

Recommendation Report

Wednesday, August 01, 2007

LOG:h-0408*

Log Number H-0408

IssueDate 7/19/1984

VUS RIVER, GREENWICH CT

6/28/1983

ON JUNE 28, 1983, A 100-FOOT-LONG SUSPENDED SPAN BETWEEN PIERS 20 AND 21 OF THE EASTBOUND TRAFFIC LANES OF THE INTERSTATE ROUTE 95 HIGHWAY BRIDGE OVER THE MIANUS RIVER IN GREENWICH, CONNECTICUT, COLLAPSED AND FELL 70 FEET INTO THE RIVER BELOW. TWO TRACTOR-SEMITRAILERS AND TWO AUTOMOBILES PLUNGED INTO THE VOID IN THE BRIDGE AND WERE DESTROYED BY IMPACT FROM THE FALL. THREE VEHICLE OCCUPANTS DIED, AND THE OTHER THREE RECEIVED SERIOUS INJURIES. THE NATIONAL TRANSPORTATION SAFETY BOARD DETERMINED THAT THE PROBABLE CAUSE OF THE COLLAPSE OF THE MIANUS RIVER BRIDGE SPAN WAS THE UNDETECTED LATERAL DISPLACEMENT OF THE HANGERS OF THE PIN AND HANGER SUSPENSION ASSEMBLY IN THE SOUTHEAST CORNER OF THE SPAN BY CORROSION-INDUCED FORCES DUE TO DEFICIENCIES IN THE STATE OF CONNECTICUT'S BRIDGE SAFETY INSPECTION AND BRIDGE MAINTENANCE PROGRAM.

Recommendation # H-84-040

Overall Status
CAA

Priority

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: DEVELOP A DETAILED AND COMPREHENSIVE INTEGRATED BRIDGE INSPECTION PROCEDURE USING ALL AVAILABLE SOURCE MATERIALS, INCLUDING BUT NOT LIMITED TO THE FEDERAL HIGHWAY ADMINISTRATION'S "BRIDGE INSPECTOR'S TRAINING MANUAL" AND THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS' "MANUAL FOR BRIDGE MAINTENANCE (1976)" AND "MANUAL FOR MAINTENANCE INSPECTION OF BRIDGES (1978)."

FHWA

Closed - Acceptable Action

1/5/1988

Recommendation # H-84-041

Overall Status
CAA

Priority
CLASS II

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: AMEND 23 CFR 650.303 TO INCLUDE AN INTEGRATED BRIDGE INSPECTION PROCEDURE IN ITS ENTIRETY OR TO INCORPORATE SUCH A PROCEDURE BY REFERENCE.

FHWA

Closed - Acceptable Action

5/11/1989

Recommendation # H-84-042

Overall Status
CAA

Priority

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: DEVELOP A MODEL BRIDGE INSPECTOR'S FIELD HANDBOOK IN A CONVENIENT CHECKLIST FORMAT WHICH ENCOMPASSES ALL THE ELEMENTS OF AN INTEGRATED BRIDGE INSPECTION PROCEDURE TO BE PRESCRIBED BY 23 CFR 650.303 IF AMENDED AS RECOMMENDED BY THE SAFETY BOARD.

FHWA

Closed - Acceptable Action

11/9/1984

Recommendation # H-84-043

Overall Status
CAA

Priority

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: ESTABLISH A BRIDGE INSPECTION ENFORCEMENT PROGRAM THAT WILL ASSURE COMPLIANCE WITH 23 CFR 650.303 AMENDED AS RECOMMENDED BY THE SAFETY BOARD.

FHWA

Closed - Acceptable Action

11/7/1986

Recommendation # H-84-044

Overall Status
CAA

Priority
CLASS II

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: DEVELOP AND DISSEMINATE PROCEDURES FOR INSPECTION OF HIDDEN ELEMENTS OF PIN AND HANGER ASSEMBLIES WHICH DO NOT INVOLVE THE DISMANTLING OF THE ASSEMBLIES.

FHWA

Closed - Acceptable Action

11/9/1984

Recommendation Report

Wednesday, August 01, 2007

LOG:h-0408*

Recommendation # H-84-045 **Overall Status** CAA **Priority**

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: PRESCRIBE OBJECTIVE DIMENSIONAL STANDARDS FOR THE ALIGNMENT OF BRIDGE SPANS TO FACILITATE DETECTION OF MISALIGNMENT CAUSED BY DETERIORATION OF PIN AND HANGER ASSEMBLIES.

FHWA	Closed - Acceptable Action	1/5/1988
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Recommendation # H-84-046 **Overall Status** CAA **Priority**

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: IN COOPERATION WITH THE STATES, IDENTIFY BRIDGES THAT HAVE A PIN AND HANGER ASSEMBLY DESIGN USING BEARING STRESSES ABOVE THOSE ALLOWED BY THE 1983 INTERIM SPECIFICATION-BRIDGES, 1983 OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND DESIGNATE THEM FOR FREQUENT INSPECTION.

FHWA	Closed - Acceptable Action	2/8/1990
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Recommendation # H-84-047 **Overall Status** CAA **Priority**

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: AUGMENT THE CURRENT INVENTORY AND RATING METHODOLOGY OF THE NATIONAL BRIDGE INSPECTION STANDARDS, WHICH EMPHASIZES AN OVERALL RATING FOR PLANNING LARGE-SCALE REPLACEMENT OR REHABILITATION FUNDING, TO REQUIRE INSPECTIONS AND RATINGS OF SUFFICIENT DEPTH AND DETAIL TO ADDRESS ALL ELEMENTS CRITICAL TO SAFETY.

FHWA	Closed - Acceptable Action	5/11/1989
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Recommendation # H-84-048 **Overall Status** CAA **Priority**

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: REQUIRE THAT THE DESIGN OF ANY FEDERAL-AID BRIDGE INCLUDE AN ANALYSIS OF INSPECTABILITY AND MAINTAINABILITY.

FHWA	Closed - Acceptable Action	11/9/1984
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Recommendation # H-84-049 **Overall Status** CAA **Priority** CLASS II

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: CONDUCT DETAILED INSPECTIONS OF THE MIANUS RIVER BRIDGE AND OTHER REPRESENTATIVE BRIDGES HAVING A SKEWED AND NONSKEWED SUSPENDED SPAN DESIGN WITH PIN AND HANGER ASSEMBLIES TO DETERMINE WHETHER THERE IS A SIGNIFICANT DIFFERENCE BETWEEN THE TWO DESIGNS IN TERMS OF THE MOVEMENT OF HANGERS ON PINS DUE TO EITHER DEAD OR LIVE LOADING AND WHETHER SUCH MOVEMENT IS ACCEPTABLE.

FHWA	Closed - Acceptable Action	11/7/1986
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Recommendation # H-84-050 **Overall Status** CAA **Priority**

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: REQUIRE EACH STATE TO DEVELOP AN INDIVIDUALIZED INSPECTION PROCEDURE FOR EACH BRIDGE UNDER STATE INSPECTION JURISDICTION THAT HAS CRITICAL ELEMENTS WHOSE FAILURE WILL ALMOST CERTAINLY RESULT IN A CATASTROPHIC FAILURE OF THE BRIDGE.

FHWA	Closed - Acceptable Action	11/9/1984
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Recommendation # H-84-051 **Overall Status** **Priority**
CAA

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: PRESCRIBE CRITERIA FOR IN-DEPTH INSPECTIONS OF PIN AND HANGER ASSEMBLIES BASED ON OBJECTIVE MEASURES OF THE RISK OF HIDDEN DETERIORATION, SUCH AS THE TIME SINCE THE LAST INSPECTION, AND/OR WHETHER THE PIN AND HANGER ASSEMBLY IS DISMANTLED.

FHWA	Closed - Acceptable Action	1/5/1988
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Recommendation # H-84-052 **Overall Status** **Priority**
CAAA

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: PRESCRIBE AN OBJECTIVE STANDARD FOR REPAIR OR REPLACEMENT OF PIN AND HANGER ASSEMBLIES ACCORDING TO MEASURED CONDITIONS OF MISALIGNMENT, DISTORTION, OR CHANGES IN THE POSITION OF ELEMENTS OF THE ASSEMBLY.

FHWA	Closed - Acceptable Alternate Action	11/7/1986
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Recommendation # H-84-053 **Overall Status** **Priority**
CUA

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: CHANGE THE FORMAT OF THE "BRIDGE INSPECTOR'S TRAINING MANUAL" TO PROVIDE FOR PAGE-CHANGE UPDATING, TO KEY THE MANUAL TO INSPECTION FORMS, TO PRESCRIBE MANDATORY EXAMINATIONS AND INSPECTOR EVALUATIONS OF INDIVIDUAL CRITICAL ELEMENTS AS WELL AS OVERALL CONDITIONS, AND TO DESCRIBE AN OPTIONAL METHODOLOGY FOR EFFECTIVE ON-SITE INSPECTION.

FHWA	Closed - Unacceptable Action	1/5/1988
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Recommendation # H-84-054 **Overall Status** **Priority**
CAA

THE NTSB RECOMMENDS THAT THE FEDERAL HIGHWAY ADMINISTRATION: INCLUDE IN THE ANNUAL BRIDGE INSPECTION PROGRAM AUDIT A REVIEW OF THE STATE'S BRIDGE INSPECTION TRAINING PROGRAMS.

FHWA	Closed - Acceptable Action	11/9/1984
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Total Number of Recommendations for Recommendation Report: 15

Selection for Report:

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