plot. When finished with that plot, press Enter for the "What next" prompt. Enter *N* to view the next plot and continue these steps until all plots have been viewed. Enter *E* at the "What next" prompt to end and exit.

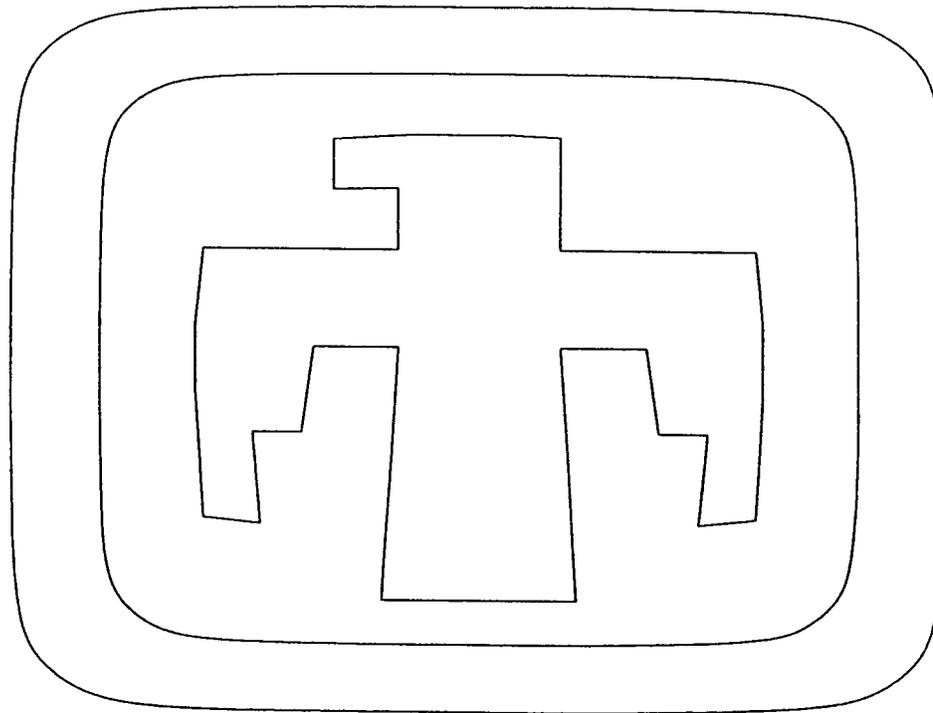
6.4 Expected Test Results

The test procedure creates output plots for comparison with the known solution plots, prepared by the software developers. The known solution plots have been printed out from *Ex5_0.pdf* and are attached to this plan. As the output plots from *pophis* are displayed one-by-one on the screen, each output plot will be compared to the intended solution plot. If each output plot shows the same results as the intended solution plot, the validation test is passed.

7.0 Notes

The attachment contains printouts of the known solution plots in *Ex5_0.pdf*.

USER NAME NOT AVAILABLE



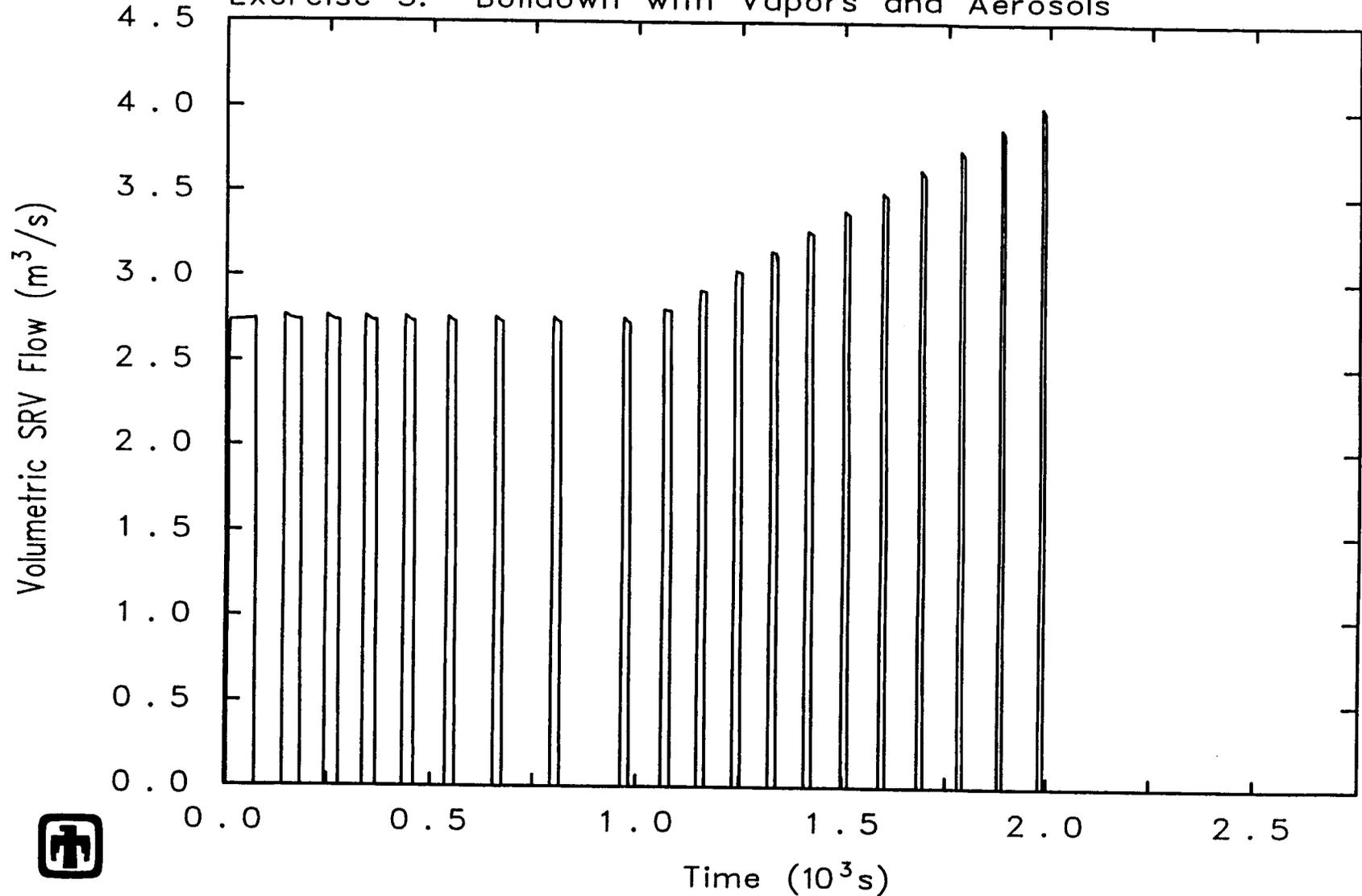
Sandia National Laboratories

RSCORS

17:42:35

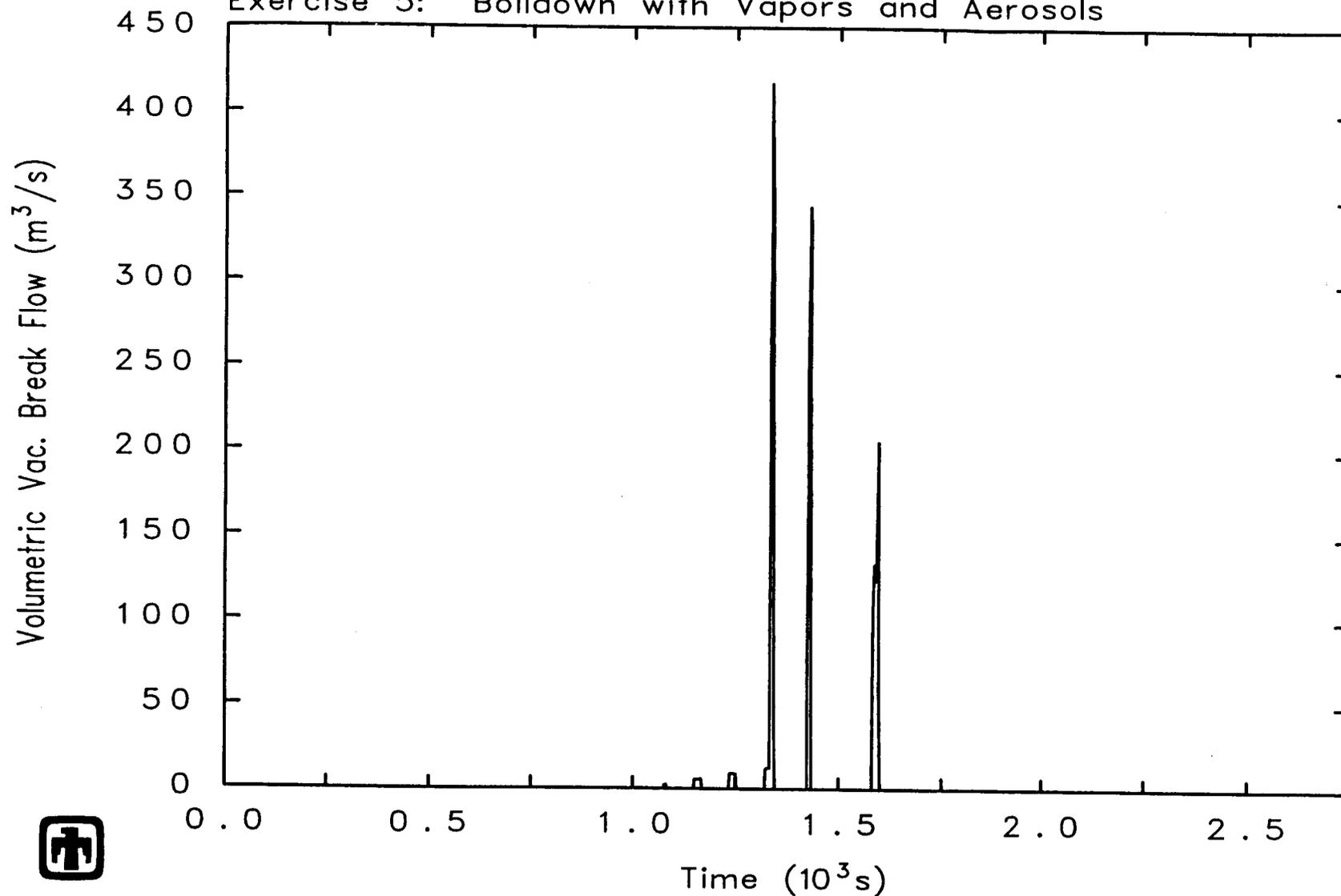
00/26/01 - OSF

Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5
ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5
UF.99

Exercice 5: Boildown with Vapors and Aerosols

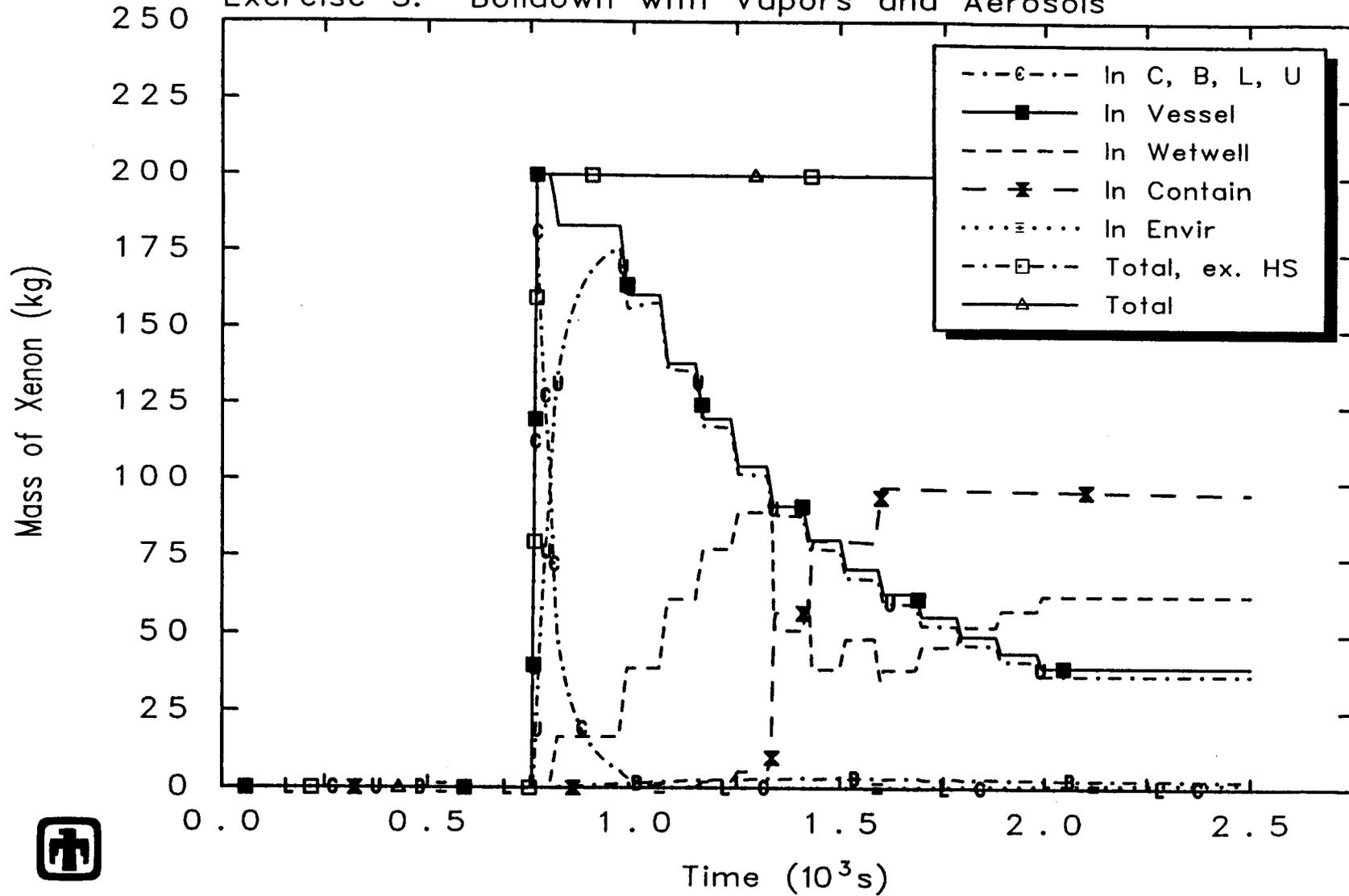


EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

FL-VELVAP.230

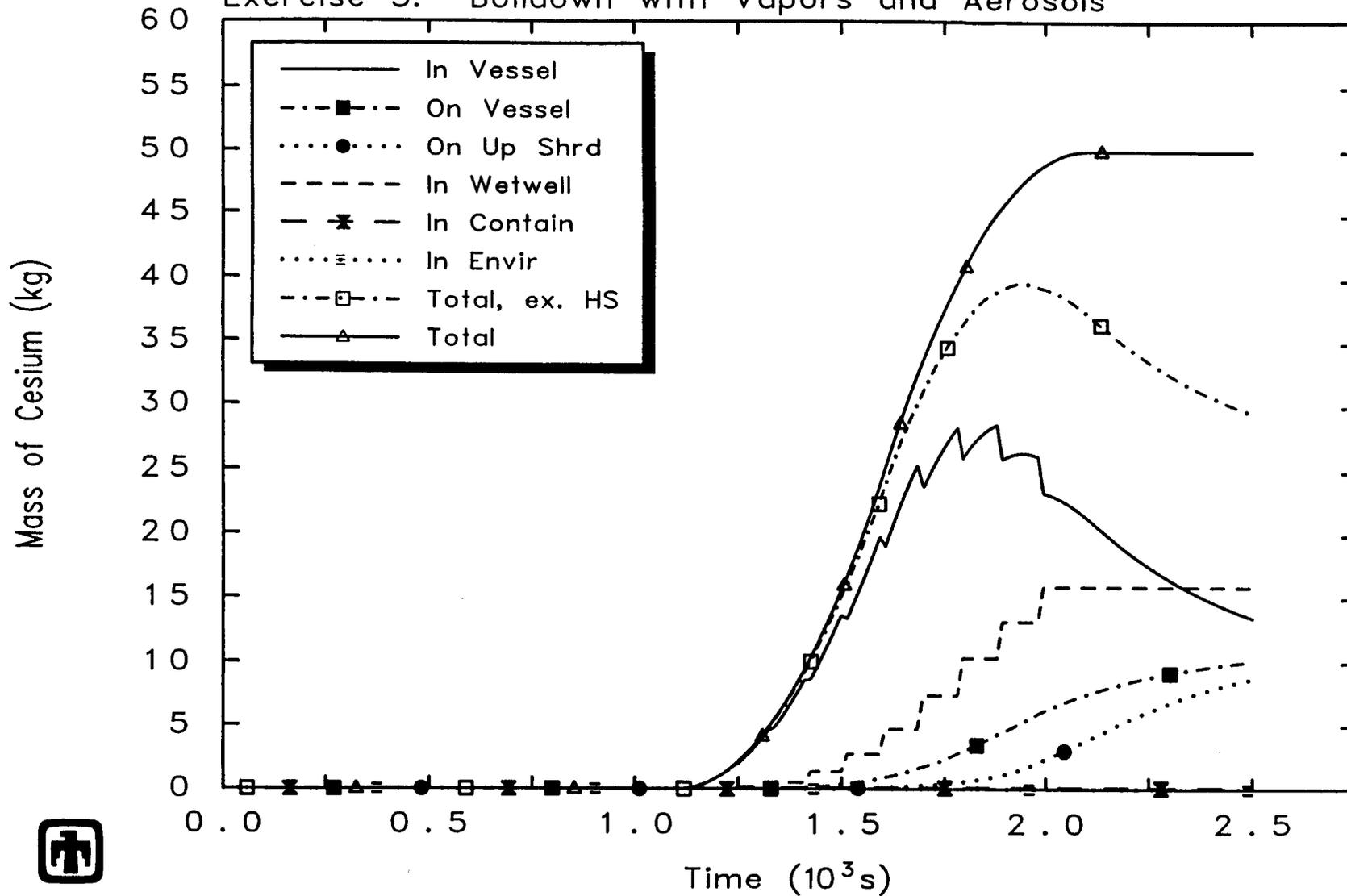
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

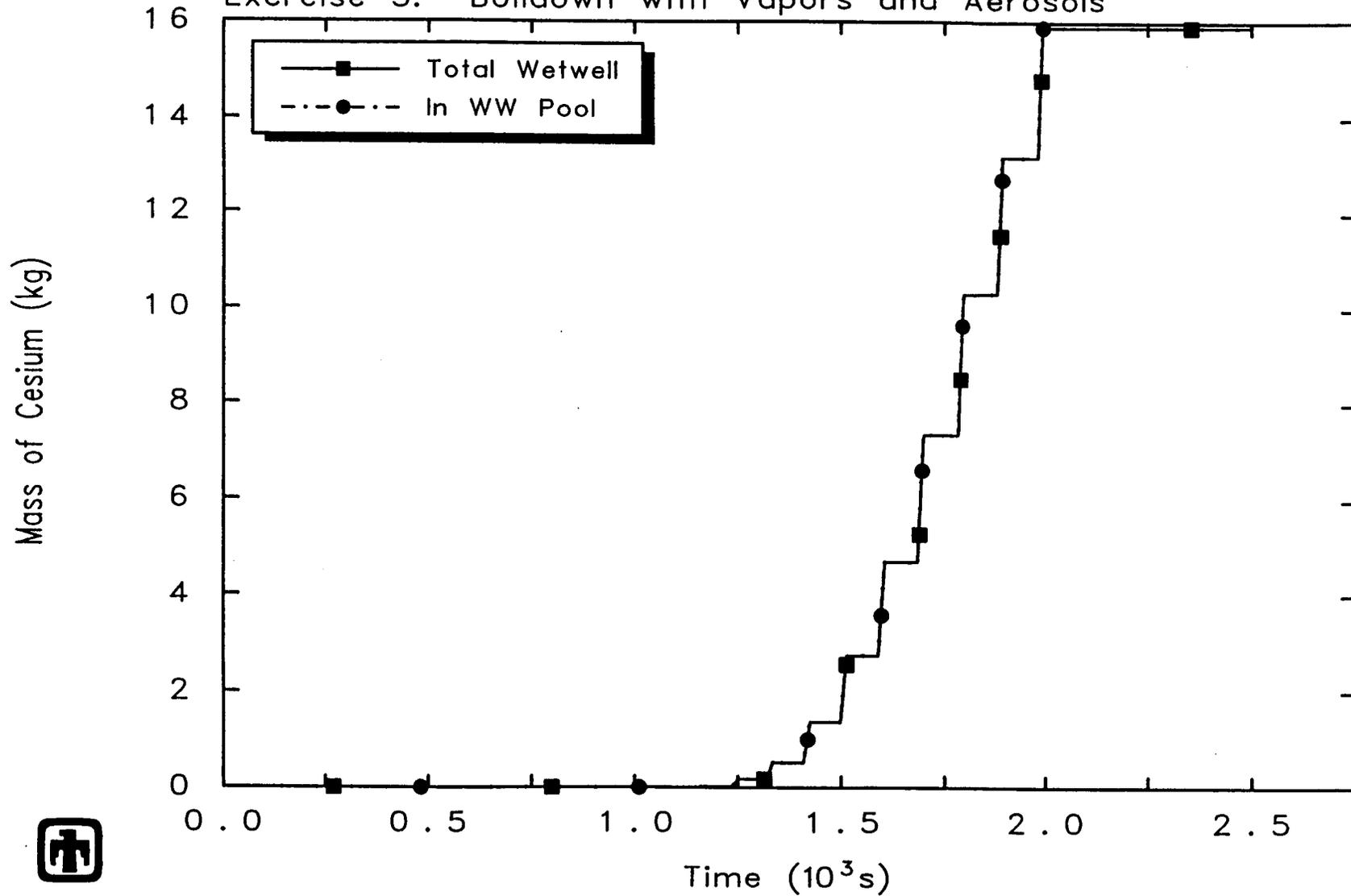
Exercise 5: Boildown with Vapors and Aerosols



EXERCISE 5

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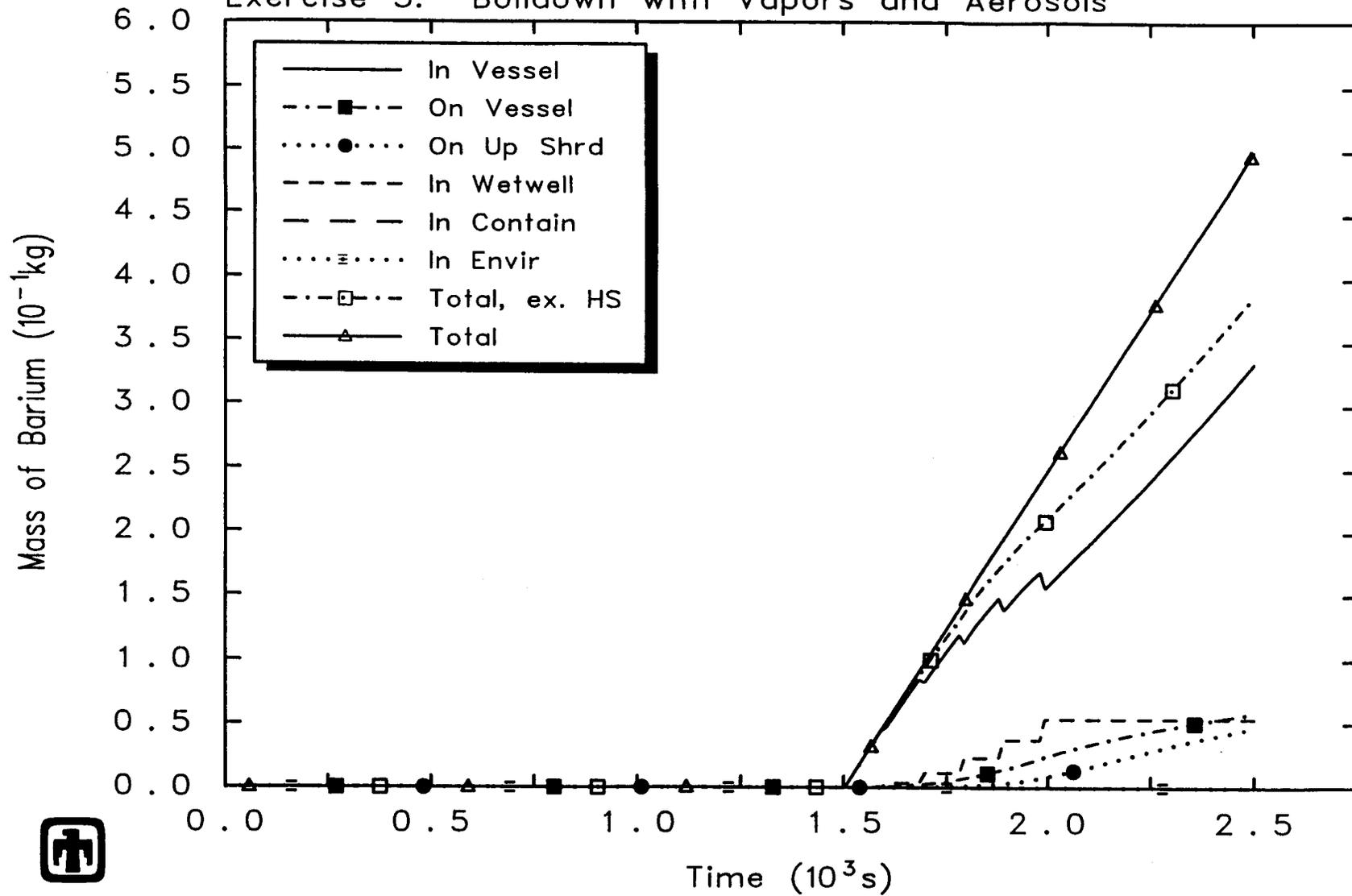
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

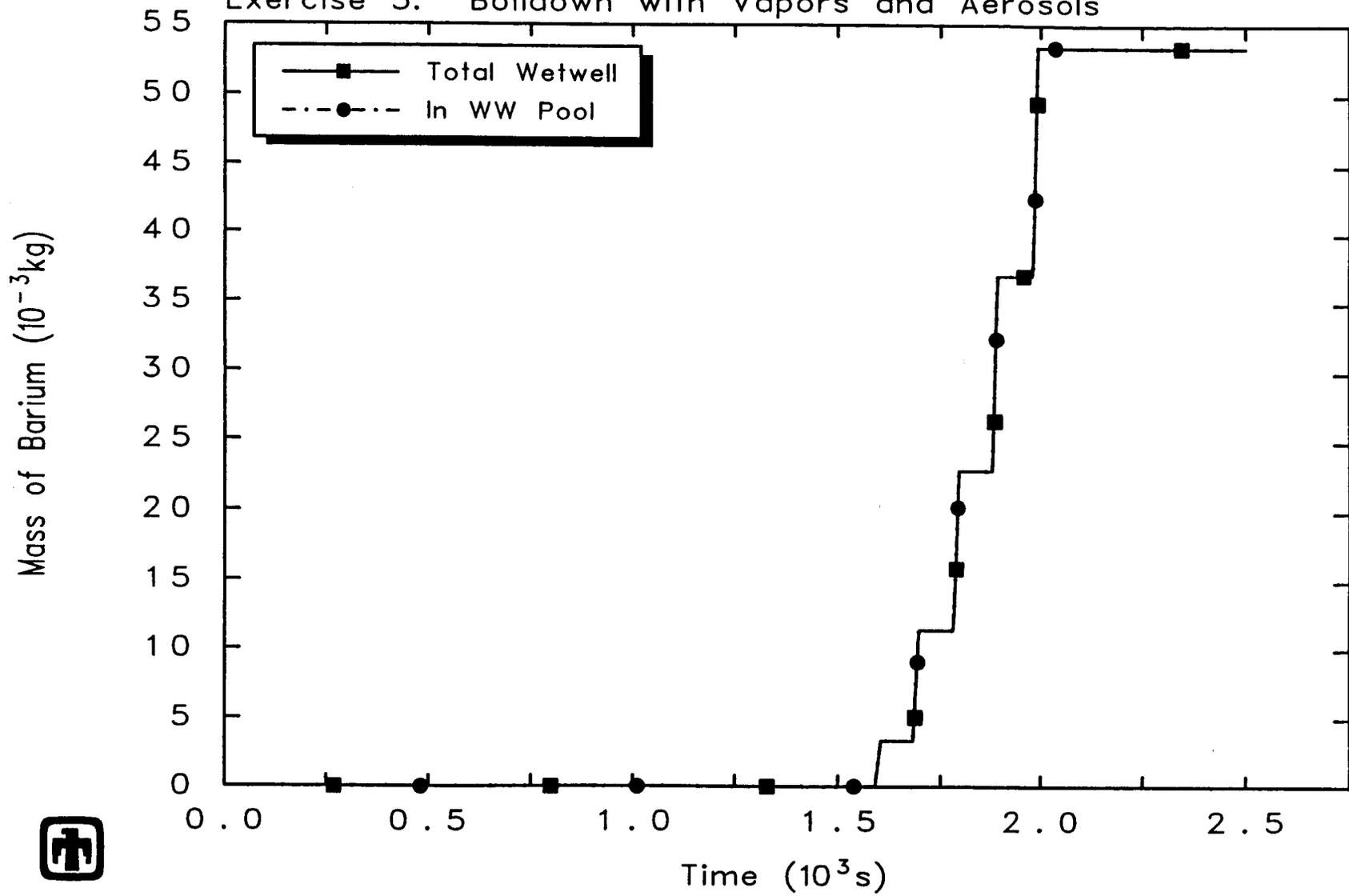
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

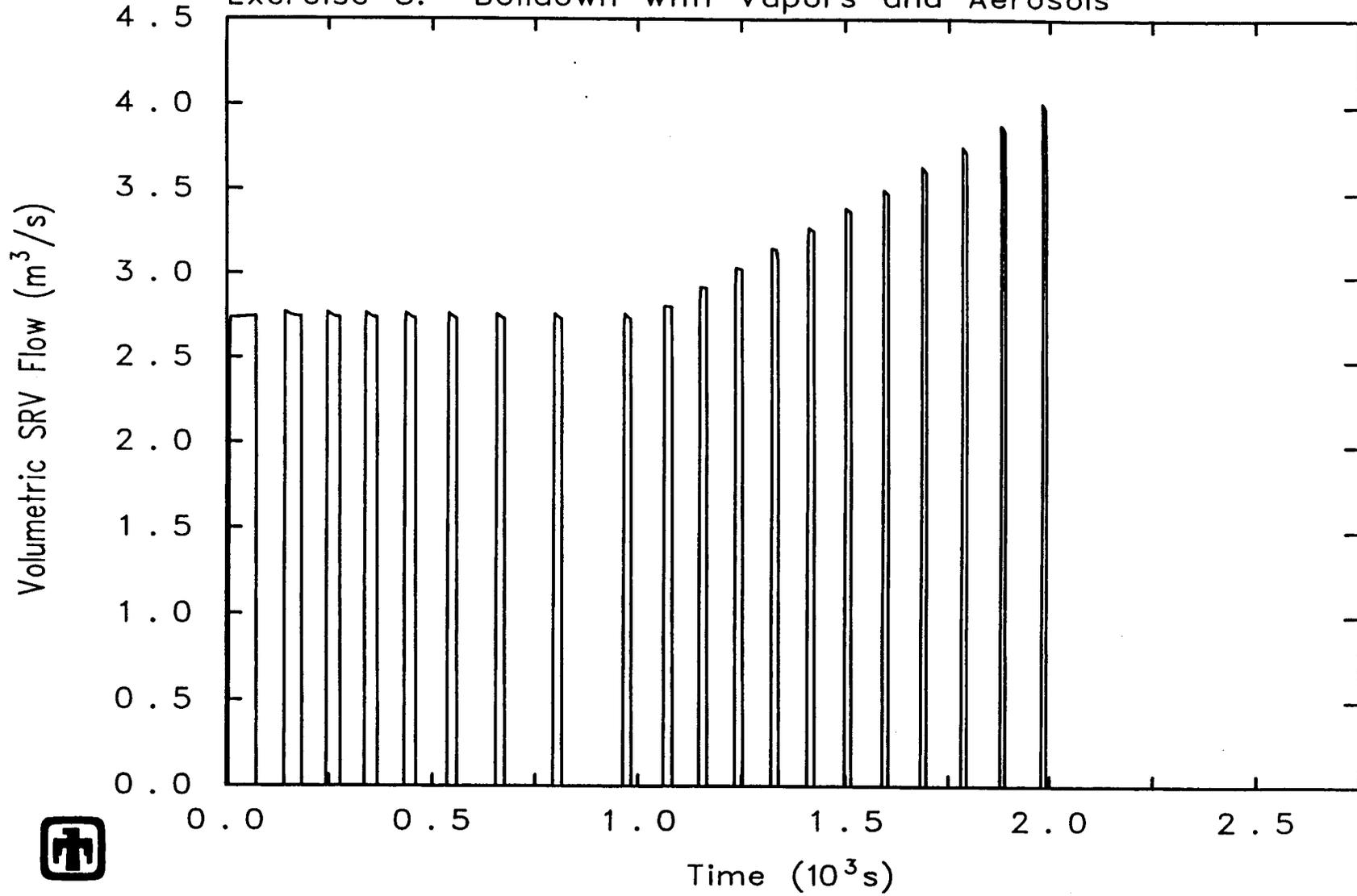
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

Exercice 5: Boildown with Vapors and Aerosols

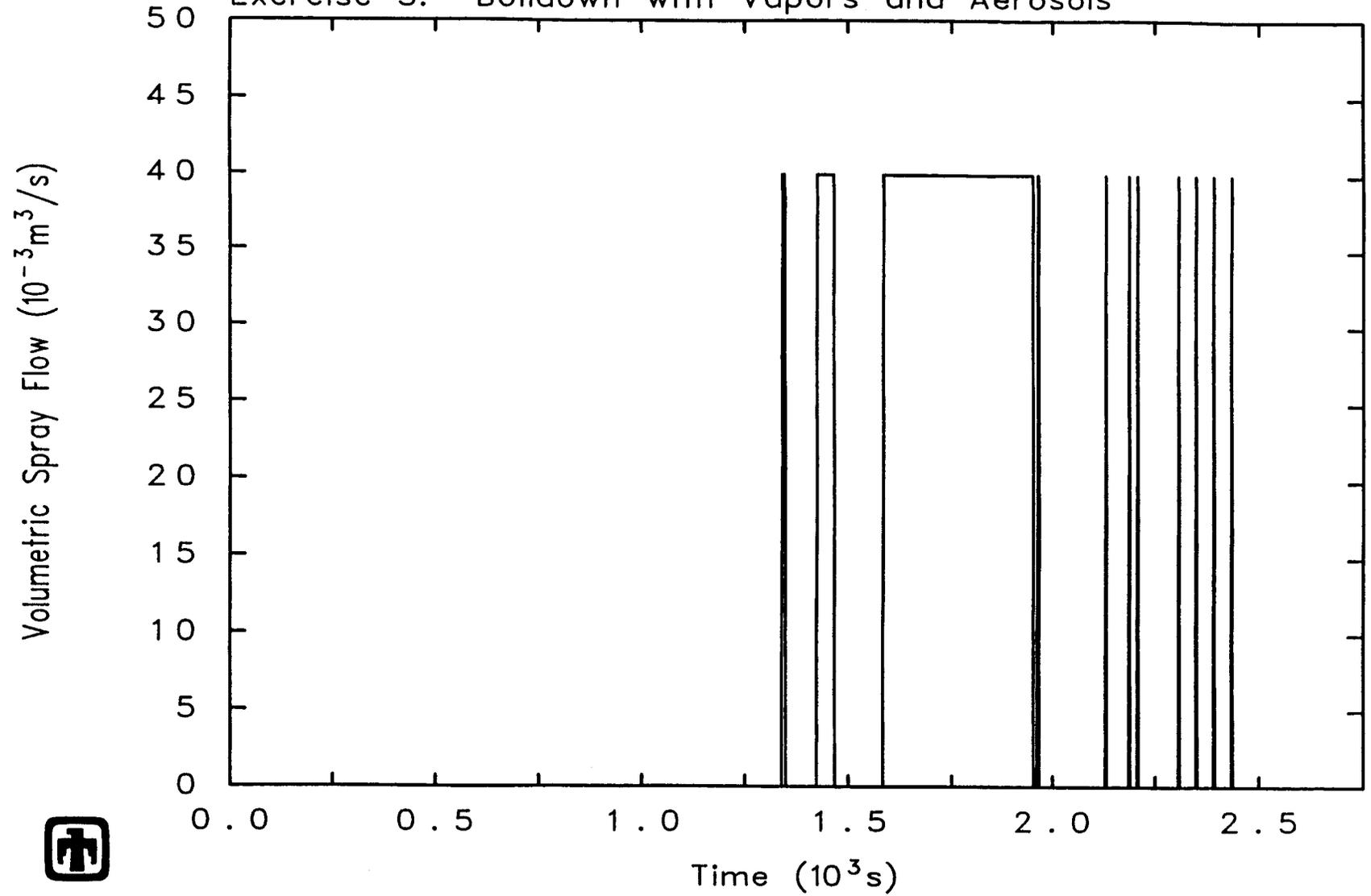


EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

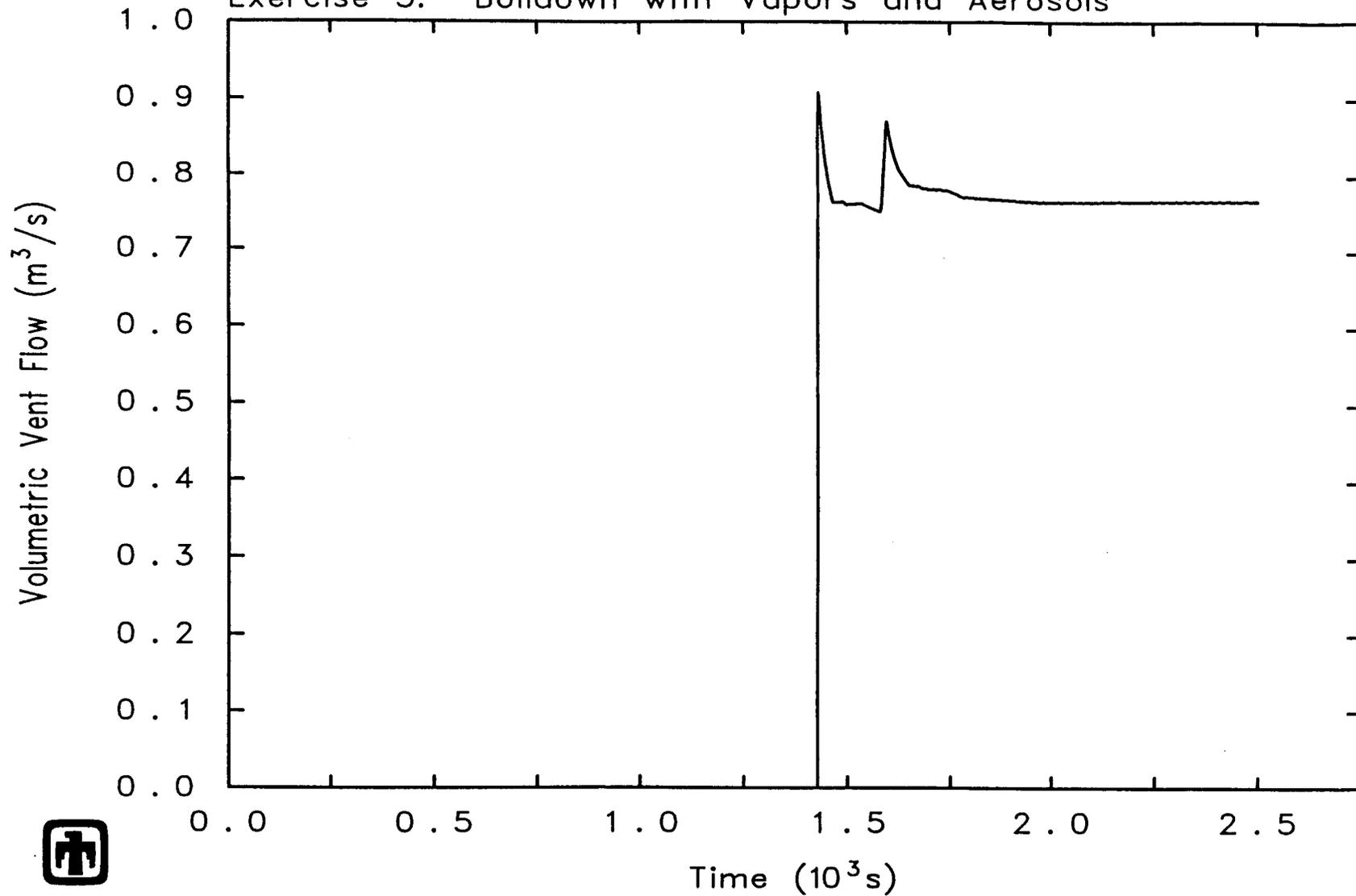
UF.99

Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5
ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5
SPR-FL.1

Exercice 5: Boildown with Vapors and Aerosols

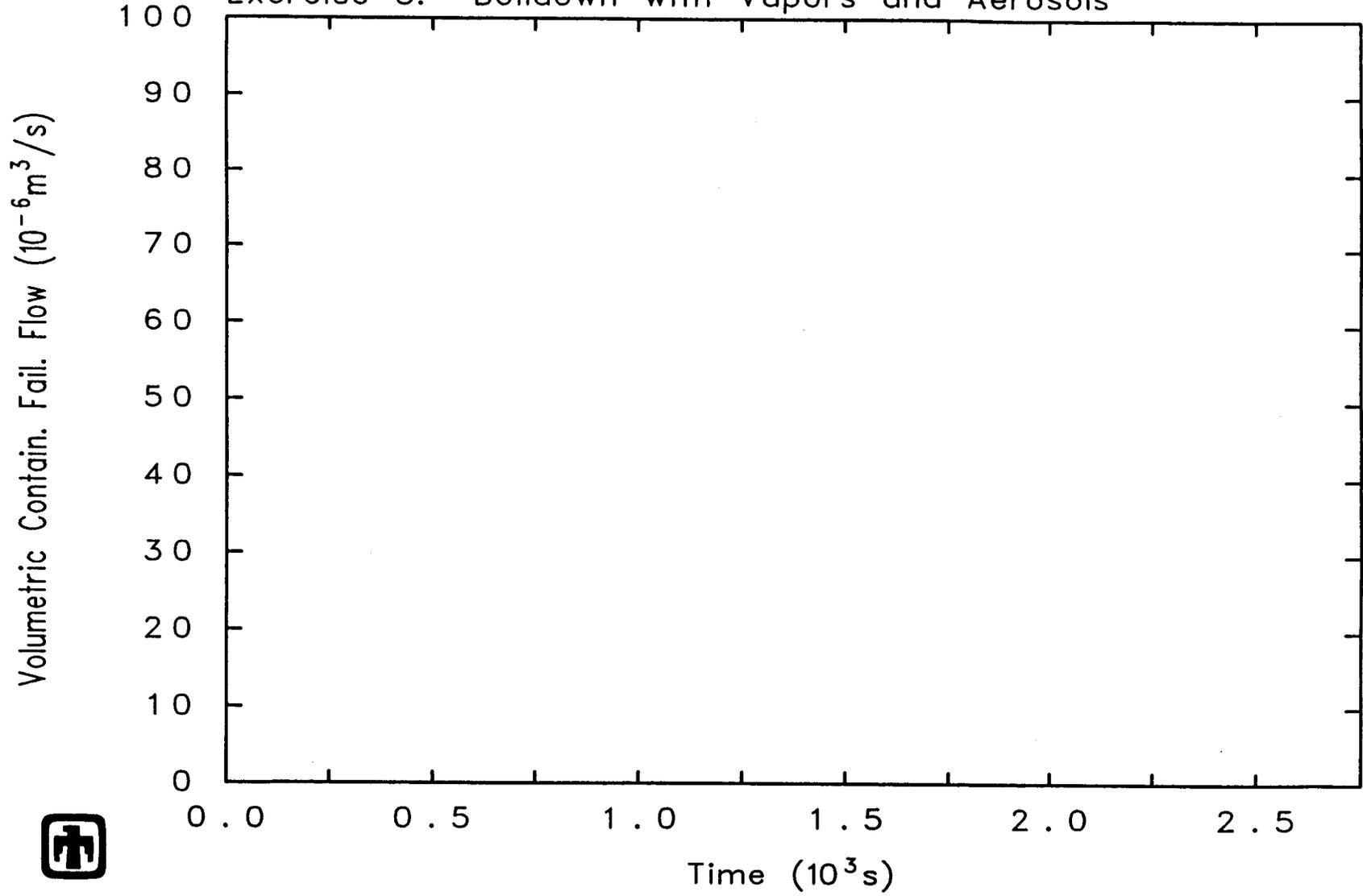


EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

FL-VELVAP.398

Exercice 5: Boildown with Vapors and Aerosols

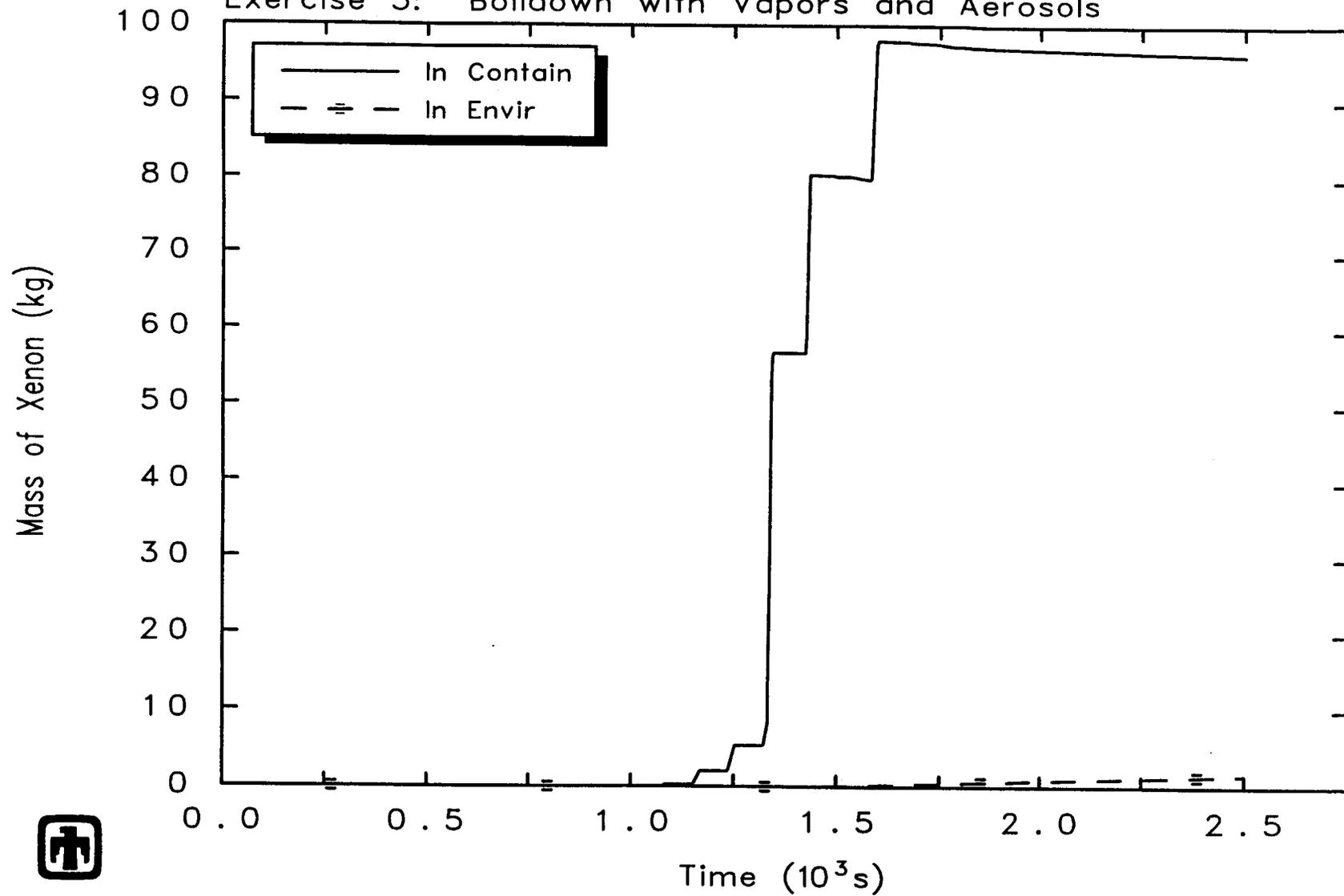


EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

FL-VELVAP.399

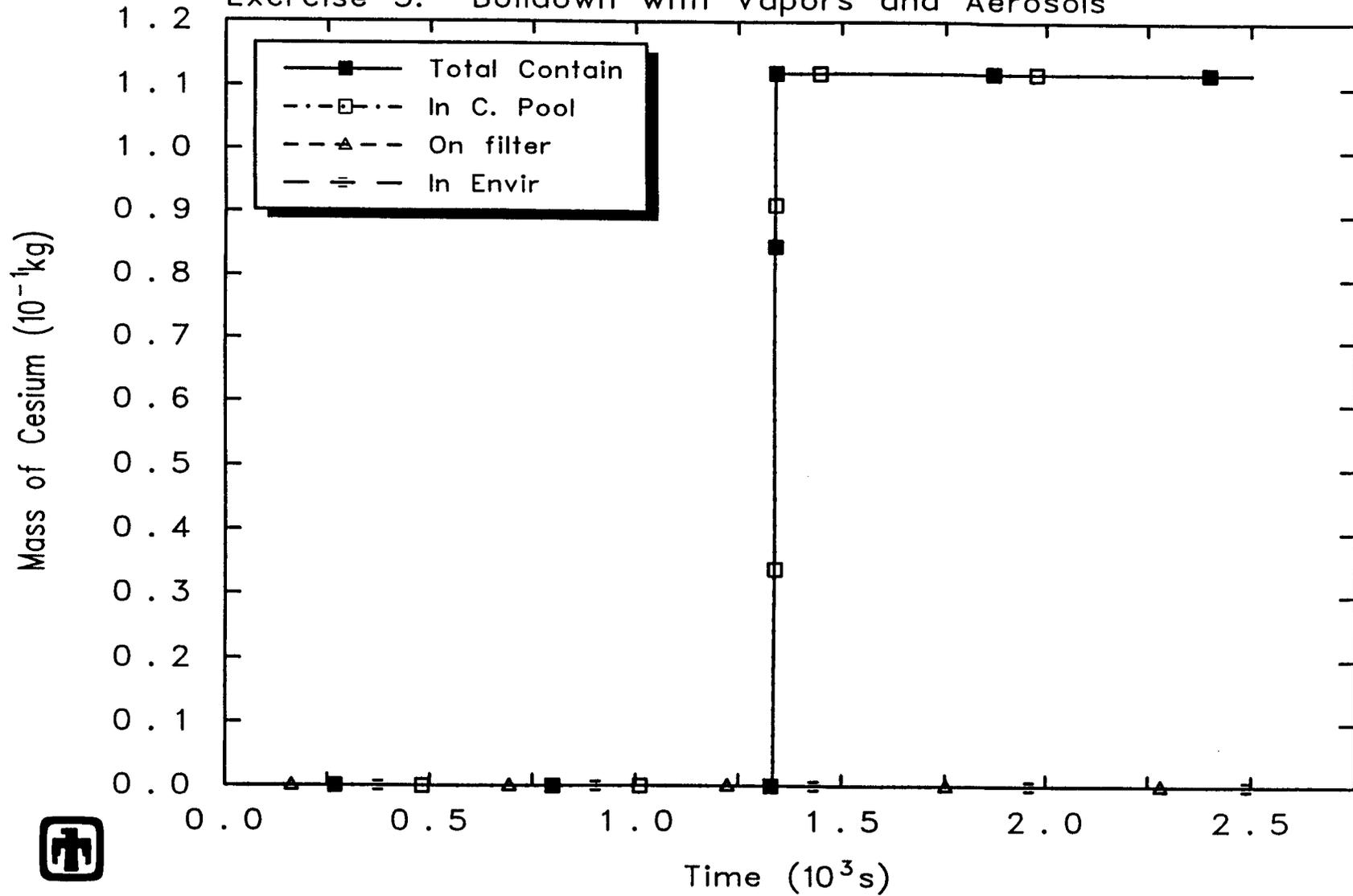
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

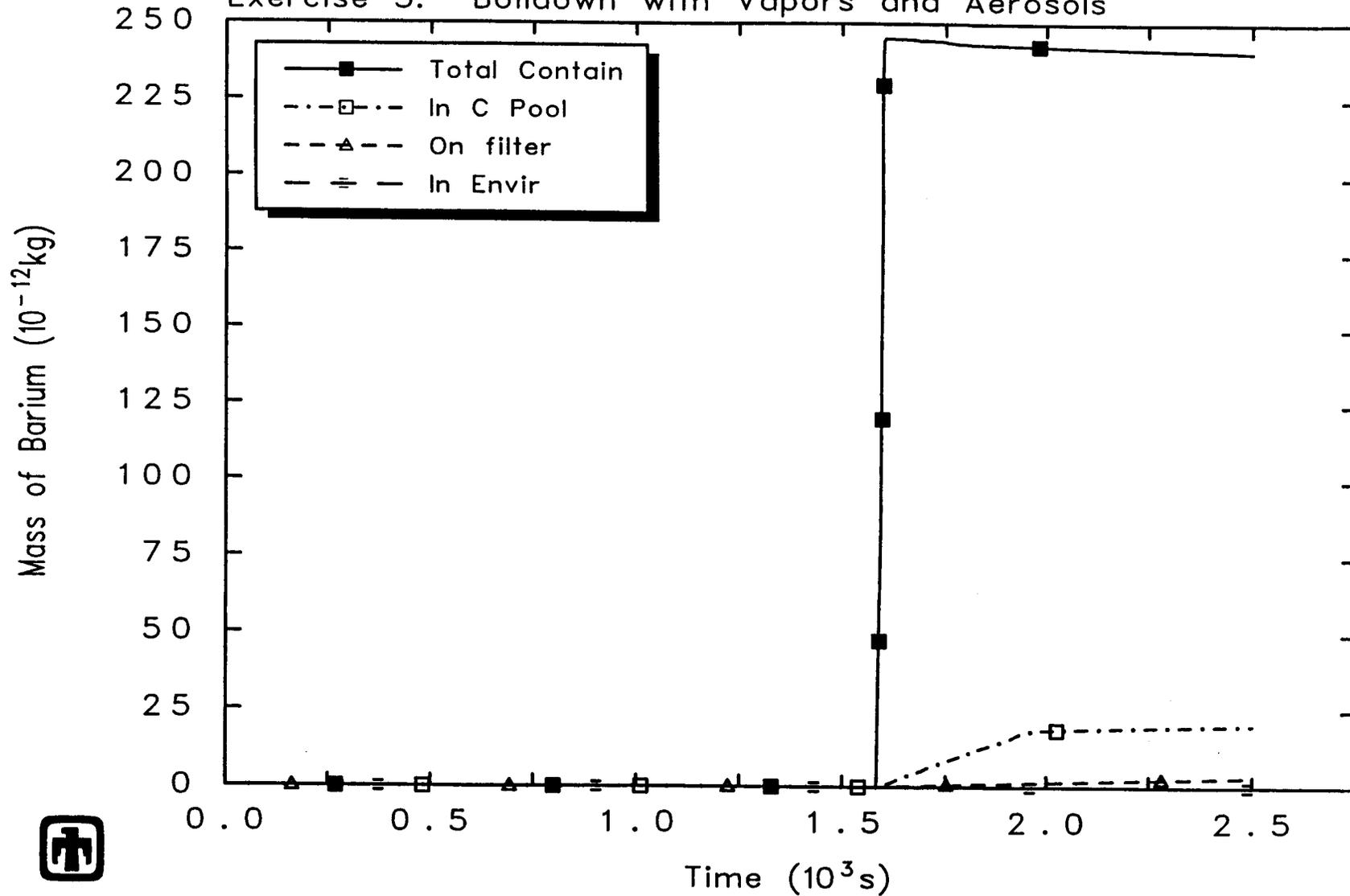
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

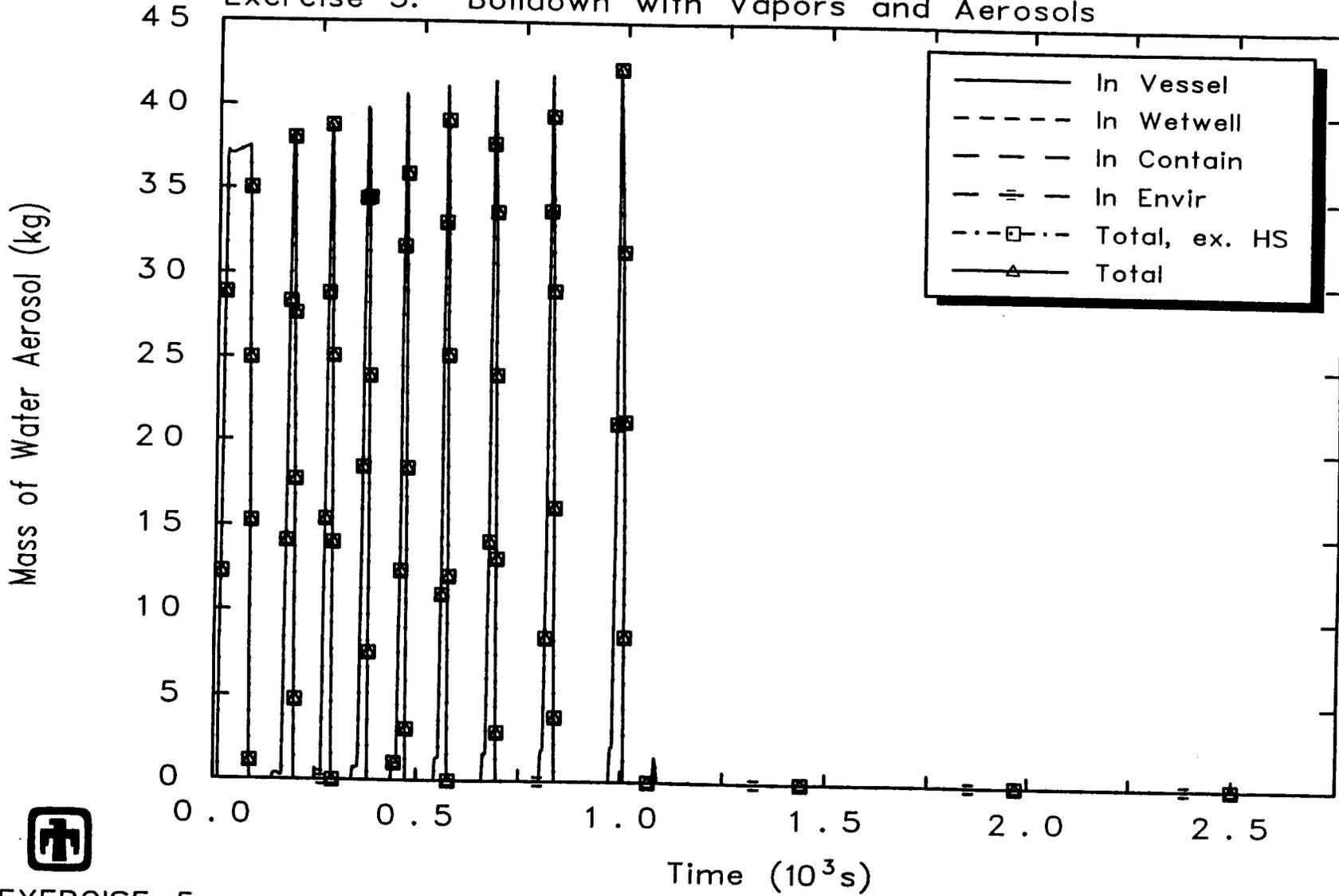
Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

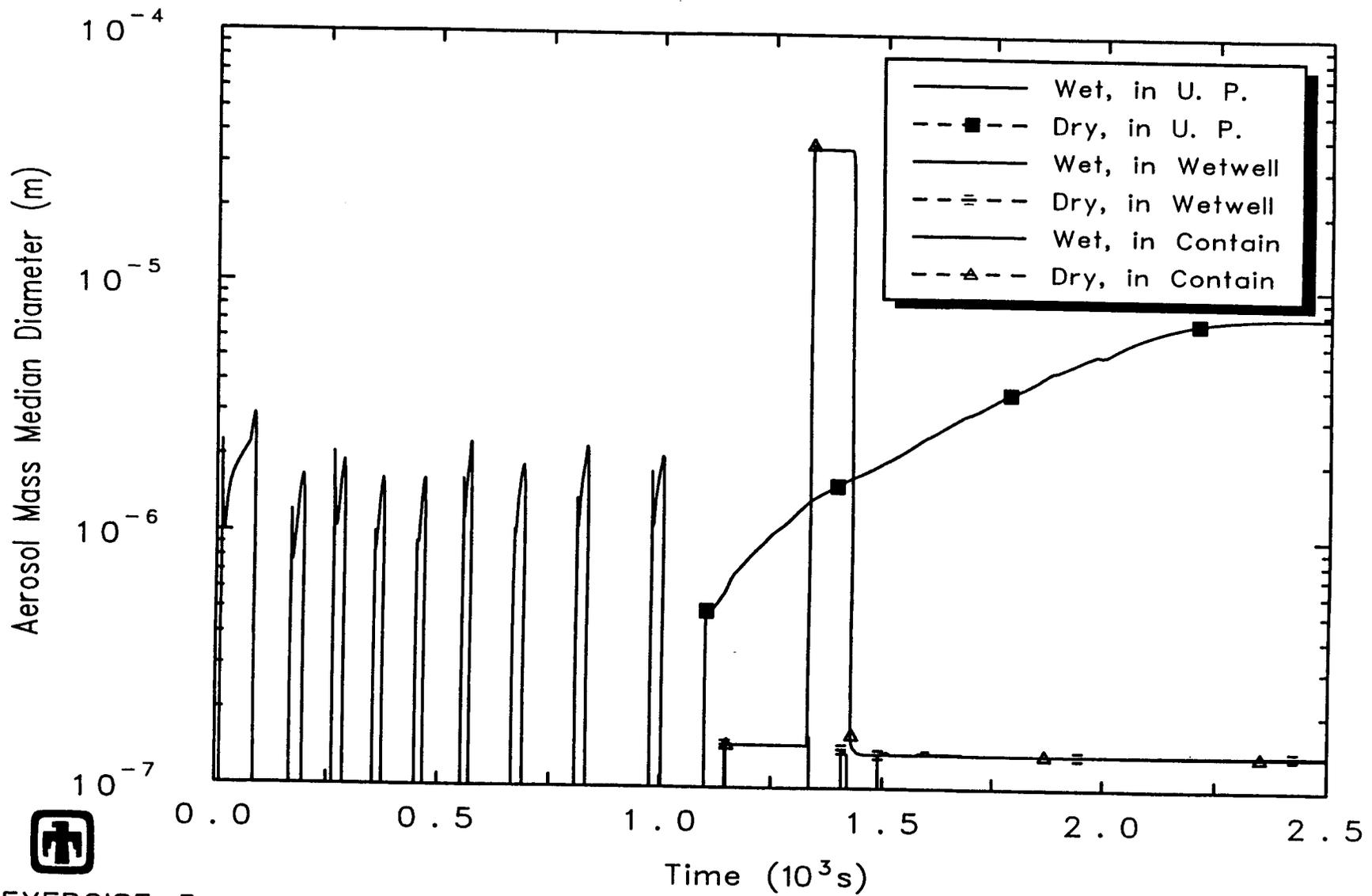
ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

Exercice 5: Boildown with Vapors and Aerosols



EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

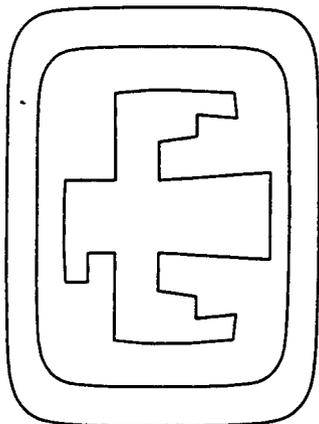


EXERCISE 5

ZADRCHWQZ 4/26/01 17:25:56 MELCOR DV5

USER NAME NOT AVAILABLE

RSCORS 17:42:35 00/26/01- OSF



OSF
OSF
OSF

RSCORS 17:42:35 00/26/01-

SOFTWARE VALIDATION TEST PLAN FOR MELCOR VERSION 1.8.5

October 19, 2001

Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
San Antonio, Texas

Author

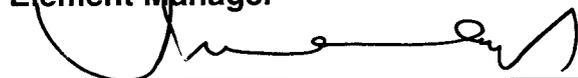


Roland Benke

November 13, 2001

Date

Element Manager



Asadul Chowdhury

11-13-01

Date

1.0 Scope of the Validation

MELCOR Version 1.8.5 is an acquired software not to be modified and is under configuration control at the Center for Nuclear Waste Regulatory Analyses, software release number 253. MELCOR Version 1.8.5 (U.S. Nuclear Regulatory Commission, 2000) was developed by Sandia National Laboratories, Albuquerque, NM for the Office of Nuclear Regulatory Research of the U. S. Nuclear Regulatory Commission (NRC), Washington, DC under the NRC supervision of Dr. Farouk Eltawila and Dr. Ali Behbahami (NRC Job Code W6203). All references to MELCOR in this plan refer to MELCOR Version 1.8.5.

The validation test simulates the flow and transport of aerosols and vapors through defined control volumes and includes a heat source, heat structures, a hydrogen source for oxidation, a valve for containment failure, degassing of water vapor, a filter vent, and pool scrubbing. This validation test does not exercise the nuclear reactor core module of the MELCOR code.

2.0 References

U.S. Nuclear Regulatory Commission. MELCOR Computer Code Manuals. Version 1.8.5. NUREG/CR-6119, Rev. 2. U.S. NRC: Washington, DC. October 2000.

3.0 Environment

3.1 Software

MELCOR Version 1.8.5 is DOS-based. The validation test will be conducted under a Windows NT Version 4.0 operating system. The following list of files are required for the test.

- Input file
 - Ex5_0.txt
- Batch files
 - 1 run melgen.bat
 - 2 run melcor.bat
 - 3 run hispltm.bat
 - 4 run popwin.bat
- Executable files
 - MELGEN_3.exe
 - MELCOR_3.exe
 - Hispltm.exe
 - popwin.exe
- Solution file
 - Ex5_0.pdf

3.2 Hardware

The hardware required is an IBM-compatible personal computer with a CD-ROM drive.

4.0 Prerequisites

The input and batch files must be located in the same directory. The executable files must be located in a directory, named Exe, which must be at the same level as the directory containing the input and batch files (i.e., the batch files call the executables with the path `..\Exe\<>name of executable file<>`).

5.0 Assumptions and Constraints

None.

6.0 Test Case

6.1 Vapor/Aerosol Test

This test involves executing a sample input file and comparing the plotted output with known solutions, prepared by the code developers. This test simulates a fission product release and the flow and transport of aerosols and vapors through defined control volumes. The test includes a heat source, heat structures, a hydrogen source for oxidation, a valve for containment failure, degassing of water vapor, a filter vent and pool scrubbing.

The MELCOR code has been incorporated into the PCSA Tool. However, not all components of the MELCOR code have been incorporated into the PCSA Tool. The objective of this text is to validate the components of the MELCOR code that are utilized by the PCSA Tool. In fact, the PCSA Tool's use of MELCOR does not invoke oxidation, containment failure, degassing, filtering, pool scrubbing, or the nuclear reactor core module.

6.2 Test Input

The files required for the test are listed in section 3.1 Software, and the setup of the test input is described in section 4.0 Prerequisites.

6.3 Test Procedure

The steps of the test procedure are listed below.

Step 1: Execution of Melgen

Execute the batch file `1 run melgen.bat` and enter `Ex5_0.txt` after the Melgen input file prompt.

Step 2: Execution of Melcor

Execute the batch file *2 run melcor.bat* and enter *Ex5_0.txt* after the Melcor input file prompt.

Step 3: Execution of Hispltm

Execute the batch file *3 run hispltm.bat* and enter *i=Ex5_0.txt o=Ex5.ptf* after the prompt for execution parameters. Execution of Hispltm creates the *pophis* file.

Step 4: Execution of Popwin

Execute the batch file *4 run popwin.bat* and enter *pophis* after the prompt. Enter *R* when prompted for the "CRT display format desired." Execution of Popwin generates plots to display the output results.

After the prompt "What next," enter *N* to view the next plot. When finished with that plot, press Enter for the "What next" prompt. Enter *N* to view the next plot and continue these steps until all plots have been viewed. Enter *E* at the "What next" prompt to end and exit.

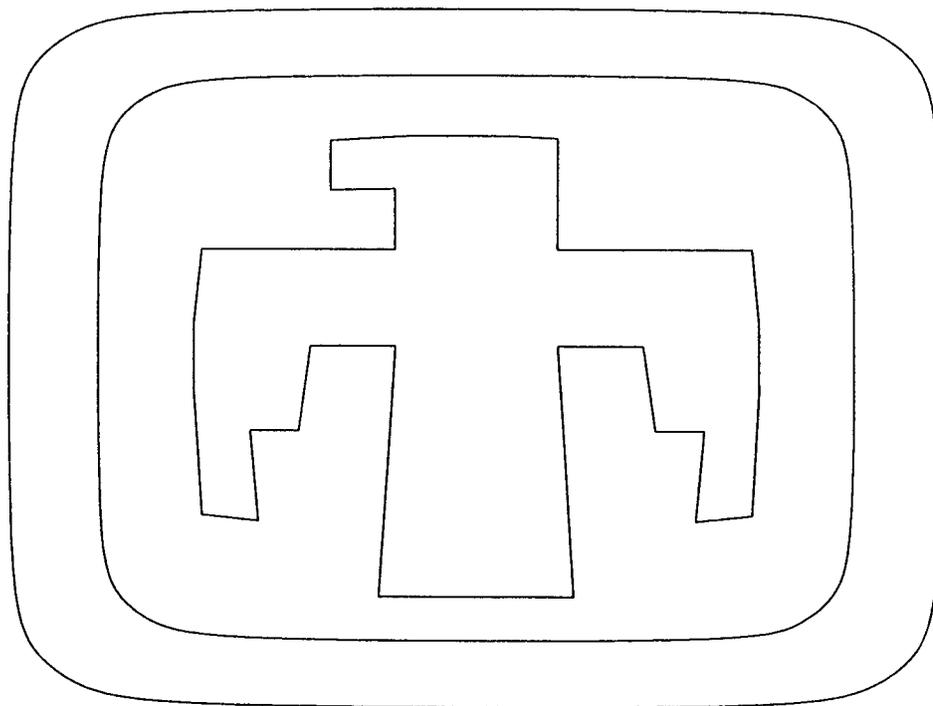
6.4 Expected Test Results

The test procedure creates output plots for comparison with the known solution plots, prepared by the software developers. The known solution plots have been printed out from *Ex5_0.pdf* and are attached to this plan. As the output plots from *pophis* are displayed one-by-one on the screen, each output plot will be compared to the intended solution plot. If each output plot shows the same results as the intended solution plot, the validation test is passed.

7.0 Notes

The attachment contains printouts of the known solution plots in *Ex5_0.pdf*.

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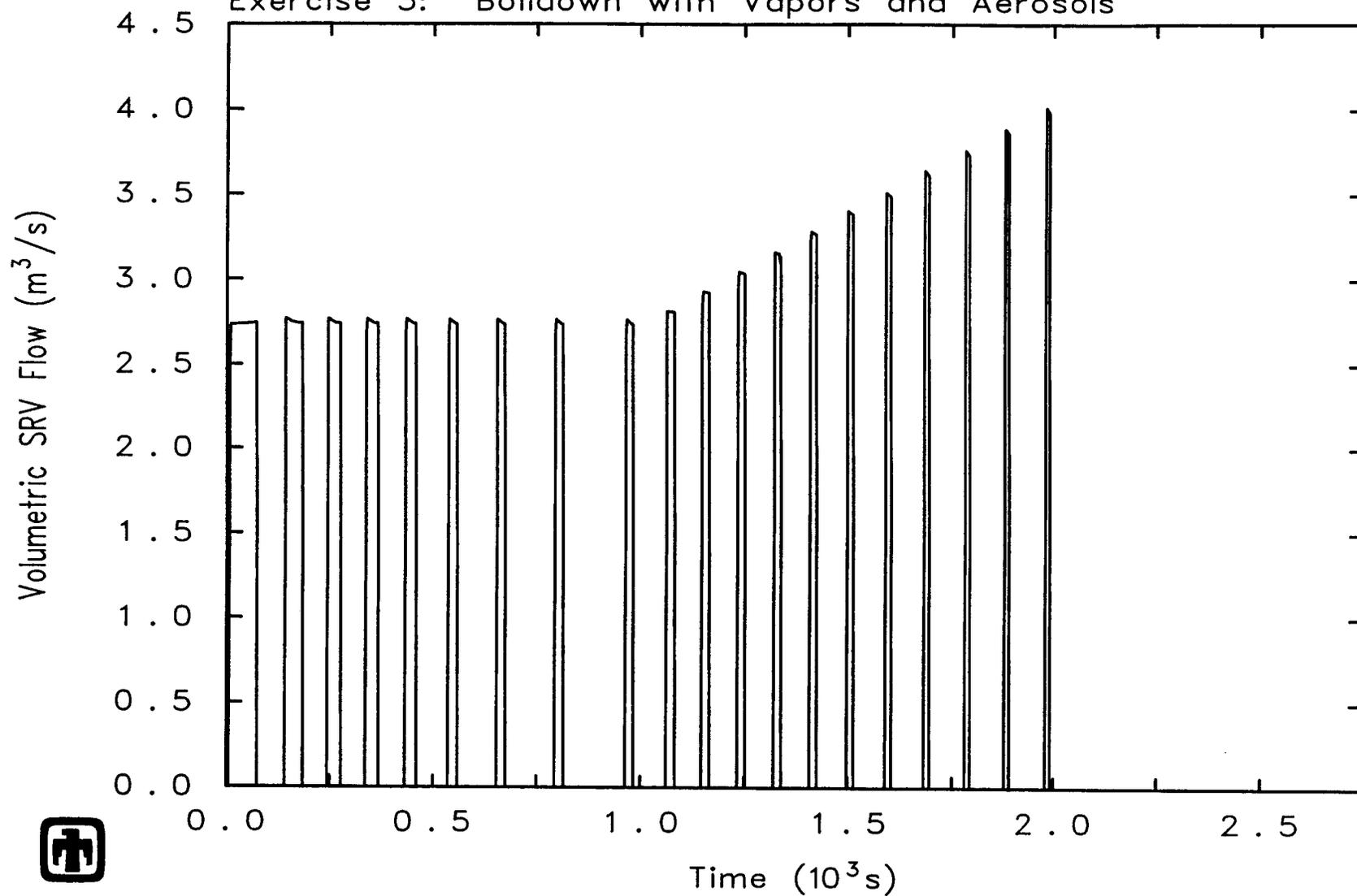
Sandia National Laboratories

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Exercise 5: Boildown with Vapors and Aerosols

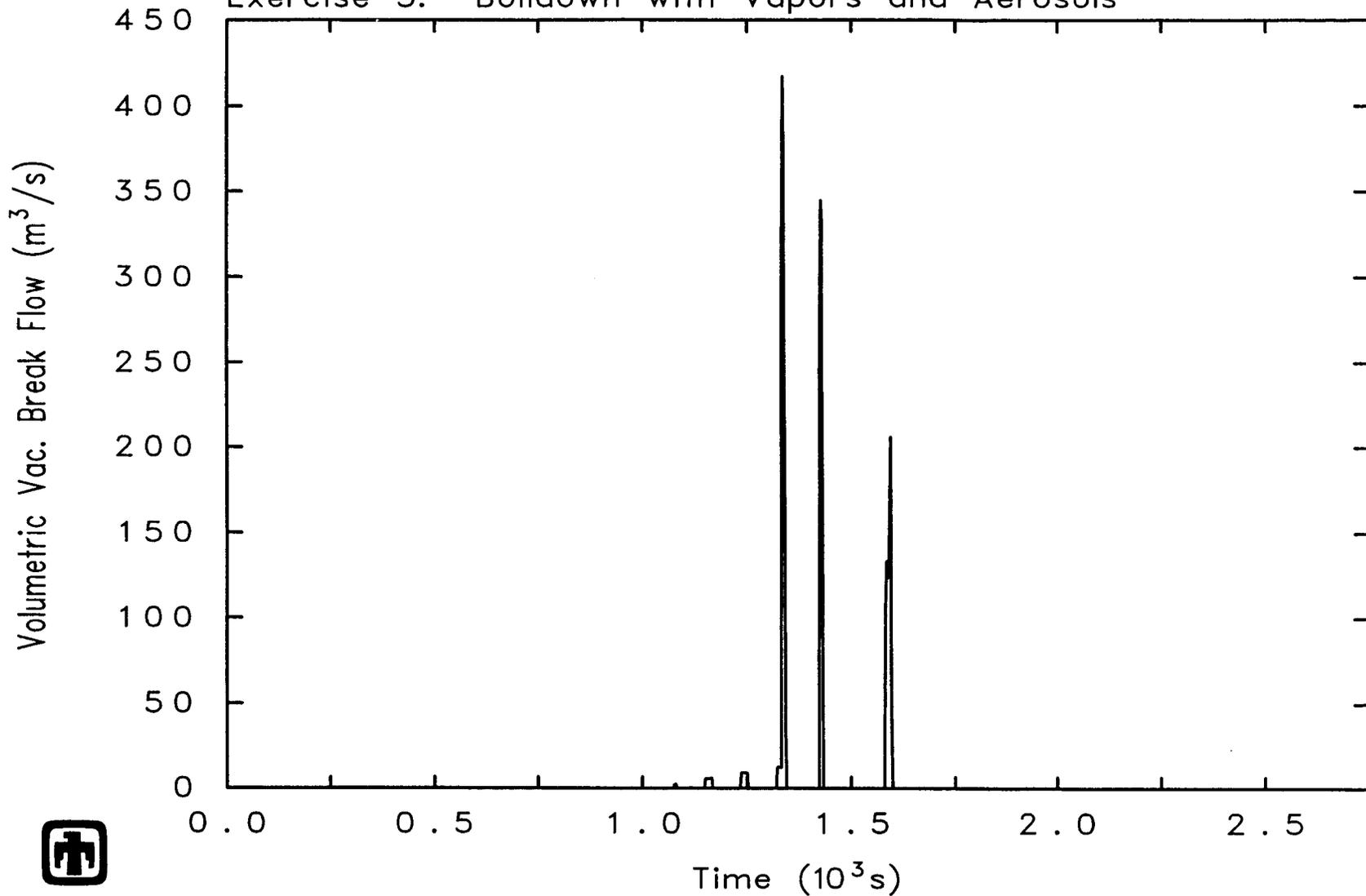


EXERCISE 5

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Exercise 5: Boildown with Vapors and Aerosols

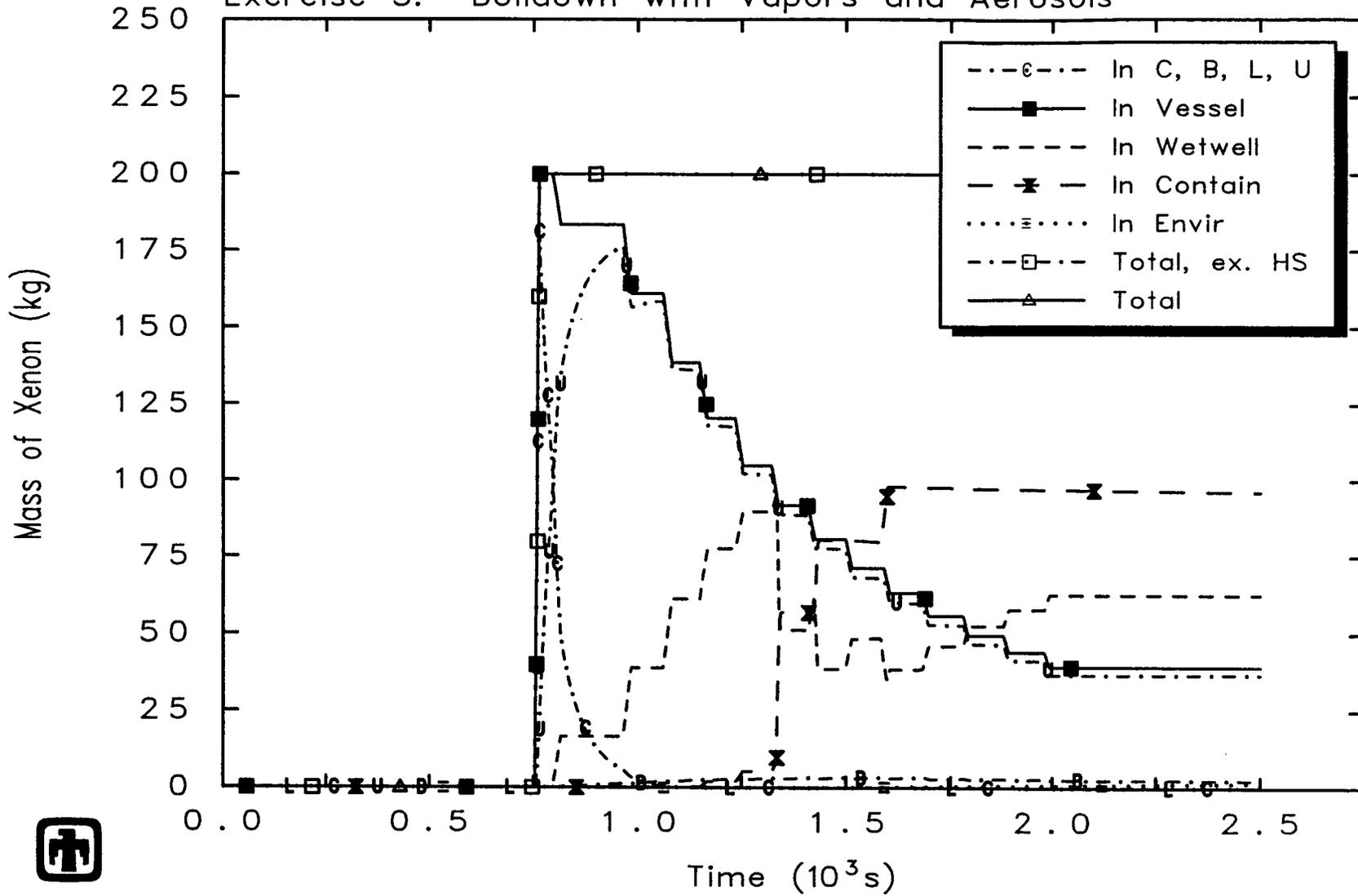


EXERCISE 5

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FL-VELVAP.230

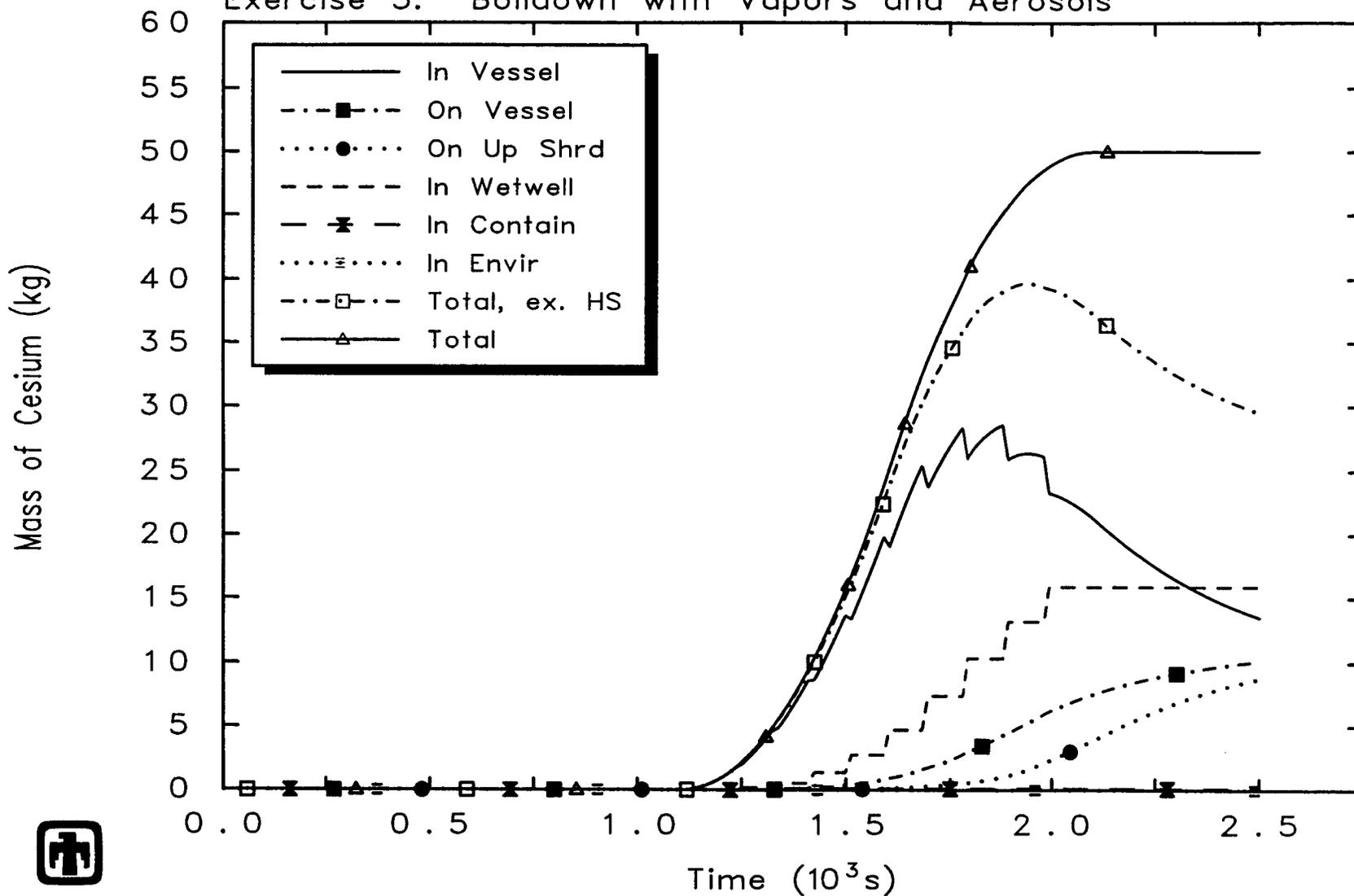
Exercise 5: Boildown with Vapors and Aerosols



EXERCISE 5

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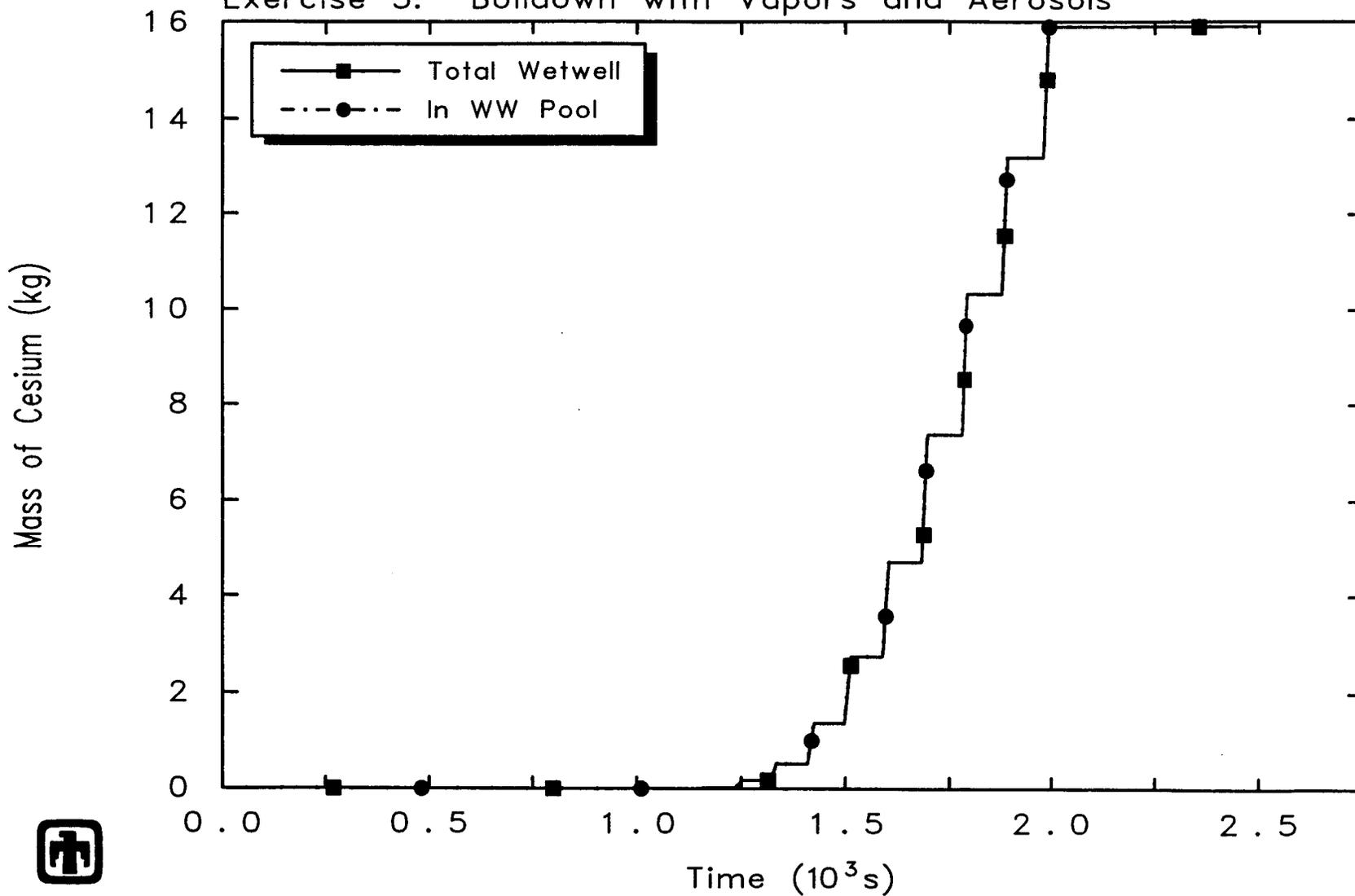
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EXERCISE 5

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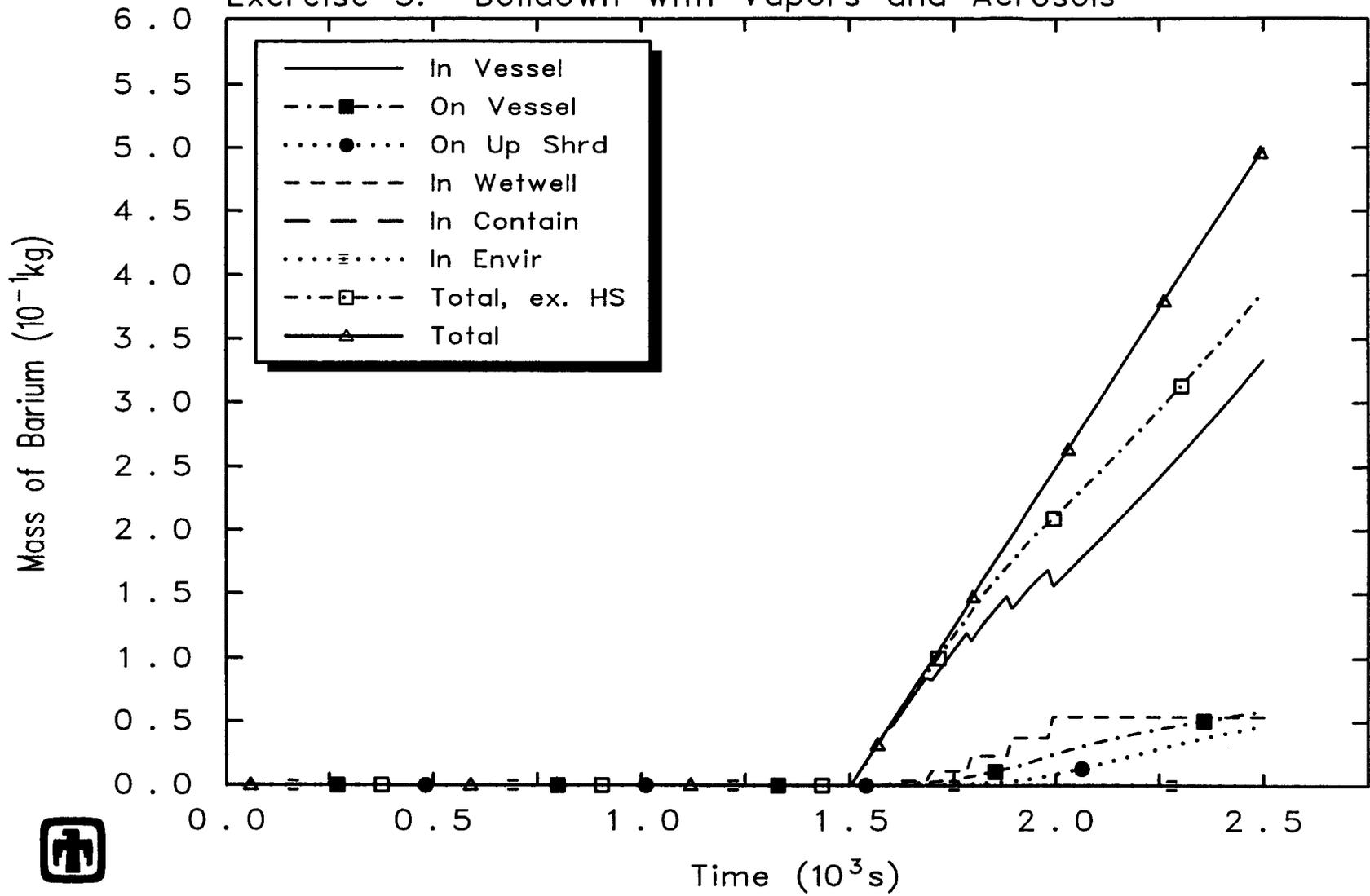
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EXERCISE 5

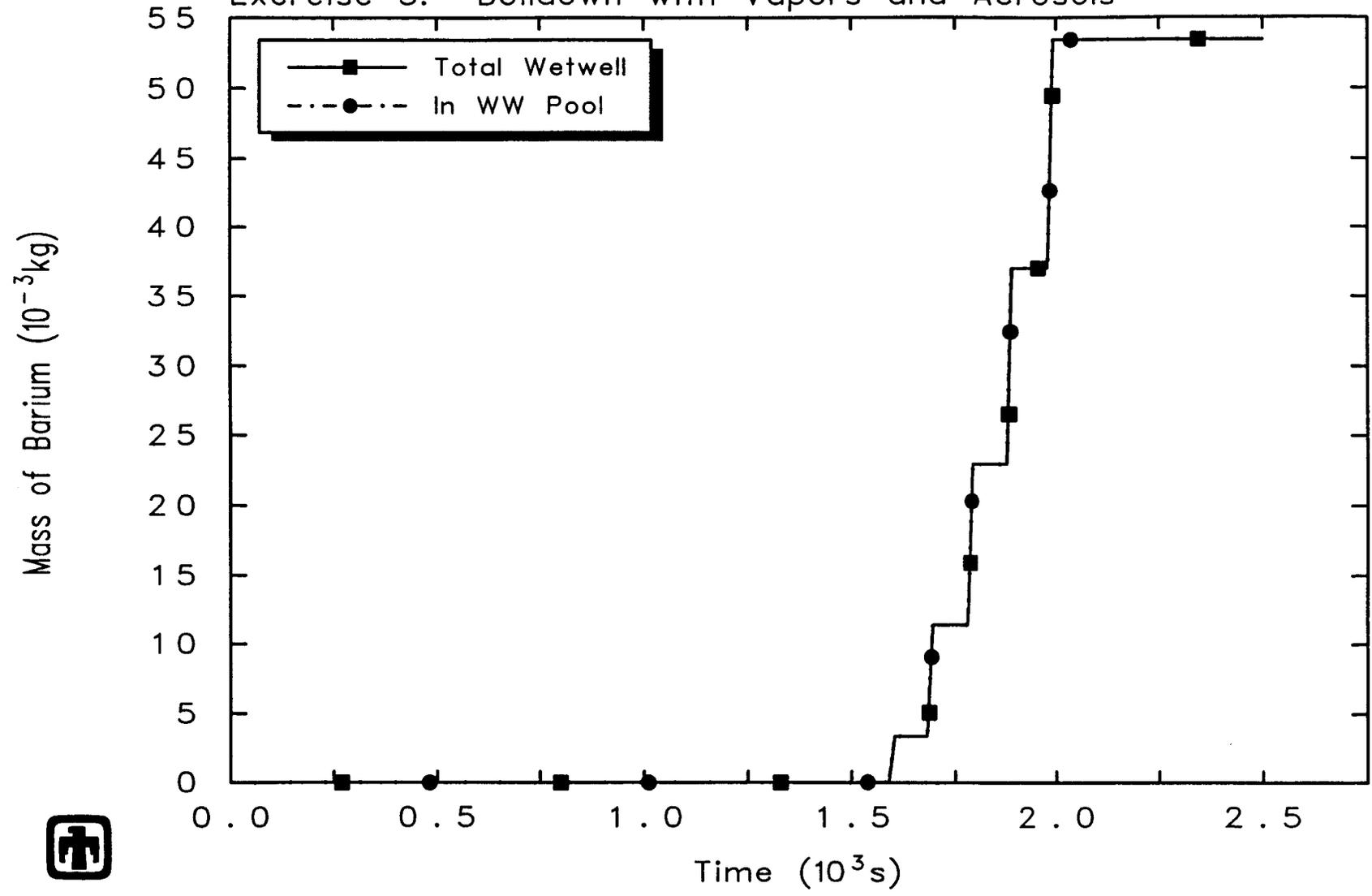
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Exercise 5: Boildown with Vapors and Aerosols



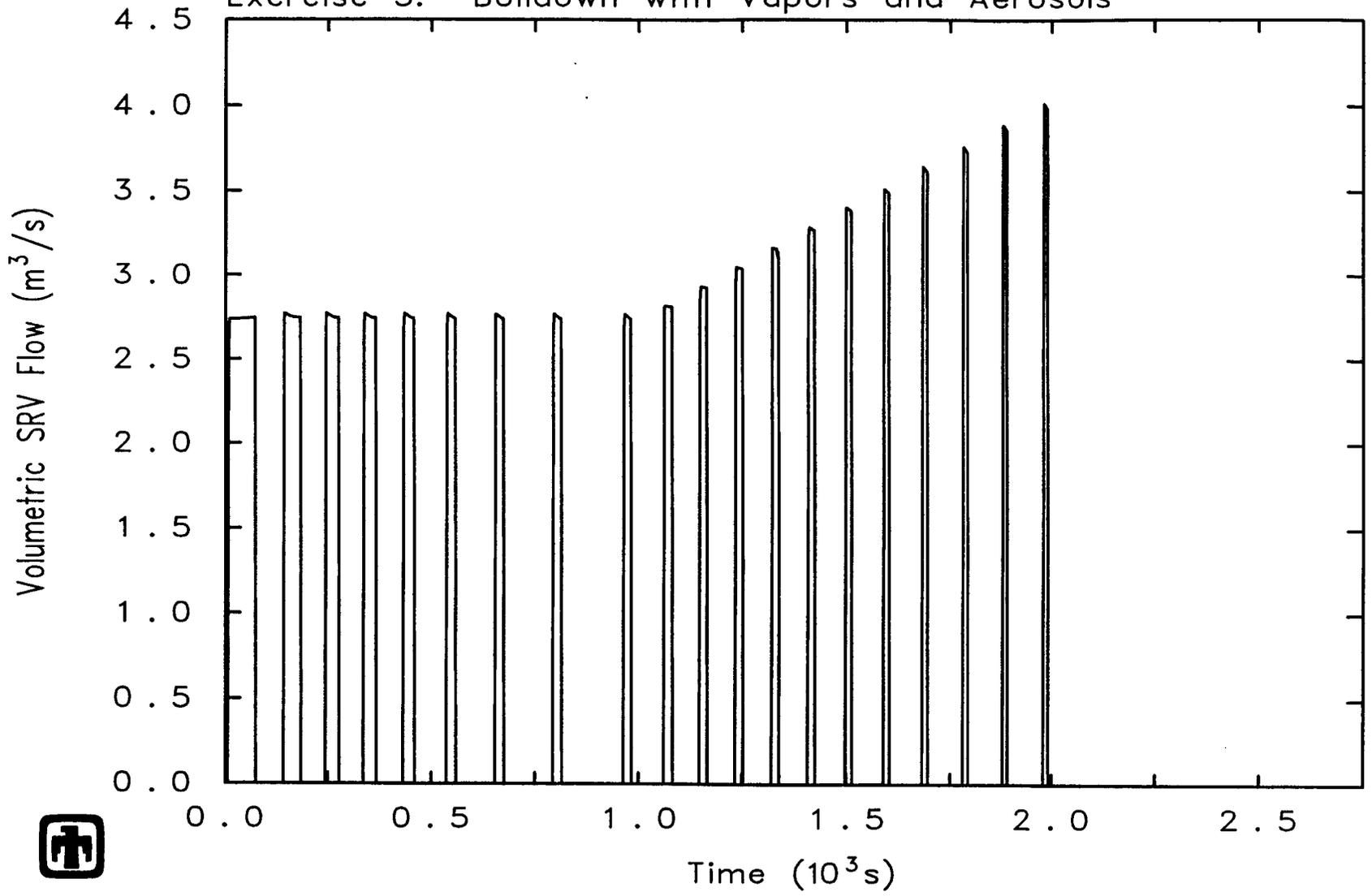
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Exercise 5: Boildown with Vapors and Aerosols



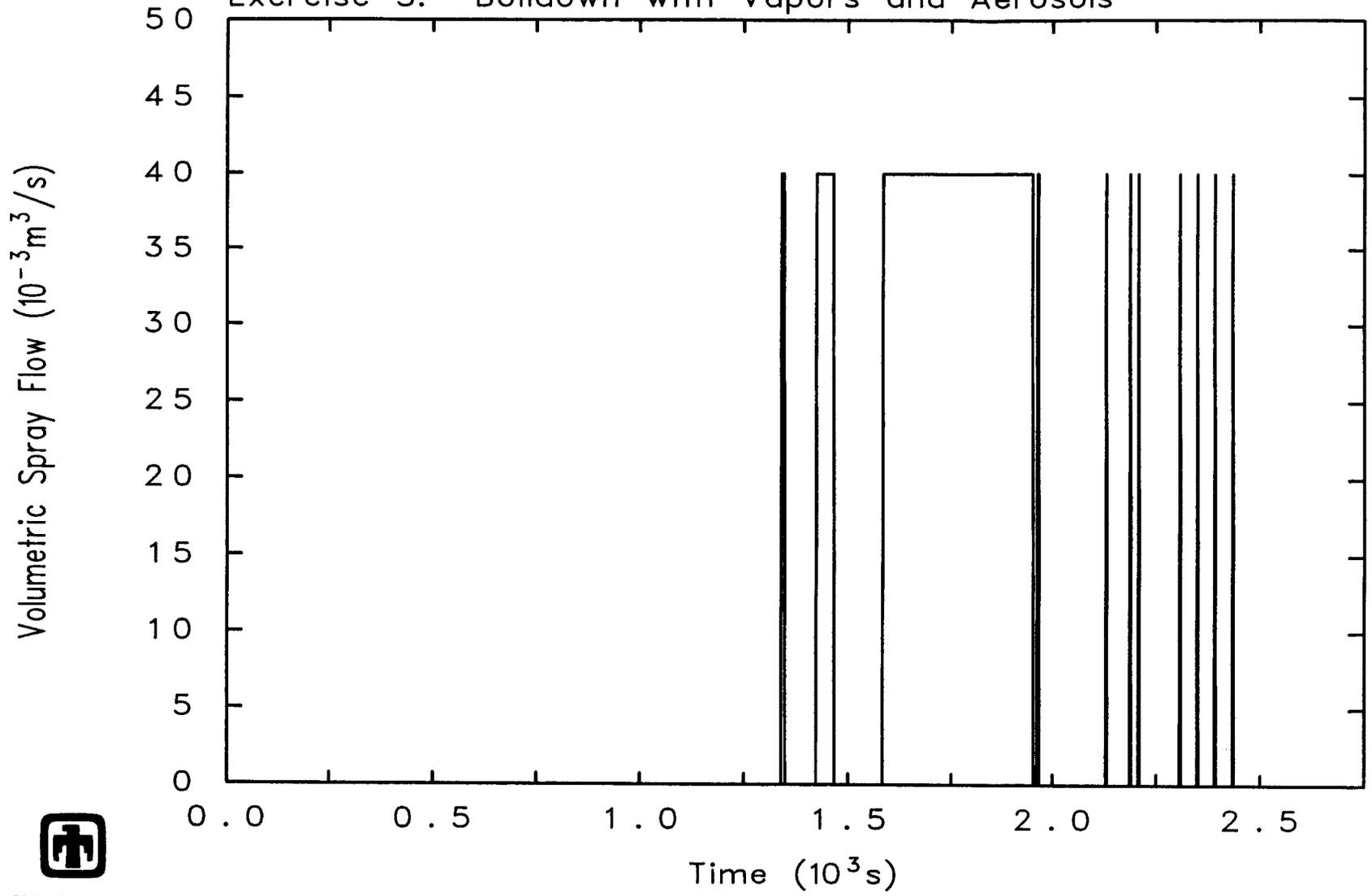
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Exercise 5: Boildown with Vapors and Aerosols



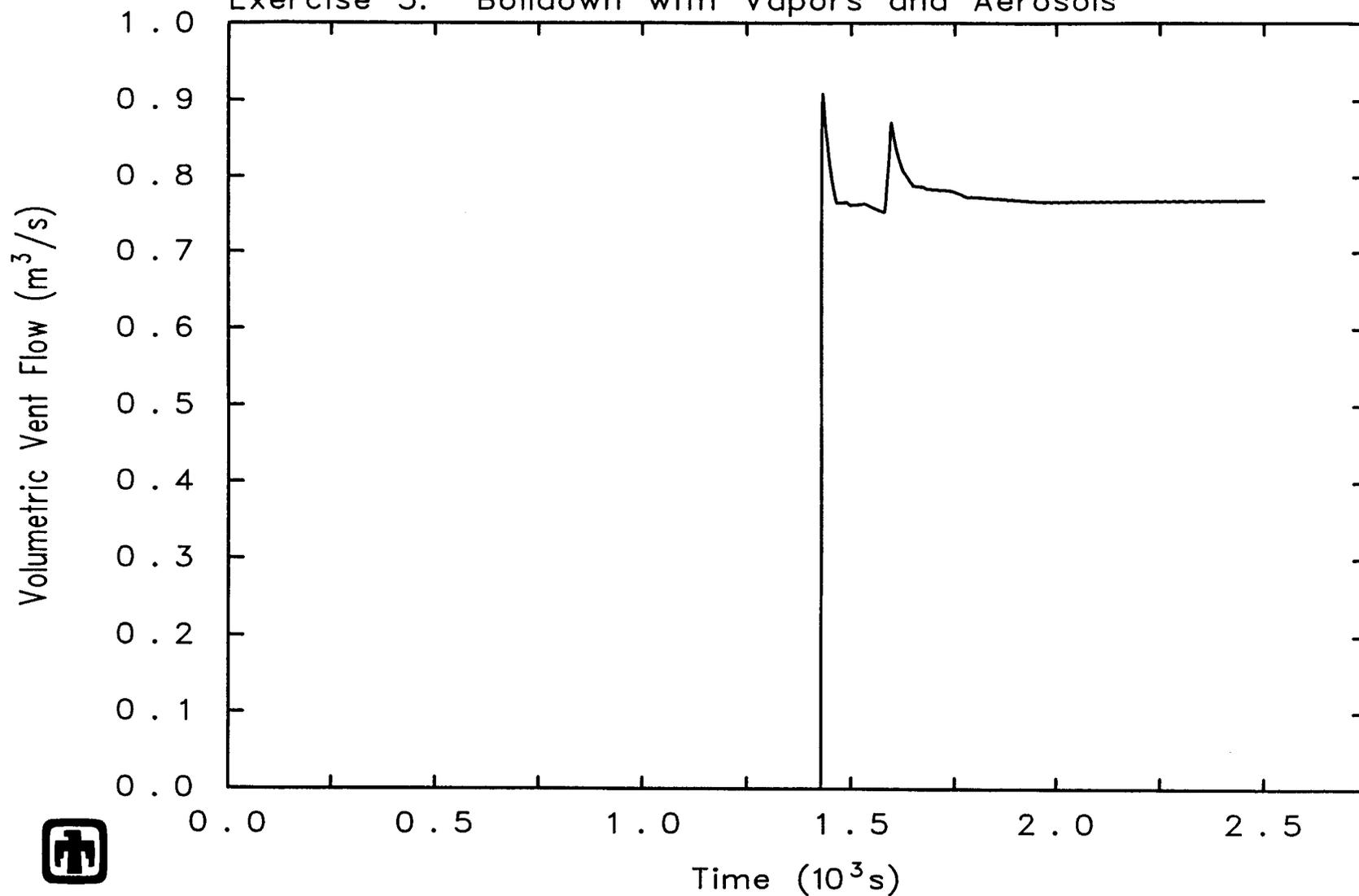
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Exercise 5: Boildown with Vapors and Aerosols



EXERCISE 5
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Exercise 5: Boildown with Vapors and Aerosols

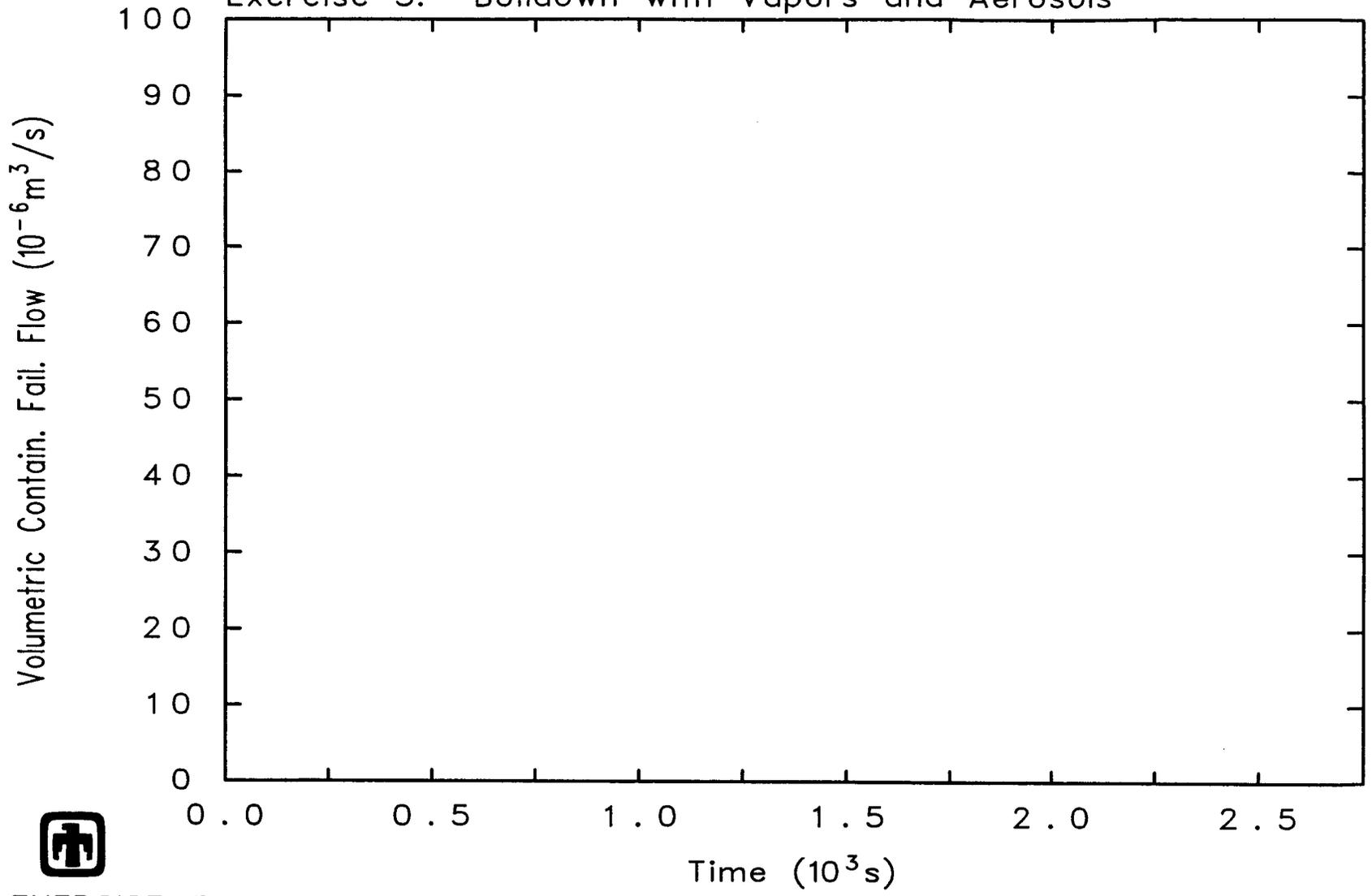


EXERCISE 5

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Exercise 5: Boildown with Vapors and Aerosols

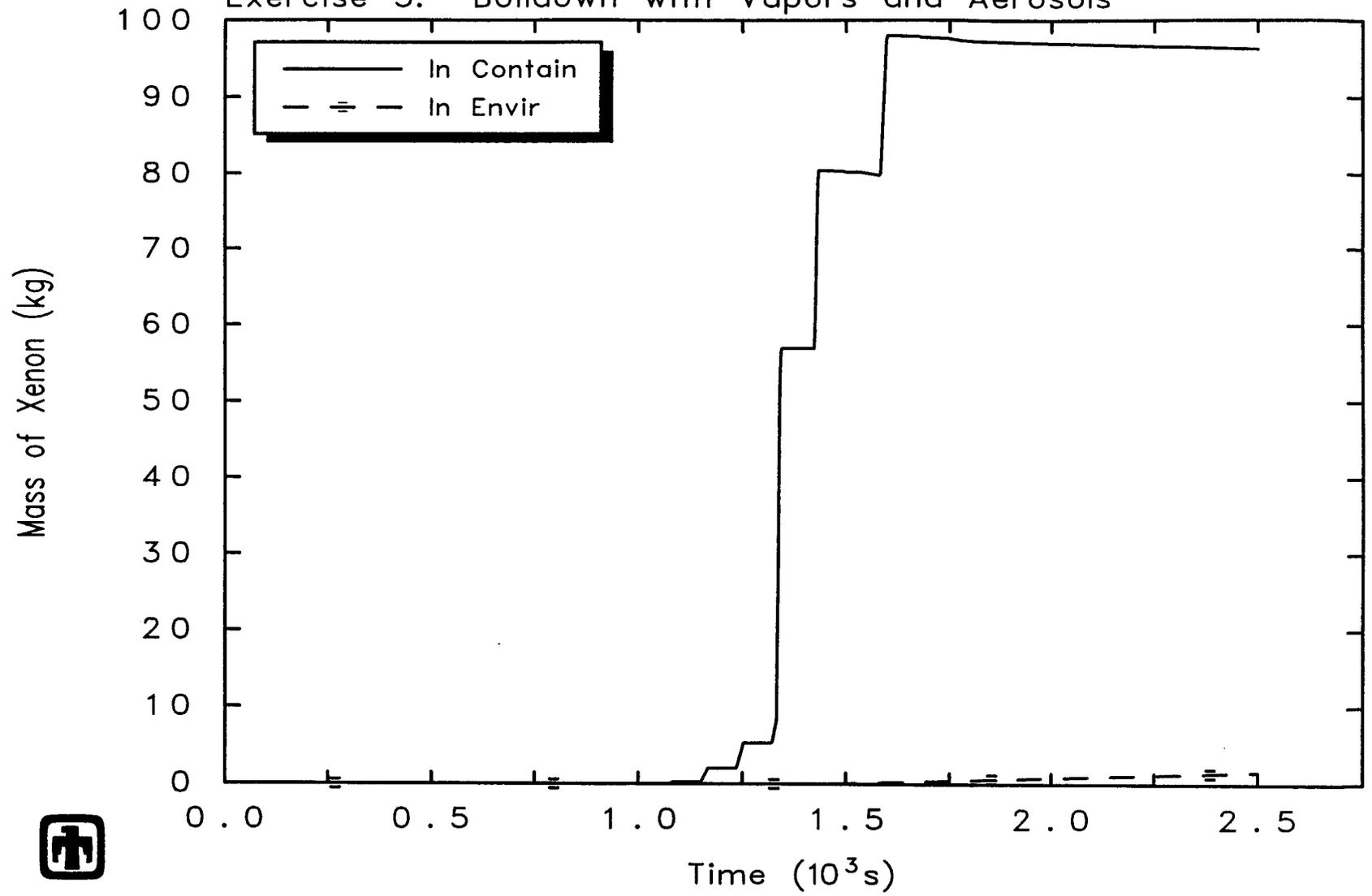


EXERCISE 5

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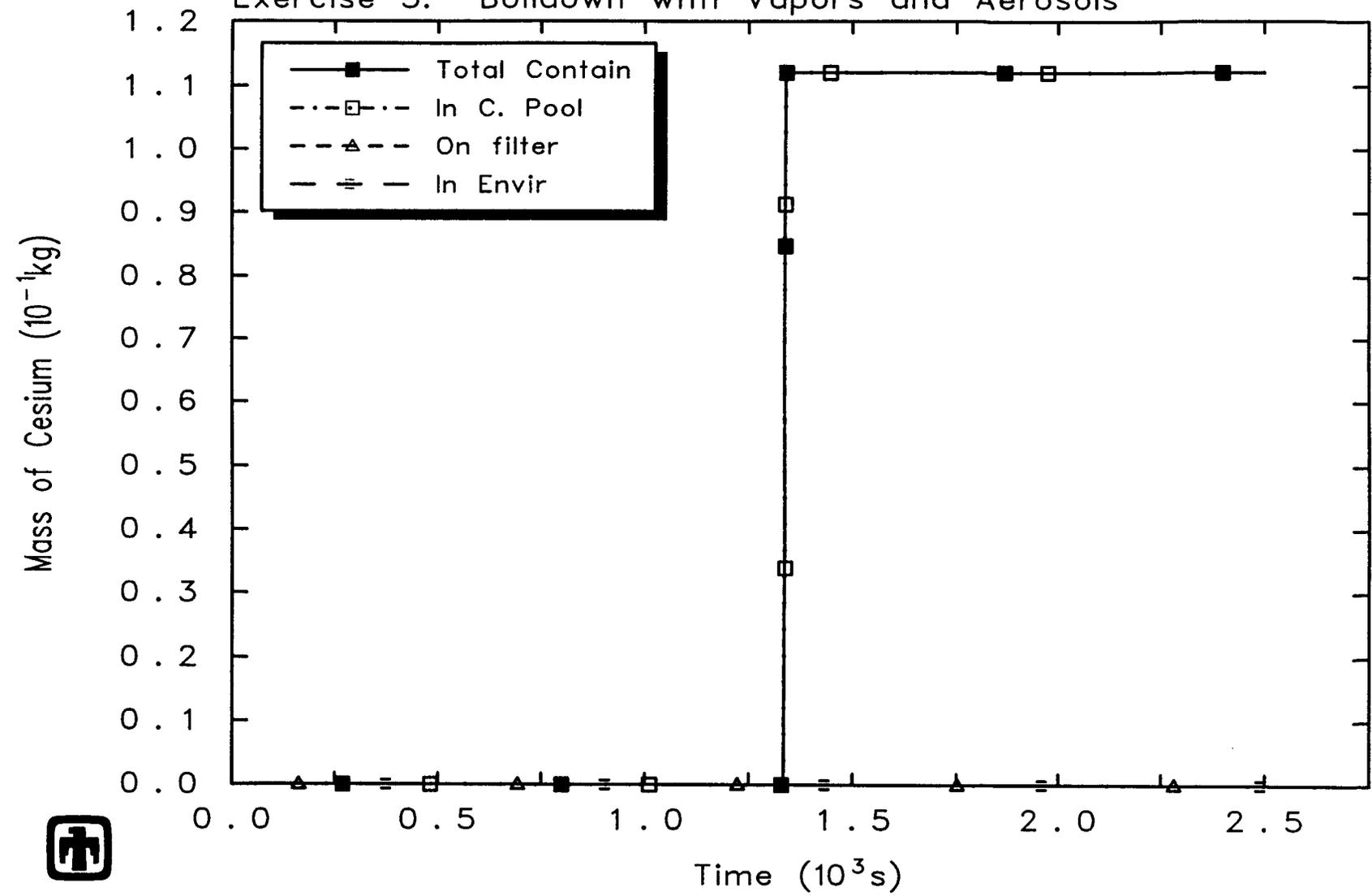
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Exercise 5: Boildown with Vapors and Aerosols



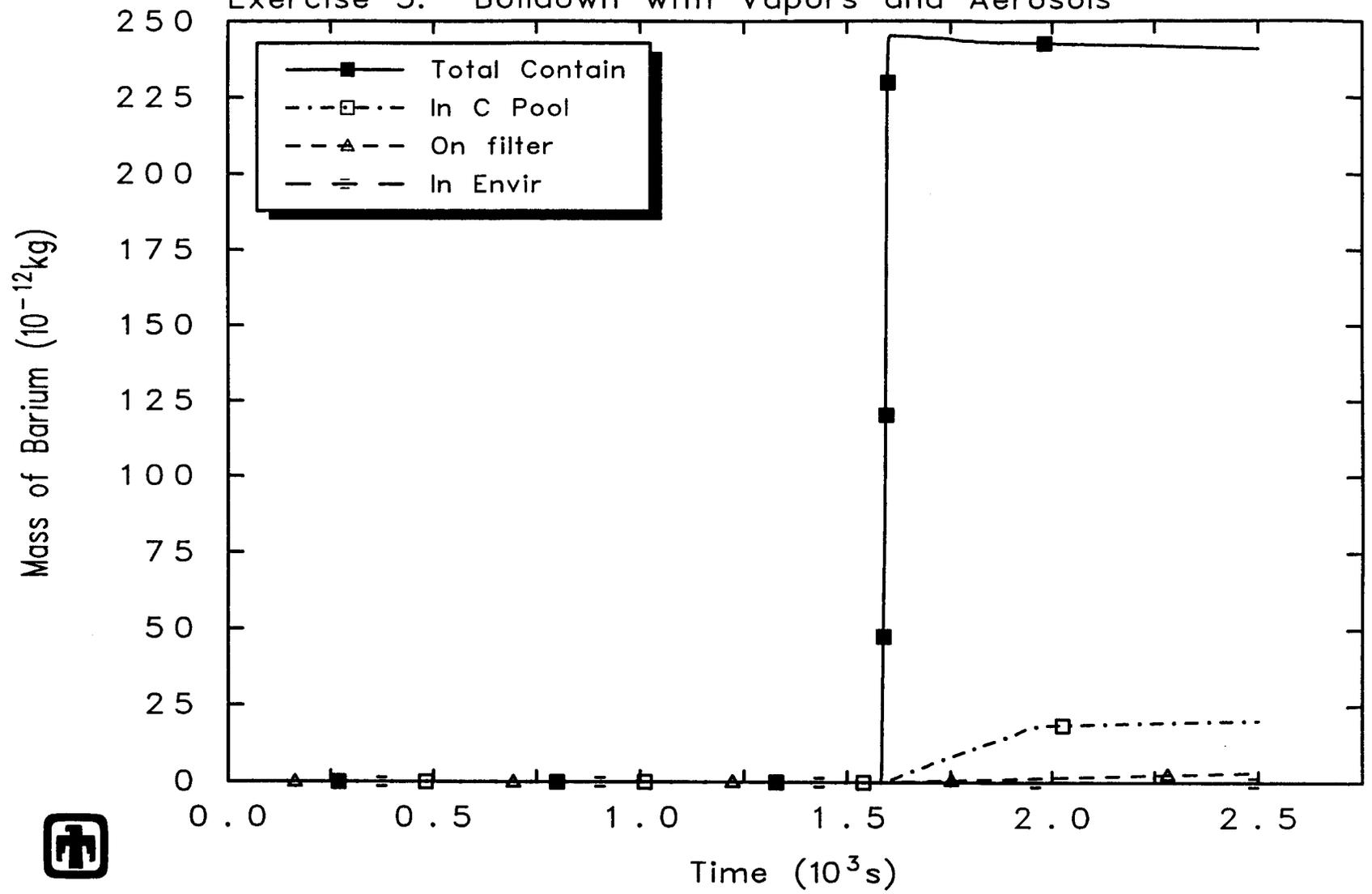
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Exercise 5: Boildown with Vapors and Aerosols



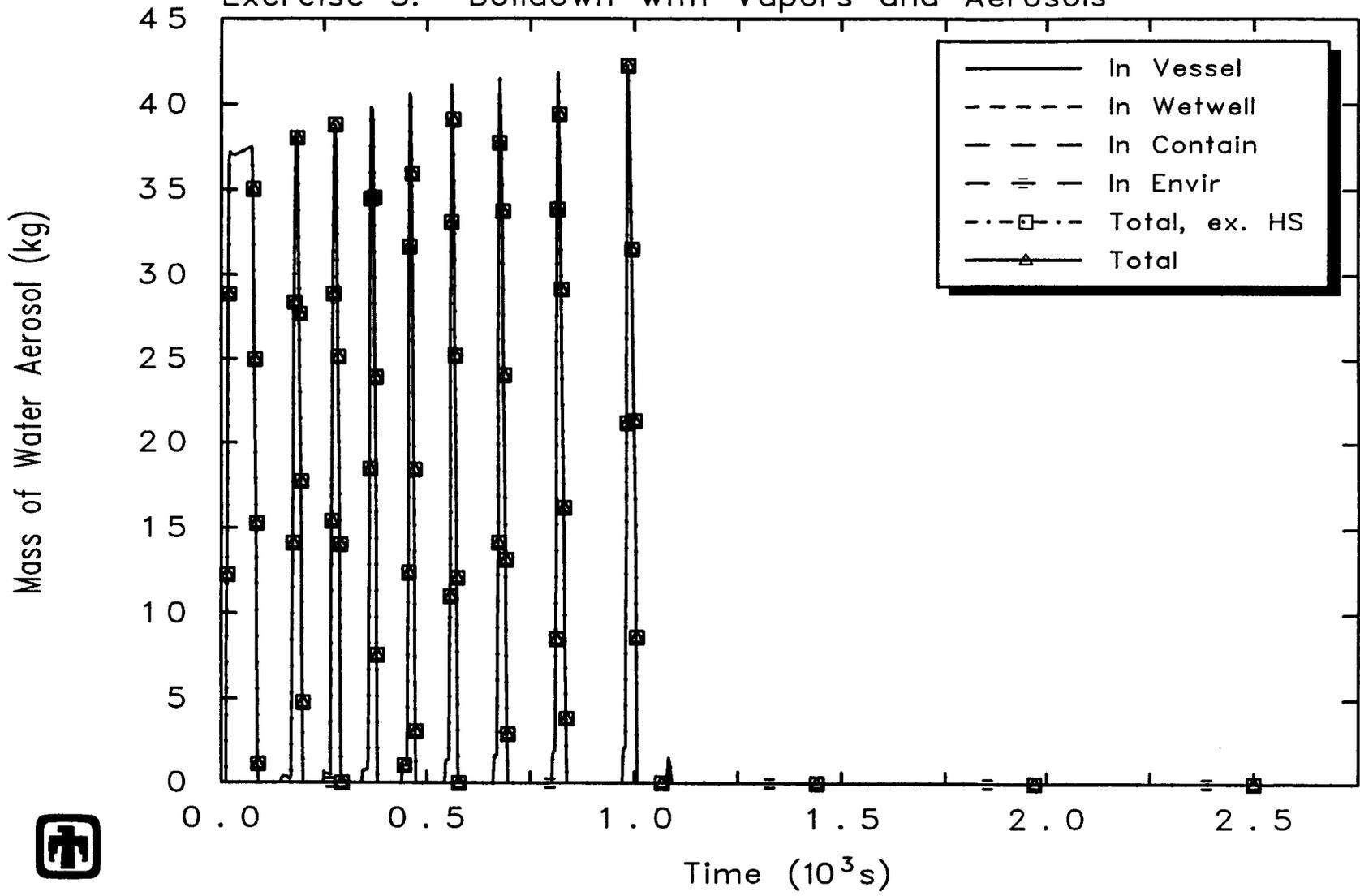
EXERCISE 5
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Exercise 5: Boildown with Vapors and Aerosols

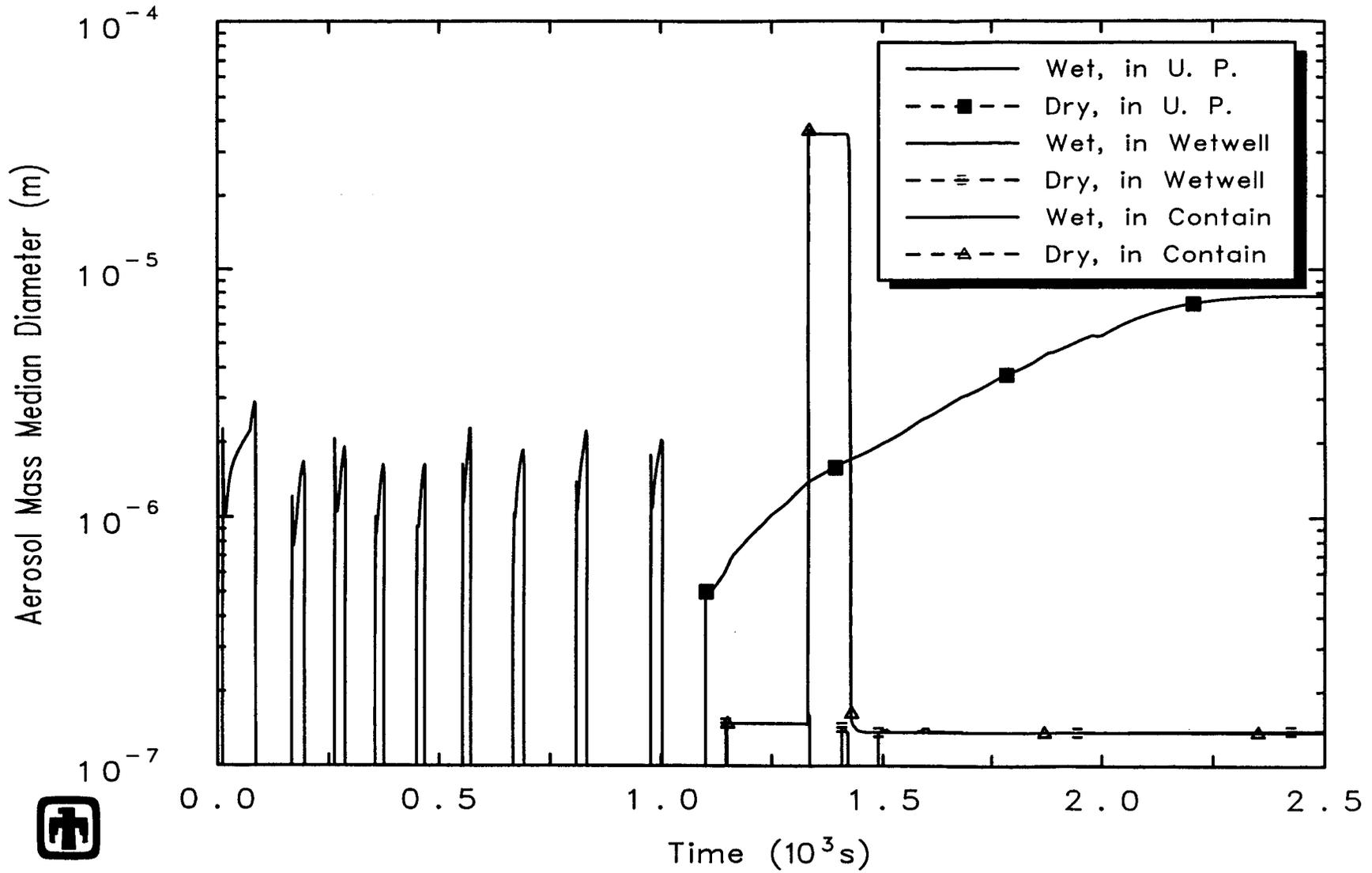


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Exercise 5: Boildown with Vapors and Aerosols



EXERCISE 5
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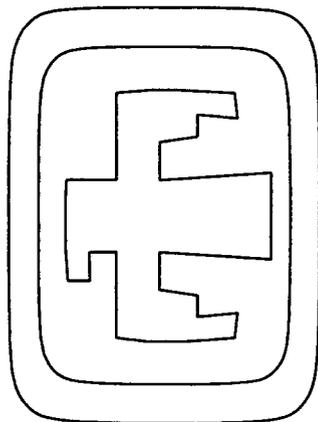


EXERCISE 5

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