Memorandum

U.S. Department
of Transportation

**Federal Highway
Administration**

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive I-129
IMS Software Release Version 2006.05

Date: June 6, 2006

From: Eric Weaver
Long Term Pavement Performance Team

Reply to
Attn of: HRDI-13

To: Dr. Frank Meyer, PM - LTPP North Atlantic and 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 I-129, which authorizes implementation of the IMS software upgrade from version 2006.01 to 2006.05. Upgrade instructions are provided in the attachments. Please notify the FHWA and TSSC when the upgrade has been installed.

Please make this directive available to all personnel involved in data and processing.

If you have any questions concerning this transmittal, please do not hesitate to call me at (202) 493-3153.

Attachments (3)

FHWA:HRDI-13:EWeaver:mad:493-3153:6/06/06
File: c:\mdeeney\directives\IMS\I-129.doc
cc:
Gonzalo Rada (TSSC)
Aramis López
Jack Springer
Directive File
Official File
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LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For the Technical Direction of the LTPP Program

Program Area: IMS **Directive Number**: I-129

Date: June 6, 2006 **Supersedes**: I-127

Subject: IMS Software Release Version 2006.05

This directive authorizes implementation of the Information Management System (IMS) software upgrade from version 2006.01 to 2006.05. Upgrade instructions are provided in attachment 1. Please notify the FHWA and TSSC when the upgrade has been installed.

Software Change Notice 95, contained in the attached file, SCN_95.pdf, lists changes made to the IMS software since the last software release. This notice shall be filed in the Operator Log.

Please read the documentation carefully, before applying this release.

Highlights of the changes made in this software release include:

- A new sampling table, TST_SAMPLE_COMBINE, is created. This table was created to document the combination of multiple field samples of the same material into a laboratory specimen suitable for testing.
- A materialized view called TST_SAMPLE_BASIC_INFO is implemented. This view combines materials sample information from multiple tables into a single location. It is used as part of a new QC process implemented in this release which checks sample number in materials testing tables against the field sample tables.
- Foreign key constraints were added to many of the materials testing tables to ensure that parent records exist in TST_L05B before data entry is allowed.
- Implementation of FHWA Directive I-118: Archival and Removal of Obsolete Tables from the Pavement Performance Database (PPDB). Two groups of tables will be exported and then removed from the database. Many data loaders and QC programs were modified to support these changes.
- The data loader for material tests collected as part of the Materials Action Plan is included along with instructions on how to use the loader. (attachment 2).

Version 2006.05 of the IMS software will be distributed via e-mail to each region. The files included in the master distribution file named PASSWORD_20060525.PIZ file are:

- VR2006_05.ZIP – A zip file with the batch file (VR2006_05.BAT) and scripts needed to make updates to the PPDB 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

Attachment 1

Instructions to Apply VR 2006.05 Release

1. Create the subdirectory RELEASES\VR2006_05 (the directory RELEASES should already exist).

2. Copy the PASSWORD_20060525.PIZ into the subdirectory created in step 1. Rename the file PASSWORD_20060525.ZIP. Unzip the file using 20060525 as the password. Unzip the file named VR2006_05.ZIP

3. Shutdown ORACLE in normal mode and backup Server.

4. Bring ORACLE up.

5. One of the scripts will add foreign key constraints between many of the materials testing tables and TST_L05B. However, if there are orphans in the materials tables, this script will not complete successfully. To create a list of orphans that need to be corrected, run the following script from a DOS prompt:

   ```
   Sqlplus dbausername/dbapassword@instance @SPR3671CheckForL05BOrphans
   ```

   Once the script has run, correct any orphan records listed in the SPR3671CheckForL05BOrphans.lis file before continuing with step 6. Repeat step 5 until no orphan records are identified.

6. From a DOS prompt in the RELEASES\VR2006_05 directory, type

   ```
   VR2006_05 dbausername/dbapassword@instance
   ```

   to begin the software update. This batch file will run the scripts listed alphabetically in table 1, below.

7. The scripts make some very important table changes as well as creating a new sampling view. **Check carefully that all scripts completed successfully by reviewing the *.lis files (refer to list, below).** 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. **NEW STEP:** Create a directory for the new Materials Action Plan data loader. This could be on the same network drive as the LTPP area and could be named MatActLoad. Copy the MatActLoad.ZIP file from the VR2006_05 directory into the new directory. Right-click on the filename and choose "Extract to Here" to unzip the file into the new directory. Delete the

MatActLoad.ZIP file. See attachment 2 for instructions on using this new data loader.

10. The OracleVersions.zip file is included for reference only. Extract these files into the OracleVersions directory. It will create an OracleVersions\VR200605 subdirectory.

11. Remove the following obsolete data load programs from the ltpp\bin area: est_traf, fwd_comm, padias, trafload, trf_sps. These programs were identified as obsolete while removing obsolete tables from the database.

Table1. Scripts run from the VR2006_05.bat file

Script and Output Filenames (.sql & .lis)	**Description**
ResetRecordStatus_0605	Resets to D all level E records in SPS9_LOAD_TRANS_EFFICIENCY and SMP_FREEZE_STATE. Also resets to D all level E records in the TST tables affected by SPR M-3621.
SPR3620CreateTstSampleCombine	Creates new sampling table for combined samples and adds new form to SHRP_DATA_SHEETS.
SPR3621CreateTstSampleBasicInfo	Creates new sampling view and index and related LTPPDD entries.
SPR3648DropObsoleteTables	This script is called by the SPR3648ArchiveAndDropObsoleteTables. bat file. It will export the tables to be dropped in two separate .dmp files (DirectiveI118ObsoleteTablesNoArchive.dmp, DirectiveI118ObsoleteTables.dmp) and will create two similarly named .log files.
SPR3671CreateTstL05BFKConstraints	Creates constraints between materials tables and TST_L05B. Orphans must be identified and corrected before running this script.
SPR3672LabCodes	Creates two new lab codes for NARO: KY Transportation Cabinet, and Stantec.
SPR3673LabCodes	Creates new lab code for WRO: Nichols Consulting Engineers.
SPR3674MatActLoad	Adds field IMSMATACTROOT to the PATHS table.
SPR3675DropDateOpen	Drops TRF_BASIC_INFO.DATE_OPEN field.

Attachment 2

Instructions For MatActLoad Data Loader

General Information

The MatActLoad data loader is a command procedure that uses SQL*Loader and a set of control files (.ctl) to load .csv data files into the appropriate materials tables in the Pavement Performance Database (PPDB). For technical support with this loader, call TSSC programming staff at (865) 481-8502 (Miriam Pitz). For procedural support, call TSSC engineering staff at (775) 825-5885, ext. 3 (Pete Schmalzer).

Input Files

The input files are named like RR(R)TTTT_MM-DD-YYYY.csv, where RR is the region (sometimes RRR), and TTTT is the LTPP test designation. For example, SRAC01_3-16-2006.csv would be Southern Region, AC01 (For upload into TST_AC01). See table 2 for a list of tables loaded and input filename examples. Input files can be located anywhere on the network, as long as a full directory path can be specified. The loader will attempt to load any file in the input directory whose filename contains a string of characters that matches a string in the second column of table 2, below.

Directory Structure

A default directory structure is included with the procedure and this structure must exist with the necessary control files for the procedure to work. The bottom level of the structure can be named anything obvious – we would suggest something like MatActLoad. The MatActLoad.zip file provided with release 2006.05 should be unzipped into this root level directory. Assuming the root level directory is named MatActLoad, the default structure should exist as follows:

MatActLoad
MatActLoad\CTLFiles
MatActLoad\LogFiles
MatActLoad\BadFiles
MatActLoad\DataFiles

The CTLFiles directory has the control files necessary to load the .csv files we expect to receive. The LogFiles directory will hold the log files created as the procedure loads data into the database. Log files will have the same base name as the input file with a .log extension. The BadFiles directory will hold a file for each input file that fails to load completely. Any records that are not inserted into the database will be written to a .bad file, with the base filename being the same as the input file with a .bad extension. The DataFiles directory is included for user convenience. It is not necessary to put input files in this directory. However, if input files are moved into the DataFiles directory for the loading process, it is recommended that they (and related .log and .bad files) be archived after loading in a different area, according to current regional procedures.

Using MatActLoad from the Command Line

Use the command line to run MatActLoad as follows:

1. Open a command prompt (DOS) window.
2. Use the following syntax to run the batch command:

```
<MatActLoad_path>MatActLoad <input_directory> <connectstring> <MatActLoad_path>
```

where,

MatActLoad_path is the path to the MatActLoad.bat file and is the root of the required directory structure. Make sure to include a trailing backslash (‘\’) in the path. In some cases, as explained below, this parameter can be omitted.

input_directory is the path from the current directory to the files to load. This path can be either relative or fully qualified.

connectstring is the Oracle connect string in the format of user\pass@inst.

Example:

```
C:\ltpp\matactload\MatActLoad c:\ltpp\matactload\DataFiles scott\tiger@proddb c:\ltpp\matactload\
```

In this example, if the MatActLoad.bat file is run from c:\ltpp\matactload and the input files are in the default DataFiles directory, the <matactload_path> can be omitted from the command in each place as follows:

```
MatActLoad DataFiles scott\tiger@proddb
```

Using MatActLoad from the RIMS Application

Use RIMS to run the MatActLoad data loader as follows:

1. Start the RIMS application.
2. Use the System Options screen (option #5, RIMS Main Menu) to update the path to the MatActLoad root directory. Make sure to include a trailing backslash (‘\’) in the path. Save changes (F10) and return to Main Menu.
3. Select option 4, Filter Processing and Deleting, from the Main Menu.
4. Select 1 from Filter Menu and 17 from Filter Processing Menu.
5. On the Materials Action Plan Data Load screen, enter the full path to the data files to be loaded.
6. Press enter to start the load.

Log Files and Bad Files

Once the loader has finished, it is important to check all log files and bad files in the MatActLoad directory structure to verify that all data was loaded. It is recommended that log files and bad files be archived with data files in order to verify the history of the data load.

Table 2. MatActLoad Tables and Input Files

Table	Filename Must Include…	Examples
TST_AC01	AC01_?- or AC01_??-[1]	WRAC01_5-4-2006.csv
TST_AC01_LAYER	AC01_LAYER	WRAC01_LAYER_5-4-2006.csv
TST_AC02	AC02	WRAC02_10-12-2005.csv
TST_AC03	AC03	NARAC03_5-4-2006.csv
TST_AC04	AC04	NARAC04_7-23-2005.csv
TST_AE01	AE01	NARAE01_6-12_2005.csv
TST_AE03	AE03	SRAE03_3-16-2006.csv
TST_AE05	AE05	SRAE05_3-16-2006.csv
TST_AG01	AG01	SRAG01_3-16-2006.csv
TST_AG02	AG02	NCRAG02_12-1-2005.csv
TST_AG04	AG04	NCRAG04_5-4-2006.csv
TST_AG05	AG05	WRAG05_10-12-2005.csv
TST_PC01	PC01	SRPC01_3-16-2006.csv
TST_PC06	PC06	SRPC06_3-16-2006.csv
TST_PC08	PC08	SRPC08_3-16-2006.csv
TST_SS01_UG01_UG02	SS01 or UG01	WRSS01_3-16-2006.csv, NCRUG01_5-25-2006.csv
TST_SS02_UG03	SS02	NARSS02_6-12_2005.csv
TST_UG04_SS03	SS03 or UG04	SRSS03_3-16-2006.csv, WRUG04_6-17-2005.csv
TST_SS04_UG08	SS04 or UG08	NARSS04_10-12-2005.csv, WRUG08_6-17-2005.csv
TST_UG05_SS05	SS05 or UG05	NARSS05_10-12-2005.csv, NCRUG05_6-17-2005.csv
TST_UNBOUND_SPEC_GRAV	SS13 or UG13	NARSS13_6-12-2005.csv, NARUG13_6-12-2005.csv
TST_TB01	TB01	WRTB01_12-12-2005.csv

[1] Each '?' mark represents a single character.