Memorandum

U.S. Department
Of Transportation

6300 Georgetown Pike
McLean, Virginia 22101

**Federal Highway
Administration**

Subject: **ACTION**: LTPP Directive IMS-143
IMS Software Release Version 2009.04

Date: May 13, 2009

From: Jane Jiang
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-143: IMS Software Release Version 2009.04. This directive authorizes implementation of the IMS software upgrade from version 2008.12 to 2009.04. Please ensure that all personnel 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 202-493-3149.

Attachments (3)

FHWA:HRDI-13:JJiang:mdeeney:493-3149:5/12/09
File: c:/mdeeney/directive/ims/IMS-143dir.doc
cc:
Jonathan Groeger
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-143

Date: April 24, 2009   **Supersedes**: I-141

Subject: IMS Software Release Version 2009.04

This directive authorizes implementation of the IMS software upgrade from version 2008.12 to 2009.04. Upgrade instructions are provided in Attachment 1. Please notify the FHWA and TSSC when the upgrade has been installed.

Software Change Notice 103, contained in the file, SCN_103.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 software update contains new drainage tables and QC for permeability measurements and calculations; updated TRF Sheet 16 data tables, codes and data entry forms; and updated CN assignment procedure. In addition, several other modified QC programs are included.

The Software Change Notice lists these and other miscellaneous changes.

The software update for Version 2009.04 is distributed in a master zip file, SoftwareRelease200904.zip. This file may be downloaded from the VR2009_04 directory on the ltpp.org ftp site.

The following files are contained in the master file:

- VR2009_04.ZIP – A zip file with the batch file (VR2009_04.BAT) and 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 an alphabetic 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

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Attachment 1

Instructions to Apply VR 2009.04 Release

1. Create the subdirectory RELEASES\VR2009_04.

2. Copy and unzip the VR2009_04.zip file into the subdirectory created in step 1.

3. Shutdown ORACLE in normal mode and backup Server.

4. Bring ORACLE up.

5. From the DOS prompt in the RELEASES\VR2009_04 directory, regions type:

   ```
   VR2009_04 dbausername/dbapassword@instance #
   ```

   where # is the number of your region (1, 2, 3, 4), to begin the software update. FHWA types:

   ```
   VR2009_04_ALL dbausername/dbapassword@instance
   ```

   The batch file will export several tables that are updated or populated by the release scripts. Be sure to review the VR2009_04ReplacedTables_exp.log file to verify that the exports completed successfully. Keep the export file (VR2009_04ReplacedTables.dmp) until you are satisfied that all changes were successful.

   If the export is successful, the batch file will run the scripts listed alphabetically in Table 1, below.

6. The scripts create new tables and codes, update tables and codes, and update data. **Check carefully that all scripts completed successfully by reviewing the *.lis files (refer to list, below).** Ignore errors about dropping non-existent objects. In addition, **compare the import log file (VR2009_04MonDrainPermRegion#_imp.log) with the export log file (VR2009_04MonDrainPermRegion#_exp.log)** provided for your region to verify that all records were imported successfully.

7. 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.

8. The OracleVersions.zip file is included for reference only. Extract these files into the OracleVersions directory. It will create an OracleVersions\VR200904 subdirectory.

Table 1. Scripts run from the VR2009_04.bat file

Script and Output Filenames (.sql & .lis)	Description
ResetRecordStatus_0904	Updates record status in table TST_SS06 to 'D' due to new level E check: TST_SS06-E-3.
SPR2379UpdateRollerCodes	Updates RHB_HEATER_SCARIF table to use ROLLER_CODE codetype in each of the *_ROLLER fields; updates data, LTPPDD, and CODES tables
SPR3384UpdateTstSp01Data	Changes TST_SP01_DATA.BULK_SPEC_GRAV_RAW to allow nulls
SPR3465LeftPadTimeValue	Left pads the data in the MON_DEFL_TEMP_VALUES.TIME_LAYER_TEMP field with '0' where the length of the value is less than 4 characters
SPR3846AddTableComment	Add table comment to COMMENTS_REVIEW table
SPR3855UpdateTrfData	Updates coded data in TRF_EQUIPMENT_MASTER.REASON_CALIB, TRF_CALIBRATION_WIM.WIM_CALIB_TECHNIQUE, and populates new field TRF_EQUIPMENT_MASTER.TRF_CALIBRATION_PROTOCOL
SPR3855UpdateTrfSheet16	Adds field TRF_EQUIPMENT_MASTER. TRF_CALIBRATION_PROTOCOL, updates data dictionary and CODES tables
SPR3859CreateMonDrainPermTables	Creates new drainage tables for permeability measurements and calculations: MON_DRAIN_PERM_CALC and MON_DRAIN_PERM_MEAS; populates data dictionary

Software Change Notice 103

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

Administrative

S-3846   **3846**   **COMMENTS_REVIEW Table**   **12/10/2008**   **1/9/2009**

Description

Add comment "Comments from the Regional QC review and manual upgrade process." to the COMMENTS_REVIEW table.

Resolution

Created script to add table comment to COMMENTS_REVIEW table; script SPR3846AddTableComment.sql.

CN Assign

1-144   **3847**   **AssignCN.sql**   **1/23/2009**   **1/28/2009**

Description

This program is assigning a CN=2 for a record in table TST_LINK_LAYER that should be CN=1. The program correctly assigns a CN=1 for the matching record in TST_LINK_SAMPLE.

TST_LINK_LAYER record has TST_ID=89009

There are other records as well – TST_ID=89001, 89004, 89007, 89020 and 89024

Resolution

Changed the case for TST_LINK_LAYER to update the construction number by using the field set from TST_LINK_SAMPLE. (CNUtilities.sql)

Drainage

M-3859   **3859**   **MON_DRAIN CP tables**   **3/26/2009**   **4/9/2009**

Description

Specifications for three new MON_DRAIN CP tables. Tables will be populated with data provided by outside contractor. QC will be included in the MonDrainQC program.

Resolution

Added QC checks, created tables and insert statements for data with script SPR3859CreateMonDrainPermTables.sql. For distribution to regions, will comment out the insert statements and use .dmp files to load the data by region; updated MonDrainQC.pc.

Falling Weight Deflectometer

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
4-473	3465	FWD Tables	MACTEC	5/5/2004	4/9/2009

Description

During an investigation on inconsistencies between times recorded for temperature hole readings and FWD drops in the tables MON_DEFL_TEMP_VALUES and MON_DEFL_LOC_INFO, it was identified that the time field in the MON_DEFL_TEMP_VALUES table lacked left padding for the leading zero. This time field should be modified to be consistent with other time stamps in the module.

Resolution

MON_DEFL_TEMP_VALUES.TIME_LAYER_TEMP needs to be left padded. Records with TEST_DATE > 17-JUL-03 are fine. 6787 (of 72841) rows/values are only 3 digits and need to be corrected.
Since the loader for MON_DEFL_TEMP_VALUES is now obsolete, only an update to the data is required: script SPR3465LeftPadTimeValue.sql.

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
M-3834	3834	PddxLoad		8/14/2008	1/23/2009

Description

Review existing dataloader and estimate effort to determine if there is an existing configuration_no that can be used by new data.

Resolution

It appears that PDDXLoad is coded to do this already. It was verified that configuration numbers had been incorrectly assigned. Raw test data was obtained from Gabe Cimini, NARO. The data in the database that had not been assigned correctly was deleted and reloaded. This time, an existing/correct configuration number was used.

See SPR 3634 for info on configuration number change on 7/15/2005.

Longitudinal Profile

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
4-499	3646	profile_d.exe	MACTEC	7/27/2005	3/30/2009

Description

Profile Level D QCs – Longitudinal Dipstick Data
1) In the table MON_PROFILE_DATA, for the fields RIGHT_ELEVATION and LEFT_ELEVATION, the QC only allows the values between -150 and 150. ProQual 2005 uses unfiltered longitudinal Dipstick data (RIGHT and LEFT SUMS) for IMS upload files, which have values beyond this range.
Please update the QC's for Device_Code= D to reflect this expanded range.
Extracts from a sample upload file and the Profile_D QC report are attached.

Resolution

Closed per T. Thompson - the problem is resolved with the new version of Proqual.

Materials Testing

4-454 **3384** **TST.SP01**   **MACTEC**   **10/28/2003** **3/31/2009**

Description   **Resolution**

Preparation of Compacted Specimens by Means of SHRP Gyratory Compactor As per LTPP Materials Sampling and Testing Guide for SPS-9A (page 19;Table 5), the testing laboratory compacted "3" samples at "design asphalt content at Nmax" and "6" samples at "7% air voids" (similar requirements are on Tables 6 and 7). The SP01 data entry sheet only allows two samples from a particular mix to be entered into the database. We need directions on entry procedure or a modified sheet/table.

Removed non-null constraint on TST_SP01_DATA.BULK_SPEC_GRAV_RAW with script SPR3384UpdateTstSp01Data.sql. Also updated data entry form TST_SP01.fmb. No update to QC program since it is not necessary to add level C check on this field.

M-3857 **3857** **TST_E QC**   **4/1/2009** **4/2/2009**

Description   **Resolution**

It looks like TST_SS06 has no QC for loc_no like the rest of the TST tables. As a result, we have four records in there with LOC_NOs not defined in TST_HOLE_LOG.

Updated TST_E.pc with new check.

There should be a level E check like this:

Tables: TST_SS06,TST_HOLE_LOG

·   There must be a record in TST_HOLE_LOG with matching STATE_CODE, SHRP_ID, LOC_NO, and FIELD_SET

Error message: TST_SS06-E-3, {STATE_CODE, SHRP_ID, FIELD_SET, LOC_NO} There is no matching location in TST_HOLE_LOG.

Then of course, we will have to go ahead and reset TST_SS06 to level D when we distribute it.

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

Other

M-3453	3453	Time Fields in PPDB	MACTEC	4/20/2004	2/3/2009

Description

Unify time conventions across LTPP Pavement Performance DB.

Resolution

No longer necessary.

PG Binder

1-145	3848	PGBinderQC		1/23/2009	1/23/2009

Description

The following error appears when checking the TST_AE07_MASTER table:

34069 4   1   TST_AE07_MASTER-E-108: There is no matching sample in TST_SAMPLE_BASIC_INFO.

Table TST_SAMPLE_BASIC_INFO does not contain the TST_ID field. The sample number (in this case 'CA08F01') does exist in the TST_SAMPLE_BASIC_INFO table

Resolution

Corrected bugs in TST_AE07_MASTER-E-108 and E-109. Sent to Region 1 for testing. Updated program works fine. Updated pgbindqc.exe.

S-3858	3858	PGBinderQC		4/2/2009	4/3/2009

Description

Correct label on TST_SP01_MASTER-E-110 QC check. Also remove paranthetical text where appropriate from all PGBinder QC output.

Resolution

Corrected text of check TST_SP01_MASTER-E-110 and removed paranthetical text from output. Updated pgbinderqc.exe.

Reference Tables

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
E-2379	2379	Data Dictionary	PCS/LAW	6/15/1998	4/2/2009

Description

Comparison of code entries in Codelist and dictionary have some discrepancies as listed on SPR

Resolution

All chgs but 1 made by 6/22/98.

2/2009 - Corrections for the roller code discrepancies will be provided by MACTEC.
3/2009 - Corrections provided by MACTEC; script SPR2379UpdateRollerCodes.sql; also updated RHB_d QC.

Resilient Modulus

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
M-3849	3849	P07 QC		2/6/2009	2/19/2009

Description

P07V2_QC program has a D level check on layer_number, with a range of 2 - 10. This is too restrictive (we have data for a layer 12) and unnecessary with the foreign key back to L05B. Either remove the check or widen to 2 - 20.

Resolution

To be consistent with other checks on LAYER_NO, I widened the range to 2 - 20. Also widened the range check on CN to 1 - 20 from 1 - 10. Updated P07v2.pc.

RIMS

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
3-907	3851	RIMS		2/26/2009	2/27/2009

Description

The RIMS data entry form for AC surface distresses does not allow for updates to the longitudinal cracking field.

Resolution

Cannot reproduce the problem. SRO says it is working now.

Traffic

REG #	SAIC #	Program Name	Referred To	Date Rec	Date Comp
M-3855	3855	TRF Sheet 16 tables, forms		3/24/2009	4/20/2009

Description

See hardcopy specs for updates to the TRF_EQUIPMENT_MASTER table, codes additions/updates, data entry forms and QC.

Resolution

Traffic table structure and codes updates completed with script SPR3855UpdateTrfSheet16.sql and data updates completed with script SPR3855UpdateTrfData.sql. Updated entry form sheet16.fmb and TRF QC.

Transverse Profile

3-3557 **3557** **T_PROF Constraints and Form** **11/18/2004** **2/27/2009**

Description

The form used to delete data from the t_prof tables does not include the CROSS_SLOPE table. The constraints are not cascading through all related tables.

Resolution

Transverse profile data without Cross Slope data (DEVICE_CODE='P') can be deleted using the t_prof deletion form in RIMS. T prof data *with* Cross Slope data (DEVICE_CODE='D') cannot be deleted with the form, unless the cross slope data is deleted with SQL scripts first.

This is how the form is intended to work as it reminds the user that cross slope data exists with the deleted survey and should be reloaded into the database if the t_prof data is reloaded.

M-3723 **3723** **Tprof Loader** **11/21/2006** **1/14/2009**

Description

Deferred from SPR M-3721:
3. Update the TProf Loader: The loader should now look at the maximum transverse measurement in each data record (!) and determine from that which should be put in the MASTER.PVMT_WIDTH field. The most common max measurement should go into the MASTER.PVMT_WIDTH field.

Resolution

Created the SetPvmtWidth() function to set MON_T_PROF_MASTER.PMVT_WIDTH to the most common x value. Updated tprfload.pc.