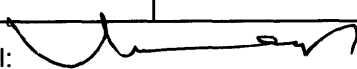


SOFTWARE RELEASE NOTICE

1. SRN Number: 333		
2. Project Title: RDTME/Mechanical Disruption of Engineered Barriers		Project No.: 20.06002.01.341
3. SRN Title: ABAQUS Version 6.4		
4. Originator/Requestor: G. Douglas Gute		Date: December 9, 2004
5. Summary of Actions <input type="checkbox"/> Release of new software <input type="checkbox"/> Change of access software <input checked="" type="checkbox"/> Release of modified software: <input type="checkbox"/> Software Retirement <input type="checkbox"/> Enhancements made <input type="checkbox"/> Corrections made		
6. Validation Status <input checked="" type="checkbox"/> Validated HKS, Inc. is on the SwRI approved suppliers list. <input type="checkbox"/> Limited Validation <input type="checkbox"/> Not Validated Explain: <u>Independent validation is not required.</u>		
7. Persons Authorized Access		
Name	Read Only/Read-Write	Addition/Change/Delete
CNWRA Staff	Execute Only	Addition by way of user subroutine
8. Element Manager Approval: 		Date: December 9, 2004
9. Remarks: Installation tests are performed automatically during installation. The installation test utility was developed by the vendor, HKS, Inc.		

SOFTWARE SUMMARY FORM

01. Summary Date: December 9, 2004	02. Summary prepared by (Name and phone) G. Douglas Gute	03. Summary Action: Acquired Software	
04. Software Date: December 9, 2004	05. Short Title: RDTME/Mechanical Disruption of Engineered Barriers		
06. Software Title: ABAQUS Version 6.4		07. Internal Software ID: N/A	
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 type="checkbox"/> Batch <input checked="" 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: Implicit and explicit finite element analysis programs and finite element modeling pre- and post-processing.	
11. Submitting Organization and Address: CNWRA/SwRI 6220 Culebra Road San Antonio, TX 78228		12. Technical Contact(s) and Phone: G. Douglas Gute, 210.522.2307	
13. Software Application: Used to create and solve finite element models representing geothermal, geomechanical, structural, and mechanical phenomena.			
14. Computer Platform: Sun	15. Computer Operating System: Solaris 8 (SunOS 5.8)	16. Programming Language(s): FORTRAN and C++	17. Number of Source Program Statements: N/A
18. Computer Memory Requirements: 1 GB minimum	19. Tape Drives:	20. Disk Units:	21. Graphics: Sun OpenGL 1.3, REV=2002.12.16
22. Other Operational Requirements: See www.hks.com for compilation of hardware and software requirements.			
23. Software Availability: <input type="checkbox"/> Available <input type="checkbox"/> Limited <input checked="" type="checkbox"/> In-House ONLY		24. Documentation Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Preliminary <input type="checkbox"/> In-House ONLY Online and hard copy documentation available. ABAQUS User's Manual: Version 6.4 2003.	
25. <i>D. Gute</i> Software Developer: HKS, Inc.		<i>November</i> Date: December 9, 2004 <i>10/5/04</i> <i>11/10/2004</i>	

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

QA VERIFICATION REPORT

FOR

→ ACQUIRED SOFTWARE NOT TO BE MODIFIED ←

Software Title/Name: ABADUS

Version: 6.4

Demonstration workstation: SUN

Operating System: SUNOS 5.8

User: Doug Gate

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: SUN Operating Systems: OS 5.8

Location of Acceptance Test Results: Automatic installation of package - m.

Comments: 7/13/02 see SSF.

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: _____

Name/Version Displayed: _____

Comments:

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:

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: 6.4, 2003

Comments:

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

Yes: ☒ No: ☐ N/A: ☐

Location of Instructions: In code

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: 11/9/2004

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

Yes: ☐ No: ☐ N/A: ☒

Comments:

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 Records

Comments:

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: _____

Comments:

**CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
QA VERIFICATION REPORT**

FOR

→ ACQUIRED SOFTWARE NOT TO BE MODIFIED ←

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: 333

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: _____

Date Reviewed and Approved via QAP-002: _____

Comments: HKS (ABRAGUS Developer) is on the SWRT ASC, so ABRAGUS is considered validated by HKS.

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.:

Additional Comments:

D. Gate 11/10/2004
Software Evaluator/User Date

11/10/2004
Software Custodian/Date