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DATA CENTER OPERATIONS BRANCH

NDS OPERATIONS PROCEDURE MANUAL
NO. P-I016

APPLICATIONS SOFTWARE
07 October 1985

IMAGE MOTION SENSING (IMS)

PROCESSING

SYMBOLIC TITLE: IMS

PROGRAMMER:

25X1

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CLASSIFICATION

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1.0 SUMMARY

1.1 Introduction

This procedure manual sets forth guidelines and information necessary for operations personnel in the handling of IMS processing. IEPD personnel require IMS data for accurate measurement of ICS imagery. There will be a printer listing generated of each IMS data message received. There may or may not be an IMS data message (R714) sent for every imaging pass, but no more than one R714 will be generated for each pass. The listing will be printed in the computer room, collated as received, and available for pickup each day by IEPD.

Definitions of terms used within this procedure are as follows:

- a. DTX11 - Runstream initiated by the Communication Symbiont Processor (C/SP) upon receipt of an IMS message from the external communications line DLT001.
- b. I(IS)(PS) - For any given R714 received by NDS, a runstream is started by the ESDRIVER software for a particular imaging satellite (IS) and pass (PS). (EXAMPLE IO104)
- c. MD - Mission Director, 25X1
- d. T - Suffix on REC or REF ID numbers when a test is being run.

Operations Control Officers, computer operators, and shift supervisors are responsible for complying with this procedure manual. The OCO is the final authority on IMS processing action on the NDS.

Specific Responsibilities:

- a. ESG/IEPD:
 - 1) IEPD is responsible for logging which messages are received of those expected.
 - 2) IEPD is responsible for retaining IMS printouts.
 - 3) IEPD is responsible for detecting data content errors and notifying the originator that these errors have occurred.
- b. OCO:

If the OCO is informed by MD or other cognizant personnel at that IMS data message will not be received, the OCO will notify IEPD. 25X1

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None

1.3 Processing

- a. Software Summary - The IMS data message (R714), via the C/SP, initiates the DTX11 runstream. The DTX11 runstream starts up ESDRIVER which reads, validates, and logs the message and starts up the I(IS)(PS) runstream. The I(IS)(PS) runstream initiates IMSLST which produces the output listing. The listing from the program is to be collated as received and saved for pickup by IEPD each day.
- b. Media Used - Automatic start up via I(IS)(PS) runstream.
- c. Equipment Requirements - Univac 1100
- No special files will be created, with the exception of the normal print file XMS*IMS-PRINT, which is automatically maintained. Default size of print file is 128 tracks.
- d. Normal Run Instructions - IMSLST will normally be started up by the I(IS)(PS) runstream. ESDRIVER will provide the correct XCH*D1NNNN file name.
- e. Error & Recovery Routines - IMSLST can be restarted by starting up the XMS*C-RUNIMSISPS runstream as long as the appropriate XCH*D1NNNN message is still available. (See section 3.4)
- f. Expected Output - A printer listing 'I(IS)(PS)' will be generated every time a R714 message is received. This listing is a formatted translation of the R714 data message. This listing should be saved for pickup by IEPD personnel.
- g. Special Test Conditions - If the NDS receives a test message, a DTX11 runstream is initiated. This runstream catalogues a file for the message, XCH*D1SSN#, and starts ESDRIVER. ESDRIVER will send a display to the console including the message number, the character following the message number which specifies a test, and a brief note requesting that the OCO be informed of the receipt.

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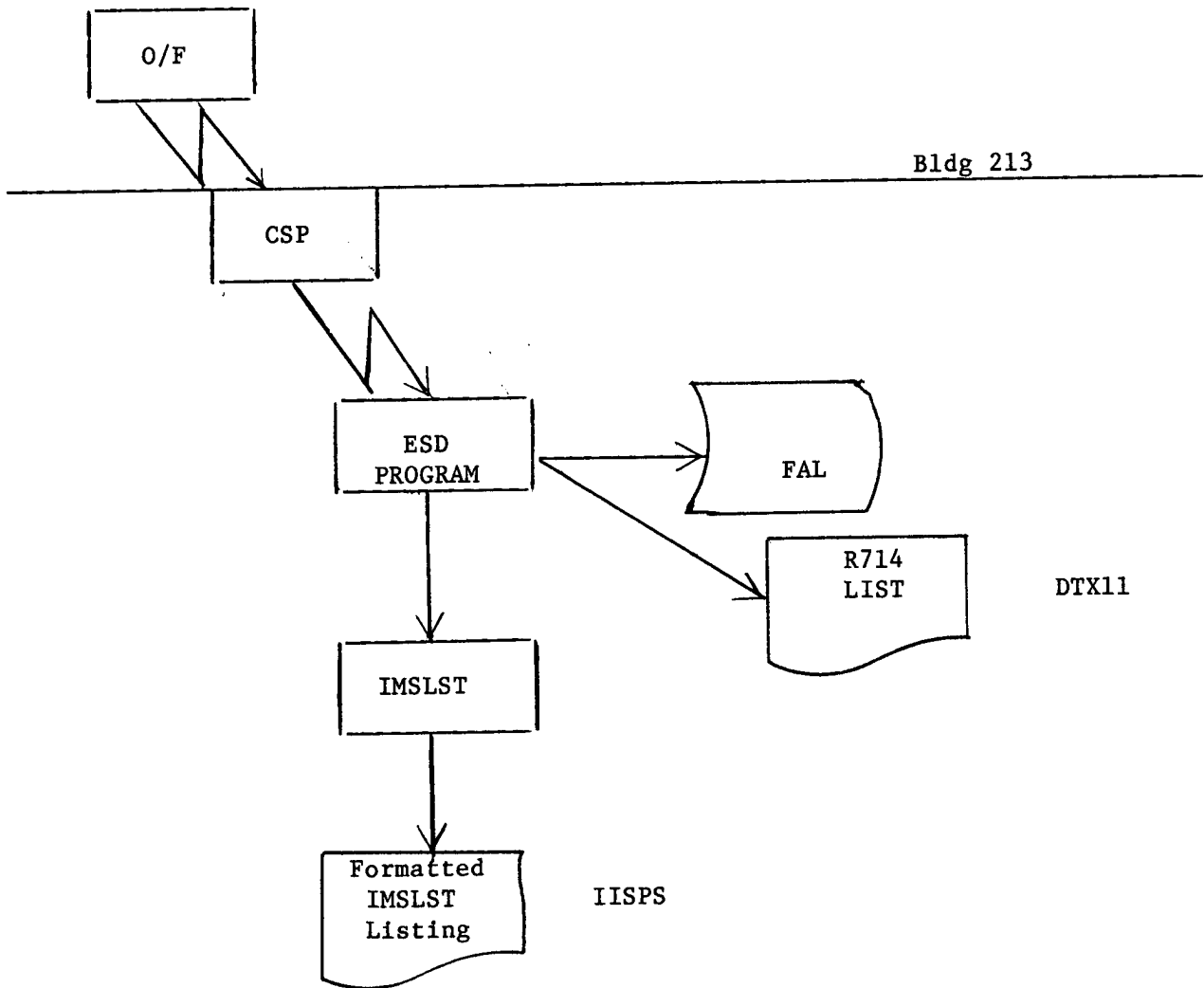
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- The OCO shall inform ED/SPB that a test message has been received. ED/SPB will advise either to save to tape, list or delete the message. The "DLB/DLC DELETE" runstream should not be started until the OCO has been contacted.

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2.0 OPERATIONAL FLOW CHART



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3.0 COMPUTER RUN PREPARATION

3.1 Program Loading

No manual intervention is necessary. It is kicked off automatically by ESDRIVER.

Type of Program: Batch

Start Keyin: N/A

Run ID: IMSLST

DMR ID: N/A

3.2 Final Check Summary

N/A

3.3 Normal Run Instructions

IMSLST will normally be started up via the IISPS runstream. ESDRIVER will provide the correct XCH*D1NNNN file name.

Initiation: No operator intervention

Step by Step: N/A

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3.3 Normal Run Instructions (Continued)

Messages:

<u>Message</u>	<u>Cause</u>	<u>Operator Action</u>
N/A		



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Restart: No Restart is required under normal conditions.

Termination: N/A

Take-down: N/A

Disposition of Data: Save output listing 'IISPS' for IEPD

3.4 Abnormal Run Instructions

Messages: Diagnostic messages will be printed on the printer.

<u>Message</u>	<u>Cause</u>	<u>Operator Action</u>
'IMSLST ABNORMAL TERMINATION' 'SAVE ALL LISTINGS'	Bad Data in R714	Print both IMSLST print-files associated with this IS & PASS. Notify OCO. No corrective action can be made to the R714. OCO can call G.C. at <input type="text"/> and request a retransmission. If the problem still persists, save all listings and notify APS.
'ACT READ ERROR 1' 'ACT READ ERROR 2' 'NUMBER OF IMAGE RECORDS 'EXCEEDS RANGE NNNNN' 'READ IMAGE ERROR 1' 'READ IMAGE ERROR 2' 'SAMPLE PAIRS VALUE EXCEEDS RANGE NNNNN' 'READ SAMP ERROR 1' 'READ SAMP ERROR 2' 'ACT EOF' 'IMAGE EOF' 'SAMP EOF'	Bad Data in R714	No operator response necessary. Printer listing messages will be used by APS personnel to determine what action will be required. Source code is in XMS*P\$SYM.IMSLST.

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If a request is received from IEPD to re-run a particular R714, the Recovery Procedure can be exercised. (See Attachment A.)

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3.5 Punched Card Input

Description:

N/A

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3.5 Punched Card Input (Continued)

Sample Card Deck:

N/A

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3.5 Punched Card Input (Continued)

Disposition: N/A

3.6 Magnetic Tape Input

Originator: N/A

Type of Unit: N/A

Standard Tape Label: N/A

Label Block File Name: N/A

Density: N/A

Code: N/A

Record and Block Size: N/A

File Sequence: N/A

Source Tape: N/A

Disposition: N/A

Restrictions: N/A

Quantity: N/A

3.7 Magnetic Tape Output

Type of Unit: N/A

Standard Tape Label: N/A

Label Block File Name: N/A

Density: N/A

Code: N/A

Record and Block Size: N/A

File Sequence: N/A

Disposition: N/A

Retention Period: N/A

Restrictions: N/A

Quantity: N/A

3.8 High-Speed Printer Output

Identification: IISPS

Type of Form: Standard

Disposition: There will normally be one listing to be printed (XMS*X-IMSXXXISPS). This listing will be picked up by IEPD. In cases where an abnormal situation might occur, an additional listing (IISPS) will be printed for APS personnel.

4.0 ON-LINE COMPUTER PROCESSING

4.1 Equipment Requirements

Computer: Univac 1100/80

Schema Used: None

Restrictions: None

Files Accessed: Program absolute: XMS*P\$ABS.IMSLST

Files Created/Deleted: XMS*X-IMSXXXISPS.

File Size:

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Attachment A

IMSLST RECOVERY PROCEDURE

If an IMSLST listing is not received by IEPD when one is normally expected, the OCO will be notified. After notification the OCO can then execute the following recovery procedure.

1. Sign on to the NDS in Demand. Edit the output file for that Pass.

```
@ED,R XMS*X-IMSXXXISPS.  where  IS = '01'
```

PS = Pass Number (01-16)

List the first 10-12 lines. If the IS, Pass, and Date match, direct the output file to the printer.

```
@SYM,U XMS*-IMSXXXISPS.,,PR
```

Save the output listing, IISPS, for IEPD.

2. If the output file does not exist for that particular IS, Pass, and Date check to see if the R714 input message is still available in the NDS. The R714 message will be in the file, XCH*D1NNNN., where NNNN is the Station Serial Number (SSN) from the first line of the message. The SSN can also be found in the Operator's log notebook or on the console listing if the R714 was actually received by the NDS.

```
@ED,U ENG*DATA.C-RUNIMS
```

Replace the last 4 digits of the XCH file name with the 4 digit SSN.
EXIT.

```
@START ENG*DATA.C-RUNIMS
```

The output file will be automatically directed to the printer.

3. If the output file, XMS*X-IMSXXXISPS. does not exist for that particular IS, Pass, and Date, a retransmission of the R714 must be requested. The information required in order to ask for a retransmission is:

```
Message Type           'R714'
Transmission (MSN) Date DDMMYY
Station Serial Number  NNNN
```

Call Ground Commo (GC) Ask for a retransmission of the RECUR 714 message by supplying the above information. 25X1
The retransmission message will be processed automatically by the IMSLST program. No intervention is required.

4. If the output file does not exist for that particular IS Pass, and Date, and no entries can be found in the Operator's log, it is likely that no R714 was received.
Notif: (IEPD) and he will pursue the problem. 25X1

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