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Technical Report
for the
Cargo Movement Operations System (CMOS)
Revised Draft Software Design Document

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Prepared under

Contract Number F11624-88-D-0001/6K12
CDRL A004-55

Prepared for

Standard Systems Center (SSC)
Deputy Chief of Staff for Acquisition
Cargo Movement Operations System Division
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DISTRIBUTION STATEMENT A

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SECTION I.

INTRODUCTION.

The purpose of this Technical Report is to review the Revised Draft Software Design Document, CDRL A006-02, which was produced for the Government by Evaluation Research Corporation. The results are provided in the form of Data Item Discrepancy worksheets as requested by the CMOS Program Office.

Keyword: Cargo Handling, (KR)
SUMMARY. Not Used.

CONCLUSION. Not Used.

SECTION II.

RESULTS.

**Our analysis is provided in the attached Data Item
Discrepancy worksheets.**

APPLICATIONS CSCI

**The following comments are related to the
Applications CSCI:**

ORIGINATOR CONTROL NUMBER: SDD1-0001
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: EDITORIAL: X

PAGE NUMBER: PARA. NUMBER:

COMMENT OR RECOMMENDED CHANGE:

All editorial comments for the Revised Draft Applications CSCI Software Design Document have been collected on this worksheet and are arranged in page number order.

RATIONALE:

N/A

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION: ACCEPT [] REJECT []

COMMENT STATUS: OPEN [] CLOSED []

Cmnt No.	Page No.	Paragraph Number	Comment
1.	77	4.3	Change "Pouplate" to "Populate".
2.	211	5.1	Change "rela-tionships" to "relationships" in line 24.
3.	211	5.1	Change "charac-ters" to "characters" in line 43.
4.	D-75	DA000235	Enter the correct "Size" value.
5.	D-192	DA000664	Change "STSTION" to "STATION" in the last line of "Description".
6.	CU1A2892-1		Change "CU1A2982" to "CU1A2892".
7.	CU1A2894-1		Change "CU1A2984" to "CU1A2894".

ORIGINATOR CONTROL NUMBER: SDD1-0002
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 77

PARA NUMBER: 4.1

COMMENT OR RECOMMENDED CHANGE:

Add a description of the relationships between the CSUs in this paragraph.

RATIONALE:

Paragraph 10.1.6.1 of the DID requires that this paragraph "describe the relationships of the CSUs in terms of execution control and data flow between the CSUs of this CSC and shall identify all CSU interfaces that are external to the CSC."

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0003
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 213

PARA NUMBER: 6.1

COMMENT OR RECOMMENDED CHANGE:

Provide the information required by the DID.

RATIONALE:

Paragraph 10.1.8.1 requires that this paragraph "provide a mapping of each data file identified below to the CSCs and CSUs that use the data file." The information in this paragraph should be moved to a new paragraph at the end of Section 6.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0004
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 225

PARA NUMBER: 7

COMMENT OR RECOMMENDED CHANGE:

Comply with intent of DID. Current information does not adequately address the requirements of this directive.

RATIONALE:

Paragraph 10.1.9 requires that traceability of requirements be "allocated to the CSU level of each CSC". The text, as written, mentions only the CSC level. In addition, the specific appendix of the RTM, which provides this traceability, should be referenced.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0005
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-38

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000112 and DA000113.

RATIONALE:

These data attributes are described in Appendix E, page E-29, but are missing in this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0006
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-73

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000221 - 223 and DA000225 - 226.

RATIONALE:

These data attributes are described in Appendix E, page E-57, but are missing in this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0007
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-75

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000232.

RATIONALE:

Above data attribute is described in Appendix E, page E-61, but is missing from this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0008
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-79

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000246 - 247.

RATIONALE:

These data attributes are described in Appendix E, page E-65, but are missing from this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0009
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-147

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000454 and DA000458.

RATIONALE:

These data attributes are described in Appendix E, page E-118, but are missing from this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0010
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-159

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA000497 - 522, 525 - 530, 536 - 539, 541 - 548, and 550 - 558.

RATIONALE:

These are present in Appendix E, but are missing from this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0011
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: D-217 - 267 PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Complete the information in the following data attributes paragraphs:

Page #	DA
D-217	739
D-219	745 and 746
D-225	763 - 765
D-230 - 234	780 - 792
D-240	811
D-261 - 263	874 - 880
D-266 - 267	909 - 913

RATIONALE:

The "Size", "Description", "Range", and "Type" information is either partially or completely missing for these data attributes.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0012
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: See Below PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

From the pages listed below, add the corresponding data attribute(s) to Appendix D.

Page #	DA
D-266	901 - 903 and 907
D-270	921 - 979
D-284	9121
D-284	9170 - 9193
D-288	9248
D-289	9261
D-295	9328
D-298	9408
D-299	9483
D-303	9797

RATIONALE:

These data attributes are all present in Appendix E, but are missing from this appendix.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0013
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: E-2

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add the missing data attributes.

RATIONALE:

Throughout Appendix E, many data attributes listed in Appendix D are absent, starting with DA000004 and DA000005.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0014
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: Attch. 1-1 PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Renumber the pages in Attachment 1 to correspond to the numbering conventions in the appendices.

RATIONALE:

The present page numbering is cumbersome and difficult to follow.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0015
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: CU1A0068-20 PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add a discussion of CU1A0069, History Exporter.

RATIONALE:

This CSU is identified in the Software User's Manual, page A1-10, but is not located in the SDD.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0016
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: CU1A3100-1 PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add CU1A2995 to Attachment 1.

RATIONALE:

This CU is identified in the RTM, page J-96, but is not noted in the SDD.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD1-0017
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: Ronald J. Lacour

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: N/A

PARA NUMBER: N/A

COMMENT OR RECOMMENDED CHANGE:

Add DA009936 to Appendix D.

RATIONALE:

This data attribute is in Appendix F on page F-166, but is not listed in Appendix D.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

COMMUNICATIONS CSCI

**The following comments are related to the
Communications CSCI:**

ORIGINATOR CONTROL NUMBER: SDD2-0002
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: John J. Brassil

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 13

PARA NUMBER: 3.1.1

COMMENT OR RECOMMENDED CHANGE:

Change the last paragraph of this section so that NDS elements used by the software are identified as being incorporated into the CSCI. A description of these NDS elements incorporated into the CMOS design should also be present in section 4.

RATIONALE:

The last paragraph of this section states that there are several NDS routines that are "invoked" by the CSCI, but that none are incorporated into the CSCI. A routine that is invoked by the CSCI has, in fact, been incorporated into the architecture of the CSCI. This is especially true in the case of the UNIX "cron" feature, which is integral to many of the functions of this CSCI, as evidenced by the numerous references to it in paragraph 3.2, and as described by the development contractor in the Preliminary Design Review briefing.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD2-0003
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: John J. Brassil

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 13

PARA NUMBER: 3.1.1

COMMENT OR RECOMMENDED CHANGE:

Move the last paragraph in this section, (the one immediately before paragraph 3.1.2), so that it appears before the subordinate paragraphs (3.1.1.1 and 3.1.1.2) of this section.

RATIONALE:

The paragraph contains information which relates to the CSCI architecture as a whole, and its current position makes it appear as though it is a part of paragraph 3.1.1.2 only.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD2-0004
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: John J. Brassil

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 21

PARA NUMBER: 4.1

COMMENT OR RECOMMENDED CHANGE:

Add a description of the relationships between the CSUs in this paragraph.

RATIONALE:

Paragraph 10.1.6.1 of the DID requires that this paragraph "describe the relationships of the CSUs in terms of execution control and data flow between the CSUs of this CSC and shall identify all CSU interfaces that are external to the CSC."

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD2-0005
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: John J. Brassil

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 59

PARA NUMBER: 6.1

COMMENT OR RECOMMENDED CHANGE:

Provide appropriate data to ensure compliance with DID. As written, paragraph does not contain the required information.

RATIONALE:

Paragraph 10.1.8.1 requires that this paragraph "provide a mapping of each data file identified below to the CSCs and CSUs that use the data file." The information in this paragraph should be moved to a new paragraph at the end of section 6.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []

ORIGINATOR CONTROL NUMBER: SDD2-0006
PROGRAM OFFICE CONTROL NUMBER:

DATA ITEM DISCREPANCY WORKSHEET

CDRL NUMBER: A006-02

DATE: 07/12/90

ORIGINATOR NAME: John J. Brassil

OFFICE SYMBOL: SAIC

TELEPHONE NUMBER: 272-2999

SUBSTANTIVE: X EDITORIAL:

PAGE NUMBER: 71

PARA NUMBER: 7

COMMENT OR RECOMMENDED CHANGE:

Provide appropriate data to ensure compliance with DID. As written, paragraph does not adequately address the requirements of this directive.

RATIONALE:

Paragraph 10.1.9 requires that traceability of requirements be "allocated to the CSU level of each CSC". The text only mentions the CSC level. In addition, the specific appendix of the RTM which provides this traceability should be referenced.

CMOS PMO ACCEPTS COMMENT: YES [] NO []

ERCI ACCEPTS COMMENT: YES [] NO []

COMMENT DISPOSITION:

COMMENT STATUS: OPEN [] CLOSED []