Memorandum

U.S. Department
of Transportation

**Federal Highway
Administration**

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive I-84

Date: November 13, 2001

From: Jean Wallace
Office of Infrastructure R&D

Reply to
Attn of: HRDI-13

To: Dr. Frank Meyer, PM - LTPP North Atlantic Regional Contract
Mr. Tom Wilson, PM - LTPP North Central Regional Contract
Mr. Mark Gardner, PM - LTPP Southern Regional Contract
Dr. Sirous Alavi, PM - LTPP Western Regional Contract
Dr. Gonzalo Rada, PM - LTPP Technical Support Services Contract
Dr. Michael Darter, PI - LTPP Data Analysis Technical Support Contract

Attached is the Long-Term Pavement Performance (LTPP) Program IMS Directive I-84 to implement "EXPERIMENT_SECTION change requests. The directive addresses the modified instructions for requesting changes in EXPERIMENT_SECTION table and provides a modified Form 1. Please make sure that all office personnel involved in the LTPP IMS are aware of this new directive.

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

Attachment

FHWA:HRDI-13:JWallace:mad:493-3153:11/13/01
File: c:/mdeeney/directives/ims/I-84.doc
cc:
Monte Symons
Directive Binder
LTPP Team
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-84
Date:	November 13, 2001	**Supersedes:**	I-54
Subject:	**EXPERIMENT_SECTION** Change Requests		

Requests for changes to information contained in the **EXPERIMENT_SECTION** table in the LTPP Information Management System (IMS) shall be made using the attached IMS Form 1. Completed copies of this form along with supporting information shall be submitted to the FHWA LTPP team with a copy to the Long-Term Pavement Performance (LTPP) Technical Support Service Contractor (TSSC). Form 1 submissions must be signed or submitted by either the Regional Database Manager or Regional Program Manager. When a change request requires the use of Oracle Structural Query Language (SQL) statements, the requester shall provide the SQL statements proposed for use with the form. Changes shall not be made until after receipt of approval. The only changes to **EXPERIMENT_SECTION** that do not require approval are those caused by the automated quality control computer programs.

The IMS Form 1 has been modified slightly from the previous June 1998 version. Section 2 of the form, previously for information about new sections, is now used for information about new records to be added. Section 3 has been modified so that multiple construction numbers may be specified, and provides an entry for status change requests to out of study. These changes to the form should make it easier to indicate sets of records to which the same change is to be applied. Other sections of the form remain unchanged.

Instructions for completion of the form are split into two parts. The first part covers data form structure and definitions. The second part provides guidance on completion of the form for common types of changes.

DATA FORM STRUCTURE AND DEFINTIONS

These are instructions concerning the structure and definitions

of entries on the form.

State Code

State code is the number used to identify state or Canadian province in which the pavement section is located. The codes presented in Table A.1 of the LTPP Data Collection Guide shall be used.

SHRP ID

SHRP ID is the four-digit identification number assigned to the test section by the LTPP program. This number is used to facilitate database referencing and field identification.

If the requested change is addition of a new test section, the Regional Support Contractor (RSC) should enter the proposed SHRP ID for the new section following current LTPP test section numbering policies. The RSC should query the IMS to check that the combination of proposed SHRP ID and State Code are unique.

Date

This is the date the form was submitted.

1. Region

This is the number code used to identify the region submitting the form. The regions code assignments are:

North Atlantic Region 1
North Central Region 2
Southern Region 3
Western Region 4

2. New Record to be added to EXPERIMENT_SECTION

Typically, new records are added to **EXPERIMENT_SECTION** due to a change in CONSTRUCTION_NO caused by a maintenance or rehabilitation event. This part of the form is used for the addition of a record with a new construction number for an existing test section, whether or not the experiment type has changed. The definitions for the fields are the same as for the fields with the same names described in section 3 below. Note that some types of changes require both sections 2 and 3 to be completed.

As with changes to an existing record, an explanation for the reason a new record is required should be provided. Brief explanations can be recorded under comments in item 5 of the form. Additional sheets should be attached if more room is needed.

3. Changes to existing EXPERIMENT_SECTION record(s)

To indicate changes to existing records in **EXPERIMENT_SECTION**, the current field values shall be entered under the column labeled "Record to be Changed". The CONSTRUCTION_NO of the matching record in the IMS must always be indicated for any requested **EXPERIMENT_SECTION** change. (The CONSTRUCTION_NO plus STATE_CODE and SHRP_ID, indicated at the top of the form, create the combination of key fields that uniquely define a record in **EXPERIMENT_SECTION**.) It is the preferred practice to always indicate the current values for all fields in the record to be changed under the "Record to be Changed" column. Entries under the "Proposed Changes" column should be made only for those fields proposed to be changed; fields in which no changes are proposed should be left blank.

An explanation should be provided for any requested change to an existing record. Brief explanations can be recorded under comments in item 5 of the form. Additional sheets should be attached if more room is needed.

The following definitions shall be followed for the proposed changes:

CONSTRUCTION_NO	Event number used to relate changes in pavement structure with other time dependent data elements. This field is set to 1 when a test section is initially accepted into LTPP and is incremented with each construction related change to the pavement layer structure.
CN_ASSIGN_DATE	The assignment date for the beginning of a construction event. It is equal to acceptance date when a test section is first accepted in LTPP program, i.e. CONSTRUCTION_NO=1. It corresponds to the construction activity start date when the pavement layer structure is modified by maintenance or rehabilitation. CN_ASSIGN_DATE is used by the IMS software to assign construction numbers (CN) to records contained in other tables. When a construction event occurs that causes an increment in CONSTRUCTION_NO, CN_ASSIGN_DATE (CN) must be less than or occur before CN_ASSIGN_DATE (CN+1).
CN_CHANGE_REASON	Code indicating the reason(s) for changing CONSTRUCTION_NO. A numeric code is assigned to CN_CHANGE_REASON to indicate the type of maintenance or rehabilitation a test section received. Multiple codes may be assigned to indicate various maintenance/rehabilitation

	treatments a test section received. When multiple codes are entered, they should be separated with commas. Leading zero's for single digit codes shall not be used. The codes can be found in Table A.17 of the Data Collection Guide for Long Term Pavement Performance Studies.
GPS_SPS	Code indicating if the section is either assigned to the General Pavement Studies (G) or Specific Pavement Studies (S).
EXPERIMENT_NO	Code indicating which LTPP experiment the pavement section is assigned. This two-digit code consists of a number followed by an optional suffix letter. The suffix is used for some experiments to indicate a subcategory of test sections.
STATUS	Code indicating the current monitoring status of a section. A null value indicates the test section has been approved and has an active monitoring status. A value of O indicates that the test section has been placed out of study and no future monitoring measurements will be made. This field should only be set to O when a test section goes out of study. At that time, the STATUS field in all records in **EXPERIMENT_SECTION** with matching STATE_CODE and SHRP_ID should be set to O. A value of R indicates a rejected test section that, due to some fatal flaw, is being removed from the LTPP program and all data entries in the IMS deleted. *(Instructions on removing records from **EXPERIMENT_SECTION** with STATUS=R are issued under separate directives.)*
ASSIGN_DATE	Date when a test section was assigned to the LTPP experiment. The experiment designation for a test section is the combination of EXPERIMENT_NO and GPS_SPS fields in the record. When a section is first accepted into LTPP, ASSIGN_DATE is the acceptance date. ASSIGN_DATE must precede any LTPP monitoring measurements performed on the test section. When a test section changes experiments due to rehabilitation, ASSIGN_DATE is the construction start date and should equal the CN_ASSIGN_DATE, i.e. ASSIGN_DATE(CN+1) = CN_ASSIGN_DATE(CN+1) if EXPERIMENT_NO(CN) … EXPERIMENT_NO(CN+1).

DEASSIGN_DATE	Date when a test section changed to another experiment or was placed in out of study status in the LTPP program (STATUS=O). This field should be null until a rehabilitation construction event occurs which causes a change in EXPERIMENT_NO, or the test section goes out of test. When a test section changes experiments due to rehabilitation, the DEASSIGN_DATE for the previous CN should equal the CN_ASSIGN_DATE for the next CN, i.e. DEASSIGN_DATE(CN)=CN_ASSIGN_DATE(CN+1), if EXPERIMENT_NO(CN) … EXPERIMENT_NO(CN+1). If a maintenance related construction event occurs which does not result in an experiment change, the DEASSIGN_DATE for the previous CN should equal the DEASSIGN_DATE for the next CN, i.e. DEASSIGN_DATE(CN)=DEASSIGN_DATE(CN+1) (even if null), if EXPERIMENT_NO(CN)=EXPERIMENT_NO(CN+1).
SEAS_ID	State specific Seasonal Monitoring Program (SMP) identification code indicating that SMP measurements were made for the corresponding construction number. SEAS_ID is set to A for the first SMP site installed in a state, B for the second site, etc. This field shall only be populated for construction numbers in which SMP data were collected. When a construction event occurs on a SMP test section that results in termination of its participation in the SMP, or if SMP monitoring was previously terminated prior to occurrence of a new construction event, SEAS_ID shall be set to null in the **EXPERIMENT_SECTION** record corresponding to the new CN for which no SMP data are available.
SUPPLEMENTAL	This field is set to S if the test section is a highway agency supplemental section on SPS project sites.
Test section out of Study?	should be set to Y if the section is being taken out of study. ‘Y’ indicates a request to set STATUS for every record for this section in **EXPERIMENT_SECTION** to ‘O’.

This field

Note that **EXPERIMENT_SECTION** also contains various record status fields. The entries in these fields are populated by the IMS software. Manual changes to these fields shall not be made.

4. Other Changes

If changes concerning the test section status, other than those noted above are proposed, provide an explanation under comments in item 5 and enter a Y in the space indicating that the supporting documentation is attached to the form. An explanation and documentation are required for all other changes.

5. Comments

This space is provided for entry of comments or explanations from the requestor on the nature of the requested changes. Additional sheets should be attached to the form if more room is needed or the change requires additional documentation.

6. Approval Status

The approval status of the requested changes is indicated with a check mark in the boxes provided under this item.

7. Approval Comments

This portion of the form is reserved for comments from the approval authority on actions to be taken to implement the approved changes, explanations of any modifications to the proposed changes, or reason why the proposed changes were not approved.

TYPES OF CHANGES

The following instructions provide guidance on the specifics of changes that may occur.

Add New Test Section

It is unlikely that any new test sections will be added, and no provision for this action is made on the revised Form 1. If the RSC believes that a new section should be added, please contact the TSSC directly after approval has been obtained from the FHWA.

Modify Existing Record

If any changes to an existing record are required, the construction number of the existing record must be identified, as well as any fields that require modifications. The proposed changes should also be identified. Section 2 of Form 1 will not be required if the only changes are to existing records.

Add New Record with Experiment Change

If a new record is proposed with an accompanying change in experiment, Section 2 of Form 1 must be filled out. In section 2, the CN_ASSIGN_DATE should be equal to the ASSIGN_DATE for the newly created record, and both should equal the date the

rehabilitation/maintenance **started**. It is important that the ASSIGN_DATE be set after the date of the last monitoring measurement and prior to or equal to the date of the first construction activity associated with the new CN event.

Section 3 should be used to identify the records that must be given a deassign date due to the assignment of a new experiment to the test section. The DEASSIGN_DATE for all records with the experiment type immediately preceding the new experiment should be set to the ASSIGN_DATE for the new record.

Because a change in experiment requires approval from the FHWA for monitoring continuation, in general, this request should not be made until form RI-2 has been completed and approved. Therefore, it is expected that a completed form RI-2 will be submitted with all requests to change experiment. Data collected after construction events that require a change to a new experiment designation shall not be entered into the IMS until the change to **EXPERIMENT_SECTION** has been approved and performed. At the very minimum, enough information on the nature of the construction treatments applied to a test section that cause the change in experiment, must be supplied with Form 1 so that the new experiment designation can be verified.

Add New Record No Experiment Change

If a new record is proposed without an accompanying change in experiment, Section 2 of Form 1 must be filled out. In section 2, The CN_ASSIGN_DATE should be equal to the date the rehabilitation/maintenance started, not the day before. The ASSIGN_DATE should be equal to the ASSIGN_DATE for the previous construction number. Section 3 of Form 1 is not required for this operation.

Out of Study Request

To request that a test section be taken out of study, place a “Y” in the appropriate box in section 3. To implement this change, the construction numbers for the last experiment designation must be assigned the DEASSIGN_DATE for the out of study date proposed for the section. Only the records requiring a new DEASSIGN_DATE must be identified in Section 3 of Form 1. However, STATUS for all records in **EXPERIMENT_SECTION** for an out of study test must be set to “O”.

When all of the test sections on a SPS project either are out of study, or assigned to a different experiment, the project level record shall be set to out of study. The DEASSIGN_DATE should be set to the DEASSIGN_DATE for the last test section on the project that was either taken out of study or assigned to a new experiment.

Other Changes

If an **EXPERIMENT_SECTION** change not covered above is desired, or

the instructions above do not apply to a specific situation, and the RSC is unclear on how the new Form 1 should be filled out to accommodate the change, the TSSC should be contacted.

Prepared by: TSSC

Approved by:

Aramis Lopez, Jr.
LTPP Team Leader

LTPP Test Section Status IMS Form 1 Test Section Status Change Request	State Code [ ] SHRP ID [ ] Date (dd/mmm/yyyy)[/ /]

1. Region (1 - North Atlantic; 2 - North Central; 3 - Southern; 4 - Western) [__]

2. New Record to be added to EXPERIMENT_SECTION (provide explanation under comments)

CONSTRUCTION_NO [__] EXPERIMENT_NO [__ __]
CN_ASSIGN_DATE[__ __ / __ __ __ / __ __ __ __] ASSIGN_DATE
CN_CHANGE_REASON[_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _] SEAS_ID
GPS_SPS [__] SUPPLEMENTAL [__]

3. Changes to existing EXPERIMENT_SECTION record(s) (provide explanation under comments)

Record to be Changed		Proposed
CONSTRUCTION_NO	**[__] - [__]** Ø	[__] - [__]
CN_ASSIGN_DATE[__ __ / __ __ __ / __ __ __ __]		
CN_CHANGE_REASON[_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _]		Ù
GPS_SPS	[__]	[__]
EXPERIMENT_NO	[__ __]	[__ __]
STATUS	[__]	[__]
ASSIGN_DATE[__ __ / __ __ __ / __ __ __ __]	[__ __ / __ __ __ / __ __ __ __]	
DEASSIGN_DATE[__ __ / __ __ __ / __ __ __ __]	[__ __ / __ __ __ / __ __ __ __]	
SEAS_ID	[__]	[__]
SUPPLEMENTAL	[__]	[__]

Test section out of study? (Y/N) [__]

Ø **CONSTRUCTION_NO must be specified. If only one record, use only first blank.**

Ù Codes can be found in Table A.17 of the Data Collection Guide for LTPP Studies.

4. Other change documentation attached? (Y / N) [__]

5. Comments _____

_____

_____

_____

6. ☐ Approved as submitted ☐ Approved changes noted under approval comments ☐ Not Approv

7. Approval comments _____

_____

_____

Requestor _____ Organization _____

Approved by _____ Organization

Approval date _____