

**NASA Scientific and Technical Information (STI)
Document Availability Authorization (DAA)**

National Aeronautics and
Space Administration



STI INFORMATION

IS THIS STI ASSOCIATED WITH ANY PREVIOUS NF1676B FORM? 0 This is new STI

TITLE (250 characters or less)
Realistic Data Generation and Publication for Launch Control Systems

AUTHORS (Enter in contribution order. Use the Enterprise Directory to obtain a valid NASA e-mail address.)					Presenter (Optional)		
Email	Name	Center	Employer / Affiliation	Status	Contract/Grant No. (17 chars)	Type	P?
gregory.hubbard@nasa.gov <small>(See Addendum 1)</small>	Hubbard, Gregory	KSC	Nif Intern	2	KSC <small>(See Addendum 2)</small>	1	

AT LEAST ONE ADDITIONAL AUTHOR IS A US Civil Servant NASA Contractor or Grantee Other/DRA/Emeritus Editor or Compiler

SUBJECT CATEGORY 99-General **KEY WORDS (Optional)** (Comma separated words or phrases)

STI ABSTRACT (500 words or less) (Optional)
 NASA's Launch Control Center or LCC requires an extensive infrastructure to manage a successful launch. Within the LCC, the Launch Control System (LCS) contains the collective supporting Class A, human-rated software. Before deployment in the LCC, software must be toughly inspected. Automated testing is used to validate this software using realistic operator commands. Data for simulated operator commands and related information can be generated using a helper tool. Using both command end-items and received telemetry, this generation tool will allow LCS to quickly verify procedures before operational use, thus protecting valuable assets.

STI CATEGORIZATION

No software, including without-limitation source code, may be released under an NF1676. Software of any kind may only be released by NASA in accordance with NPR 2210.1C.

STI TYPE 20 Grantee Report - Final	REPORT RELEASE DATE 12/09/2019
INSTITUTION Old Dominion University	
GRANTEE REPORT NUMBER NNX13AJ45A	NO ENTRY NECESSARY None
INSTITUTION CITY/STATE Norfolk, Virginia	
PROCESS AS 3 Final Doc Ready For Release	PUBLIC (page 2 limitations may apply)
OPTIONAL REPORT NUMBERS	
LEVEL OF TECHNICAL REVIEW NPR 2200.2D 3 NASA Technical Mgt.	
Describe the Technical Review (Optional)	

STI PERFORMING ORGANIZATION

CENTER KSC	ORG CODE NE-XS	NAME Software	NUMBER TYPE NUMBER (Optional)	1 Contract Number
BLANKET AUTHORIZATION Contact Export Control Office 1 No authorization exists for this Number Type and Number combination.				Create a new blanket authorization? No
FIRST APPROVER EMAIL oscar.brooks@nasa.gov	NAME Brooks, Oscar	SECOND APPROVER EMAIL richard.a.mizell@nasa.gov	NAME Mizell, Richard A.	
ORIGINATOR / AUTHOR COMMENTS (250 characters or less) (Optional)			PREVIOUS TRACKING NUMBER	
ORIGINATOR / AUTHOR EMAIL gregory.hubbard@nasa.gov	NAME Hubbard, Gregory	TRACKING NUMBER 76412	STI NUMBER 69200	

STI AVAILABILITY

STI CONTAINS ONLY MATERIAL THAT IS UNCLASSIFIED (This form may be used for unclassified material only. See NID 1600-55)

DISTRIBUTION LIMITATIONS

Issuing Office: Limited Until Date:

DOES THE STI CONTAIN EXPORT ADMINISTRATION REGULATIONS (EAR)? [Contact Export Control or your STI Manager](#)

DOES THE STI CONTAIN INTERNATIONAL TRAFFIC IN ARMS REGULATIONS (ITAR)?

PROPRIETARY OR SENSITIVE INFORMATION (Check all that apply) [See NPR2200.2 Chapter 4 or NID1600-55](#)

- LIMITED RIGHTS DATA
- STI INCLUDES SMALL BUSINESS INNOVATION RESEARCH CONTENT THAT SHOULD BE PROTECTED AND NOT RELEASED TO THE PUBLIC
Limited Until Date: Release Approved To:
- TRADE SECRET/COMMERCIAL CONFIDENTIAL OTHER THAN LIMITED RIGHTS OR SBIR DATA
Limited Until Date: Release Approved To:
- PRODUCED UNDER SPACE ACT AGREEMENT AND SUBJECT TO 303B OF THE SPACE ACT
Limited Until Date: Release Approved To:
- SENSITIVE BUT UNCLASSIFIED
- NONE

DOES THE STI DISCLOSE AN INVENTION? [Invention Definition](#)

HAS THE INVENTION BEEN DISCLOSED TO THE PUBLIC?

ENTER AN ENTRE NUMBER IF APPLICABLE

DOES STI INCLUDE TEXT, IMAGES, PHOTOS, GRAPHICS OR MATERIAL PRODUCED BY A THIRD PARTY?

DID THE AUTHOR OR PUBLISHER PROVIDE PERMISSION TO USE THEIR CONTENT?

DOES THE STI CONTAIN A COPYRIGHT MARK © OR STATEMENT?

IS THE COPYRIGHT ASSERTED BY THE PUBLISHER?

IS THE COPYRIGHT ASSERTED BY A NON-NASA CO-AUTHOR?

HAVE YOU RECEIVED PUBLISHER PERMISSION OR RETAINED THE RIGHTS TO DISTRIBUTE YOUR PUBLICATION?

COPYRIGHTS DETERMINATION

RELEASE DETERMINATION

DOES THE STI EMBODY A POTENTIAL [LESSONS LEARNED?](#)

STI DOCUMENTS
Attach documents using the green 'Attach/Show Docs' button.

COUNT	FILE NAME	TYPE	VERSION	DESCRIPTION (Optional)
1	G.Hubbard_Realistic Data <small>(See Addendum 3)</small>	2 Manuscript	2 Final	

STI ORIGINATOR/AUTHOR VERIFICATION

DISSEMINATION REQUEST: DATE

• I state that the STI Info on page 1 and the availability limitations checked above are true to the best of my knowledge.

ORIGINATOR / AUTHOR NAME Hubbard, Gregory	CENTER KSC	CODE NEXS	SIGNATURE AND DATE Hubbard, Gregory (KSC - NEXS) 2019-12-06
--	---------------	--------------	---

STI APPROVALS

Line Manager - STI is accurate and of sufficient merit to warrant publication or release.

Comments:

Email oscar.brooks@nasa.gov	Name Brooks, Oscar	Action Approved	Signature and Date Brooks, Oscar (KSC - NEXS0019-12-09)
--------------------------------	-----------------------	--------------------	--

COTR/Technical Monitor/Designated Official - Review and Approve

Comments:

Email richard.a.mizell@nasa.gov	Name Mizell, Richard A.	Action Approved	Signature and Date Mizell, Richard A. (KSC - NEXS0019-12-09)
------------------------------------	----------------------------	--------------------	---

Division Project Official - Approval not required

Comments:

Email	Name	Action	Signature and Date
-------	------	--------	--------------------

Center Patent Counsel's Office - Approval not required

Comments:

See page two for Copyrights Determination

Email	Name	Action	Signature and Date
-------	------	--------	--------------------

Export Control Representative - Approval not required

Comments:

0 Select a choice

Email	Name	Action	Signature and Date
-------	------	--------	--------------------

Export Control Administrator - Verifies ITAR & EAR review.

Comments:

4 Does not contain ITAR or EAR

Email ksc-dl-export-control@mail.nas (See Addendum 4)	Name Jenifer Kalis, Export Control Specialist	Action Approved	Signature and Date Kalis, Jenifer N. (KSC - KISS0019-12-09)
---	--	--------------------	--

Directorate Level Approver - Review STI and form for accuracy and approve for release as indicated on the Availability page.

Comments:

Email shaun.green@nasa.gov	Name Shaun Green	Action Approved	Signature and Date Green, Shaun L. (KSC - NEXS0019-12-09)
-------------------------------	---------------------	--------------------	--

Directorate Level Approver - Approval not required

Comments:

Email	Name	Action	Signature and Date
-------	------	--------	--------------------

Center STI Administrator - Review form and STI and approve for release to STI Support Services

Comments:

Email ksc-dl-sti-daa@mail.nasa.gov	Name Truemilla Johnson, STIDAA	Hold for final document? No	Action Approved
---------------------------------------	-----------------------------------	--------------------------------	--------------------

Report Prefix	Report Year	Sequence Number	Report Suffix	Full Report Number
---------------	-------------	-----------------	---------------	--------------------

Signature and Date

Johnson, Truemilla A. (KSC - ITA00) 2019-12-09

Addendum 1

a.gov

Addendum 2

Education

Addendum 3

Generation and Publication for Launch Control Systems.docx

Addendum 4

a.gov