



U.S. Department of Transportation
Federal Highway Administration

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Best Practices for Corrosion Control and Mitigation – In response to House Reports 115-237 and 115-750, which requested Federal Highway Administration (FHWA) to submit a report on the status of corrosion control planning by State departments of transportation and the status of corrosion control best practice requirements in State regulations and in bid specifications for bridge projects using Federal taxpayer money. The CCL report (FHWA-HRT-24-127) attempts to give visibility to the processes by which FHWA and States ensure the use of best practices for bridge corrosion prevention and control.

**Industry-Recognized Corrosion Prevention
Worker Certifications Effectiveness Evaluation** – In

response to House Report 114-243 and Senate Report 114-606 requesting FHWA to assess the impact and value of certification requirements for workers performing bridge corrosion prevention work. The CCL report (FHWA-HRT-24-128) documents the research conducted on worker certifications for blasting and painting, as well as the information analyzed from specific bridge corrosion prevention projects.

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SUMMARYREPORT



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FHWA-HRT-24-128

Best Practices for Corrosion Control and Mitigation

FHWA Publication No.: FHWA-HRT-24-127

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INTRODUCTION

This report was prepared in response to House Report 115-237 and House Report 115-780, which request that the Secretary of Transportation submit a report on the status of corrosion control planning by State departments of transportation (State DOTs) and the status of corrosion control best practices requirements in State regulations and in bid specifications for bridge projects using Federal taxpayer money. Exhibit A contains the language from the House Reports.

This report attempts to give visibility to the processes by which the Federal Highway Administration (FHWA) and States ensure the use of best practices for bridge corrosion prevention and control. This report is not intended to cover corrosion control technologies with any technical depth, for that, the reader is referred to the list of references in Exhibit B. For the purposes of this report, "best practices" are techniques, methodologies, or processes that are proven to be useful and effective in desired outcomes. Furthermore, the bridge corrosion issue of concern is limited to corrosion of structural steel and steel reinforcement in structural concrete, bridge decks, and tensioned steel reinforcement.

To develop this report, FHWA reviewed its bridge design and preservation activities, the literature regarding corrosion control standards, and individual State DOT construction specifications. In addition, FHWA corresponded with various State, trade association, and industry experts.

The FHWA and the bridge industry have been across approaches to mitigate the effects of corrosion for report highlights the current state of bridge corrosion in House issue – Best Practices for Corrosion Prevention Corrosion-related Training and Certification, and C Planning. The following is a summary of the study.

1. **Status of Corrosion Control Best Practices.** C practices are codified in American Association of Transportation Officials (AASHTO) specifications technical updates to State agencies regarding and on corrosion control through technical working documents. Over the past 40 years, FHWA has four major bridge corrosion issues – improvement for corrosion protection, corrosion protection of development of corrosion-resistant steel (weather steel), and prevention of post-tensioning steel

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FHWA-HRT-24-127



Industry-Recognized Corrosion Prevention Worker Certifications Effectiveness Evaluation

FHWA Publication No.: FHWA-HRT-24-128

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SCOPE

The Senate and House Appropriation Committees request the U.S. Department of Transportation and the U.S. Department of Housing and Urban Development, and Related Agencies Appropriation Bill, 2017 (H. Rep. 114-468) requested the Federal Highway Administration (FHWA) to assess the impact and value of certification requirements for workers performing bridge corrosion prevention work. The language from the House and Senate reports states:

House Report

The Committee directs FHWA to conduct a study comparing the cost effectiveness of industry-recognized corrosion prevention worker certifications on federally funded corrosion prevention bridge and overpass projects. The study shall compare no less than 12 currently obligated projects preserving the structure of bridges using corrosion prevention and mitigation systems, including at least 6 projects that utilize an industry recognized corrosion prevention worker standard and no less than 6 similar currently obligated projects that do not use an industry recognized worker standard. The study shall include a comparison of the time to complete projects, initial quality control (QC) reports, and budgetary overruns. The FHWA shall submit the results from its study in a report to the House and Senate Committee on Appropriations no more than 2 years after enactment of this act.

Senate Report

The Committee directs FHWA to conduct a study comparing the cost effectiveness of industry-recognized corrosion prevention worker certifications on federally funded corrosion prevention bridge and overpass projects. The study shall compare no less than 6 similar projects that do not use an industry recognized worker standard. The study shall include a comparison of the time to complete projects, initial QC reports, and budgetary overruns. The FHWA shall submit the results from its study in a report to the House and Senate Committee on Appropriations no more than 2 years after enactment of this act.

This report documents the research conducted on worker certifications for painting and painting, as well as the information analyzed from specific bridge corrosion prevention projects. It is important to understand that throughout this report, much of the discussion centers on contractor (bridge painting contracting firm) certification, as that type of program has been implemented for some time. The specific issue of worker (thruway painting) certification is raised, and the process of being implemented selectively within the bridge painting industry. The programs