



U.S. Department
Of Transportation

**Federal Highway
Administration**

Memorandum

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION:** LTPP Directive IMS-110
IMS Release Version 2003.09

Date: November 4, 2003

From: Eric Weaver 
Long Term Pavement Performance Team

Reply to
Attn of: HRDI-13

To: Dr. Frank Meyer, PM - LTPP North Atlantic Regional Contract
Dr. Frank Meyer, PM - LTPP North Central Regional Contract
Mr. Mark Gardner, PM - LTPP Southern Regional Contract
Mr. Kevin Senn, PM - LTPP Western Regional Contract

Attached is the Long Term Pavement Performance (LTPP) Program directive IMS-110: Release Version 2003.09. This pertains to implementation of the IMS software upgrade from version 2003.07 to 2003.09. IMS upgrade instructions are provided in attachment 1. The software change notice for this release is contained in attachment 2, which lists all the changes made since the last software release. Please ensure that all personnel involved with the IMS are aware of this new directive.

Should you have any questions or would like to discuss this directive, please do not hesitate to contact me at 202-493-3153.

Attachments (3)

FHWA:HRDI-13:EWeaver:wlin:493-3153:11/04/03

File: c:/wendy/directives/ims/110dir.doc

cc:

Dr. Gonzalo Rada

Directive Binder

LTPP Team

Official file

Chron



LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE



For the Technical Direction of the LTPP Program

Program Area: IMS

Directive Number: I-110

Date: November 4, 2003

Supersedes: I-109

Subject: IMS Software Release Version 2003.09

This directive authorizes implementation of the IMS software upgrade from version 2003.07 to 2003.09. Upgrade instructions are provided in attachment 1. The upgrade shall be completed by October 15, 2003.

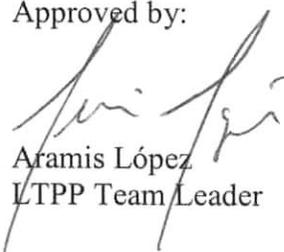
Software change notice 84, contained in the attached file SCN_84.pdf, lists all of the changes made to the IMS software since the last software release. This notice shall be filed in the Operator's Log. This release contains programs to add the drainage module (MON_DRAIN_*) to the pavement database. Also included are resolutions to SPR's related to TST, PG_Binder, SPS9 and other miscellaneous issues. Please read the software change notice carefully to assess impacts on database operations.

Version 2003.09 of the IMS software will be delivered via e-mail in a password protected file named PASSWORD_20030919.zip. This file contains the following zip files:

- VR2003_09.ZIP – A zip file with the batch file (VR2003_09.BAT) and 2 scripts needed to make miscellaneous updates to the database and to run other related administrative commands. Refer to the table included in attachment 1 for a complete list and descriptions of the scripts called by this batch file.
- LTPP.ZIP - A zip file with all files to go in the LTPP area (and subdirectories) on the server.
- OracleVersions.ZIP – A zip file with listings of all Oracle files and versions loaded on the server at the central site. These are included for reference only.

Prepared by: TSSC

Approved by:


Aramis López
LTPP Team Leader

Attachment 1

Instructions to Apply VR 2003.09 Release

1. Shutdown the Data Extraction Service.
2. Shutdown ORACLE in normal mode and backup Server.
3. Bring ORACLE up.
4. Create the subdirectory RELEASES\VR2003_09 (the directory RELEASES should already exist).
5. Copy and unzip the VR2003_09.ZIP file to the RELEASES\VR2003_09 subdirectory created in step 4.
6. From a DOS prompt in the RELEASES\VR2003_09 directory, type

VR2003_09 dbusername/dbapassword@instance

to begin the software update. This will run miscellaneous scripts listed in table 1, below.
7. The scripts make some table changes. Verify that all scripts completed successfully by reviewing all *.lis files (refer to list, below, especially the scripts called out in step number 6). Ignore errors about dropping non-existent objects.
8. Copy the LTPP.ZIP file into the LTPP subdirectory. Right-click on the filename and choose "Extract to Here" to unzip the file into the LTPP subdirectory. Answer "Yes to all" to overwrite existing files. Delete the LTPP.ZIP file.
9. The OracleVersions.zip file is included for reference only. Extract these files into the IMSVersions directory (will create a IMSVersions\OracleVersions\vr200309 subdirectory).

Table 1. Scripts run from the VR2003_09.bat file .

Script filename	Description	Output file
CreateMonDrainTables	Creates Drainage tables and all related database objects.	CreateMonDrainTables.lis
SPR3246	Makes TEST_TEMP a key in TST_AE09_* tables.	SPR3246.lis
SPR3314	Adds TEST_RUN and makes it a key in TST_AE07_* tables.	SPR3314.lis
SPR3315	Adds TEST_RUN and makes it a key in TST_AE08_* tables.	SPR3315.lis
SPR3348	Corrects comments on table TST_AE02.	SPR3348.lis

Script filename	Description	Output file
SPR3354	Adds new code to MEASURE_TYPE for field survey.	SPR3354.lis
SPR3365	Modifies MAINT_WORK code descriptions for CODES=(46,47).	SPR3365.lis
SPR3367	Updates LTPPDD with new ranges for TST_AE07_MASTER.PLATE_DIAMETER	SPR3367.lis
PopulateLtpTd	Populates LTPPTD table.	PopulateLtpTd.lis

Attachment 2

Software Change Notice 84

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
Administrative					
3-782	3286	EXP_QC.exe, Level E		3/28/2003	7/29/2003
Description			Resolution		
See attached level E output. Message should be revised to read "...does not exist..."			Corrected error message.		
M-3348	3348	Table Comment		7/16/2003	9/17/2003
Description			Resolution		
The table description for TST_AE02 needs to be changed to: Penetration of extracted asphalt cement at 77 and 115 degrees F.			Created script SPR3348 to correct table description.		
M-3365	3365	Code Descriptions		9/9/2003	9/18/2003
Description			Resolution		
In order to accommodate the rubblization treatments within the current MAINT_WORK code structure, we need to make some changes to the descriptions of codes 46 and 47.			Script SPR3365.sql created to update code descriptions.		
The current descriptions are as follows:					
CODETYPE CODE DETAIL					
MAINT_WORK 46 Crack and Seat PCC Pavement as Base for New AC Surface (sq. yards)					
MAINT_WORK 47 Crack and Seat PCC Pavement as Base for New PCC Surface (sq. yards)					
They need to be modified to read as follows:					

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
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CODETYPE CODE DETAIL

MAINT_WORK 46 Fracture Treatment of PCC Pavement as Base for New AC Surface (sq. yards)

MAINT_WORK 47 Fracture Treatment of PCC Pavement as Base for New PCC Surface (sq. yards)

S-3097 3097 IMS

3/15/2002 9/17/2003

Description

Add option to the Record Count program to count every record in each table. Currently, some records are omitted due to record status or other criteria.

Also, check to see if MON_DEFL_BUFFER_SHAPE is being counted.

Resolution

Two new report options added to Rec_Cnt program (Reports 5 & 6) to count ALL records with no criteria. Counts on attached output spot checked against database wnd counts are complete.

S-3359 3359 ANTISTRIP_AGENT_TYPE Code

8/26/2003 8/31/2003

Description

While modifying the range for the SPS9_PMA_MIXTURE_PROP.ANTISTRIP_AGENT_TYPE code from 1 - 70 to 0 - 70, several other fields using that code were identified. Modify the ranges for these fields per e-mail from Travis on 8/26/2003.

Resolution

Modified the following programs with range checks on the subject field: RHB_D.pc, SPS1_D.pc, SPS2_D.pc, SPS8_D.pc, SPS9_D.pc.

Data

S-3079 3079 IMS Data Archives

3/4/2002 9/12/2003

Description

Consider options for archiving all IMS data. Determine best option and provide recommendation to LAW PCS.

Resolution

Wrote an archive utility that dumps all data from all tables into CSV formatted files and creates corresponding .ctl files to allow SQL Loader to load the files.

This will be used for FHWA submittal and as necessary to archive data releases.

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
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Drainage

M-3355 3355 MON_DRAIN_*

2/1/2003 9/18/2003

Description

Implement MON_DRAIN_* as specified in July 2002 specifications document. This includes new tables, QC, codes, forms, and changes to auxiliary programs.

Resolution

Created CreateMonDrainTables.sql and MONDRAINQC. Modified REC_CNT, SECT_MANT, and LTPPDES. Created forms MON_DRAIN_MASTER and MON_DRAIN_DATA.

Maintenance

3-788 3302 MNT_QC.exe, LEVEL C

4/23/2003 9/16/2003

Description

For table MNT_PCC_FULL_DEPTH, SF_SLABS_REPLACED and SF_BASE_REPLACED are reported as 0 but values in database are null. Extraneous unidentified value (0) appears to the right of the last column. See attached report excerpt and example data.

Resolution

Removed conditional level C checks and added level E checks.

P46

4-445 3331 P46 QC, Level D

5/29/2003 9/3/2003

Description

Table TST_UG07_SS07_WKSHT_CYCLES. As per the LTPP IMS QC document, the acceptable range of DEF_LVDT_1, DEF_LVDT_2, and DEF_LVDT_1_2 values for LAYER_TYPE=1 and MATL_TYPE=1 and TEST_DATE >= 01-AUG-93 is 0.01270-0.635. However, the records that are failing the P46 Level D QC are within the given range (see file SPR4-445_P46_D.LIS). We recommend that the P46 Level D QC be modified to accommodate the recommended range.

MACTEC

Resolution

Corrected lower bound from 0.127 to 0.0127 for TEST_DATE >= 8/1/1993 and < 8/1/1993.

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
PG Binder					
3-761	3246	TST.AE09	MACTEC	4/24/2003	9/17/2003
Description			Resolution		
A single sample was tested at two different temperatures for an SPS9 project. Data entry form TST_AE09 does not allow for multiple tests on the same sample. Data entry for these cases has halted pending direction on appropriate corrective action or new data entry form.			Form already allows entry of multiple tests on the same sample, where test_temp is different. Entry process described to region 3. No change required. SPR originally complete on 1/10/2003. Re-opened on 4/24/2003. New resolution received on 5/7/2003 - TEST_TEMP will become a key field in the TST_AE09_* tables.		
3-794	3314	TST.AE07	MACTEC	5/6/2003	9/18/2003
Description			Resolution		
The SPS9A Sampling and Testing Plan calls for 2 tests at 3 temperatures (on the same sample) for samples of "Material Type (Aging Type)" = PAV (3)." (See attached data collection forms.) We are only able to enter the first set of results as the PK on TST_AE07_MASTER includes only TST_ID and AGING_TYPE. A similar problem would occur for aging type = 1 (2 tests at 3 temperatures) and aging type = 2 (3 tests at 3 temperatures). It appears addition of sequence/replicate identifier columns on the two tables will be needed in order to enter all results.			Created script SPR3314.sql to make changes to tables and database. Modified form TST_AE07.fmb.		
3-795	3315	TST_AE08	MACTEC	5/6/2003	9/18/2003
Description			Resolution		
The SPS9A Sampling and Testing Plan calls for 2 tests at each of 2 temperatures (on the same sample) for both unconditioned and conditioned samples – total of 8 tests. (The lack of a "conditioned" identification column was reported in SPR 4-434.) (See attached example data collection forms.) We are only able to enter the first set of results as the PK on TST_AE08_MASTER includes only TST_Id, AGING_TYPE, and TEST_TEMP. It appears addition of sequence/replicate identifier columns on the two tables will be needed in order to enter all results.			Created script SPR3315.sql to modify database. Modified form TST_AE08.fmb.		
3-815	3367	PGBinderQC, Level E		9/10/2003	9/18/2003
Description			Resolution		
A number of rows in TST_AE07_MASTER fail level E QC on TST_GAP (see attached report excerpt and example data). The valid ranges for			Corrected level E check on Plate_diameter.		

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
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PLATE_DIAMETER were modified per SPR 3-801 to 7.8 – 8.1 and 24.9 – 25.1. The level E check between TST_GAP and PLATE_DIAMETER should also be modified for consistency.

Longitudinal Profile

3-814 3366 PROFQC.exe, Level D

9/10/2003 9/17/2003

Description

Two “IRI Wheelpath” columns are included in the report. An indication as to which is left and which is right in the column header would be helpful (see attached report excerpt).

Resolution

Added left and right to level C and level D column header output.

S-3360 3360 PROF_QC.bat

8/12/2003 9/18/2003

Description

Remove preprocessing SQL scripts from PROF_QC.bat. With speed of new computers, this step is no longer necessary

Resolution

Calls to preprocessing scripts removed from PROF_QC.BAT.

Seasonal Monitoring Program

S-3358 3358 SMP_E.pc

8/22/2003 8/25/2003

Description

Modify some level E error messages whose corresponding checks were corrected under SPR 3118.

Resolution

Modified SMP level E error messages and updated QC manual to match. Corrected tablenames, text, etc., to match checks being performed.

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
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SPS8

3-812 3361 SPS8_BC.exe, Level C

MACTEC

8/21/2003

9/16/2003

Description

Row in SPS8_PMA_MIXTURE_PROP fails level C QC (see report excerpt.)
 "C" appears in five of the columns, suggesting that one or more of these columns is the source of the error. Data exists in two of the columns, however (see attached data excerpt), so it's difficult to understand what the error might be, particularly since the record in question doesn't differ vastly from the other such data for the same section. None of this data has been "manually upgraded."

Resolution

Modified: SPS1_BC.PC, SPS1_E.PC
 SPS2_BC.PC, SPS2_E.PC
 SPS8_BC.PC, SPS8_E.PC
 to remove conditional level C checks on HVEEM and MARSHALL data and replace with level E checks.

Materials Testing

M-3354 3354 TST_L05A.MEASURE_TYPE_*

8/5/2003

9/16/2003

Description

Measurement type codes in TST_L05A have been defined inconsistently which has caused data in the database to be inconsistent. The TSSC shall:
 1. Add a new code to MEASURE_TYPE for field survey data.
 2. Change QC to allow null entries in LAYER_THICK_* and MATL_CODE_* where MEASURE_TYPE_*=5.

Resolution

Modified TST_D, TST_E QC, and the form to account for new MEASURE_TYPE code = 10. Created script SPR3354 to modify size of field and add new MEASURE_TYPE code.