



*Office of the Chief Internal Auditor*

## ***Audit Report***

*South Carolina Department of Transportation  
Employee Safety Audit Findings and Recommendations*

*May 15, 2013*

# ***Table of Contents***

**Office of the Chief Internal Auditor  
SCDOT Employee Safety Audit**

May 15, 2013

**TABLE OF CONTENTS**

---

|                                    | <u>Page</u> |
|------------------------------------|-------------|
| Transmittal Letter                 | i           |
| Executive Summary                  | iii         |
| Audit Findings and Recommendations | 1           |
| Department Response                | 8           |

# ***Transmittal Letter***



*Office of the Chief Internal Auditor*

May 15, 2013

Commission of the South Carolina Department of Transportation

The Honorable Lawrence K. Grooms, Chairman  
South Carolina Senate Transportation Committee

The Honorable Hugh K. Leatherman, Sr., Chairman  
South Carolina Senate Finance Committee

The Honorable Phillip D. Owens, Chairman  
South Carolina House Education and Public Works Committee

The Honorable W. Brian White, Chairman  
South Carolina House Ways and Means Committee

Dear Gentlemen:

**RE: SCDOT Employee Safety Audit**

The Office of the Chief Internal Auditor has completed an Employee Safety Audit within the SCDOT Occupational Safety and Health Office in accordance with Section 57-1-360. On April 10, 2013, we communicated our preliminary review results with the Division of Support Services. Based on our draft report dated April 15, 2013, the Office of the Secretary of Transportation submitted its response to our office regarding the audit findings. The response is accompanied to the attached draft report.

We conducted this audit in accordance with Generally Accepted Governmental Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a responsible basis for these findings and conclusions.

We appreciate your support to our office. If you have any questions or comments regarding this report or this review process, please don't hesitate to contact me at (803)737-1151 or via email: [townespb@scdot.org](mailto:townespb@scdot.org).

Respectfully submitted,

Paul B. Townes, CPA  
Chief Internal Auditor  
Office of the Chief Internal Auditor

# *Executive Summary*

## **EXECUTIVE SUMMARY**

---

*The South Carolina Department of Transportation (SCDOT) Departmental Directive No. 12, Employee Safety Policy*, issued on June 1, 1997 and revised on October 15, 2007 establishes the employee safety policy and employee safety manual at SCDOT. *Directive No. 12* provides no governance, commitment by management, or administration of a safety policy or program and states the following: “In doing so, the South Carolina Department of Transportation intends, as a minimum, to comply with applicable state and federal laws regarding occupational safety.”

The safety program at SCDOT is administered through the Occupational Safety and Health Office (OSHO) within the newly created Support Services Division. OSHO serves as a resource center and provides technical assistance in occupational safety and health to agency management and employees through training, record-keeping, drug testing, and wellness programs, in addition to inspection and investigation activities. This assistance is provided to a network of district safety representatives and individual county safety representatives who administer the day-to-day program at each field location. Neither OSHO nor field representatives have any enforcement responsibility or authority and act only as a resource to management. Safety at SCDOT is the “responsibility of every employee.” This might bring to mind the old adage, “when everyone is responsible, nobody is accountable.” Safety is both a campaign and a culture, and as such, objectives and measurable results as to success or failure are difficult to capture.

Our audit work consisted primarily of interviews, surveys, and questionnaires of OSHO staff, district and county safety representatives and field personnel, whose safety is most at risk. In addition, we reviewed OSHO and OSHA records, reports, and investigations. The results of these audit inquiries are detailed in the applicable audit findings and recommendations.

The Office of the Chief Internal Auditor (OICA) reviewed the SCDOT OSHO safety programs for compliance with SCDOT and OSHA requirements and to evaluate the effectiveness of safety programs and the safety culture within SCDOT. We conducted this audit in accordance with Generally Accepted Government Auditing Standards including, but not limited to, the review of regulations and guidelines, internal policies, procedures and controls, cost analysis, and surveys of management and employees of the South Carolina Department of Transportation.

---

# *Audit Findings and Recommendations*

---

## **AUDIT FINDINGS AND RECOMMENDATIONS**

---

### **ORGANIZATION**

#### **Finding 1:**

Although OSHO is now functioning within the Support Services Division, this would not appear to be the most effective location within the SCDOT organization. A draft copy of the *SCDOT Strategic Management Plan* outlines safety initiatives in the Workforce section, which is under the authority of the Human Resources Division. With so much coordination necessary with Human Resources in the areas of employee training, Workers Compensation claims, and disciplinary actions resulting from safety issues, the OSHO and the safety initiative could be more effective if organizationally located within the Human Resources Division.

#### **Recommendation 1:**

We recommend consideration of the OSHO being organizationally located within the Human Resources Division of SCDOT. This should provide for more effective coordination and cooperation in the area of employee safety and wellness.

#### **Finding 2:**

Currently, safety is administered in a fragmented and decentralized manner through seven district safety representatives and individual county safety representatives, with support by the OSHO. All districts and counties are not staffed nor administer the safety programs in a consistent manner. Some locations do not have full-time safety representatives and duties are varied within each district and county. At the time of our audit, there were nine (9) counties that were not staffed with a county safety representative. In District 7, safety duties are administered by the Resident Maintenance Engineer (RME). In some counties, the safety representative has additional and varied duties not related to the safety program. We understand the manpower review is addressing this issue and has presented recommendations for a consistent organization with necessary staffing levels, including some reassessment of duties and responsibilities.

#### **Recommendation 2:**

We recommend the SCDOT safety program be administered through a standardized organization with clear reporting and responsibilities for each safety position. This could be structured in a centralized or decentralized environment. Whatever the organization structure, the responsible party should be provided with the necessary authority and resources to accomplish the safety mission.

#### **Finding 3:**

SCDOT employees do not have an independent forum or channel to direct and discuss internal work safety issues. During 2012, the SCDOT Safety Council was established by the Secretary of Transportation to explore safety initiatives. This council is made up of representatives of SCDOT, Department of Public Safety, Department of Motor Vehicles, and the Federal Highway Administration. While a very worthwhile venture, it would appear that the work of the council

has been overwhelmingly geared toward the reduction of deaths on our highways versus the safety of SCDOT employees.

**Recommendation 3:**

We recommend that a new, internal “SCDOT Occupational Safety Council” be established to address the concerns and recommendations of our employees as they relate specifically to employee safety on the job.

**POLICY AND PROCEDURES**

**Finding 4:**

*SCDOT Departmental Directive No. 12 Employee Safety Policy* was issued to establish the employee safety policy and introduce the employee safety manual. *Directive No. 12* was issued in June 1997 and has only gone through one minor revision and reissue in 16 years (October 2007). This directive has not been strengthened or reinforced since 2007 and provides no clear objectives nor administration of the safety program with commitment by management and communication to employees.

**Recommendation 4:**

We recommend that *SCDOT Departmental Directive No. 12 Employee Safety Policy* be revised and reissued with a renewed commitment by management to safety at SCDOT. The *Strategic Management Plan* addresses such a “revitalization” of the safety program and the reissuance of *Directive No. 12* should be a major part of achieving that objective.

**Finding 5:**

SCDOT does not currently have in place an agency-wide program to recognize or reward employees for meeting or exceeding the objectives of our safety program. We were informed that such programs had been in place on an informal basis in the past but were eliminated due to budgetary considerations.

Our surveys and interviews of employees highlighted the lack of any form of reward or recognition programs, as almost 50% of the responses indicated the interest for reward or recognition for performing their jobs in a safe manner. It is generally accepted practice for many industries, including construction, maintenance and transportation, to have safety rewards and recognition programs and pride in their safety records and accomplishments.

**Recommendation 5:**

We recommend that SCDOT consider the adoption of a safety rewards and recognition program. This could be accomplished on a district, county or individual employee basis or a combination of all. Recognition programs help instill the sense of pride and ownership for the safety of all employees and support management commitment to the program. Such programs can take the form of luncheons, banquets, awards, plaques and certificates, and competitions with recognition in agency publications.

## **EFFICIENCY AND EFFECTIVENESS**

### **Finding 6:**

Safety is not an accounting budget item at SCDOT, so the expenditures for safety were not readily available. The personnel costs alone for our current safety staff (42) are in excess of \$1.8 million per annum, but there is no formal capture of safety equipment costs or training costs. We were consistently informed that safety programs and related funds for equipment and training have been reduced, but we were not provided any detailed accounting of reduced costs or training hours. This could also be utilized to provide a measure of the efficiency or effectiveness of our safety program.

### **Recommendation 6:**

We recommend that SCDOT consider the development and utilization of a safety budget to capture the costs associated with our safety program, including dedicated personnel, safety equipment and gear, including safety boots, eyewear and vests, training costs, and employee wellness program costs. This could be accomplished within SCEIS or a separate budget routine. In addition, training budgets by type and hours should be utilized to develop the annual training plan and to capture the actual training completed. We understand that such tracking is currently in development within the OSHO office and should provide for more detailed analysis in the future.

### **Finding 7:**

SCDOT has suffered two (2) fatalities within the past two (2) years, both of which occurred in high speed work zones. The accident investigation for the April 2011 fatality by the South Carolina Department of Labor, Licensing and Regulation, which is the Department of Labor, Occupational Safety and Health Administration (OSHA) body for the state of South Carolina, determined that no violations existed, however a recommendation was presented “when working on projects, a shadow vehicle with attenuator should be used to provide a buffer for employees.” As a result of this and other accidents, SCDOT embarked on a Work Zone Traffic Control Manual, which includes new procedures and equipment to help ensure employee safety. The review, which we were informed does provide for the use of TMA’s (truck mounted attenuators) is in draft form and under review by management. We understand management proposed a five (5) year phase-in for these procedures and the purchase of necessary equipment.

### **Recommendation 7:**

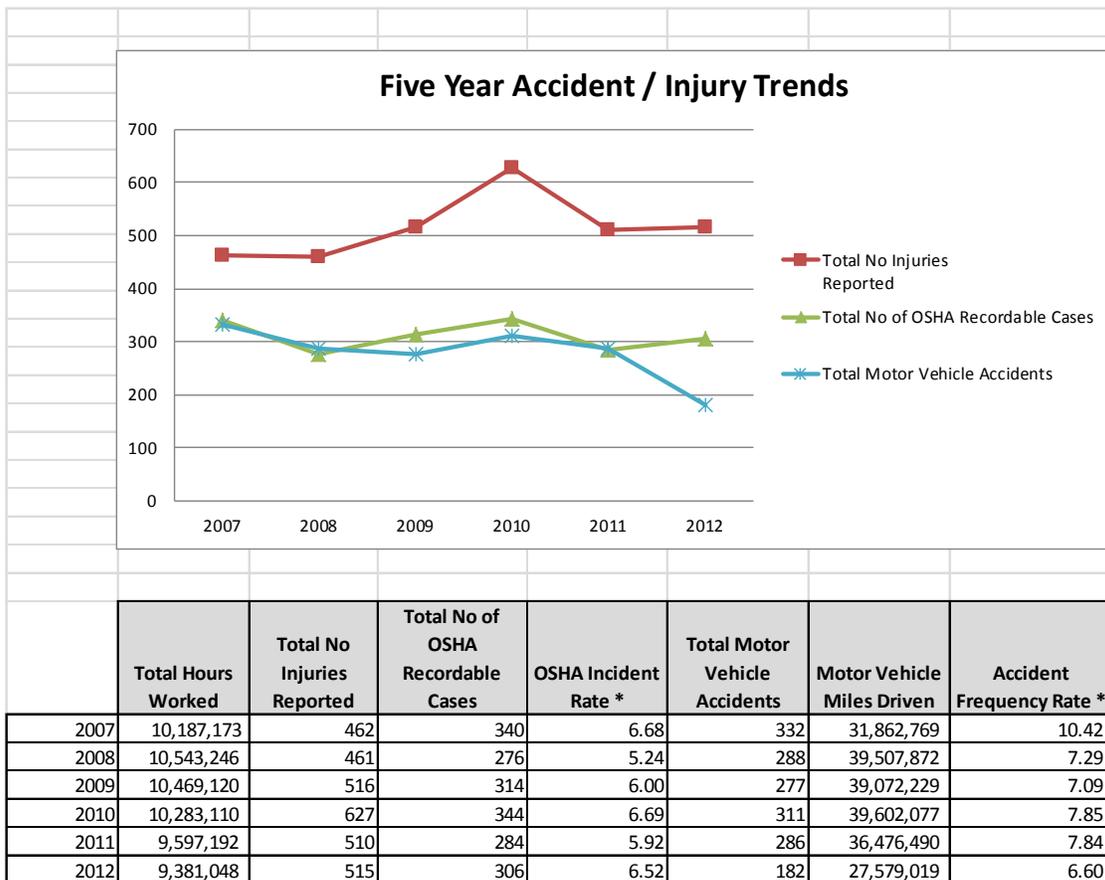
We recommend an accelerated schedule for review, acceptance and implementation, including necessary equipment purchases, for high speed Work Zone Traffic Control. This already identified deficiency is an area of renewed commitment from management to employee safety and should not be delayed.

We also recommend that in the case of an employee fatality or serious injury, in addition to the investigation report, a report of management corrective action plans to address the unsafe condition be required. Distribution of these reports should be to a strategic management team, including the SCDOT Commission at their discretion.

**Finding 8:**

Safety within any organization including SCDOT is a “campaign” and a program with many uncontrollable variables and as such measurable objectives and results are difficult to quantify. Therefore, a conclusion on the efficiency and effectiveness of our safety program is difficult to reach.

One measure of the effectiveness of the program could be an analysis of the OSHA and injury statistics. SCDOT Injury Summary reports do not support any measurable improvement in our injury statistics over the past five (5) years. In fact, our injury reports compared to the employee counts and man hours worked actually indicate increases in both the number of injuries and the severity of those injuries. After going three (3) years (2008-2011) without a fatality, we experienced a fatality in both 2011 and 2012. We understand that injury statistics may not provide an accurate picture of the effectiveness of the safety program. We have experienced a decrease in the number of motor vehicle accidents, which management attributes to an increased campaign and awareness.



Source: OSHO

Per management, an aberration may have occurred in the 2010 Total Number of Injuries Reported due to a change in capture methodology.

### SCDOT Injury Summary

| Year   | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>Total # of SCDOT Employees</b>  | 5,058       | 5,195       | 5,142       | 5,027       | 4,686       | 4,527       |
| <b>Total # of SCDOT Work-Related Fatalities</b>  | 1           | 0           | 0           | 0           | 1           | 1           |
| <b>Total Hours Worked - Calendar Year</b>  | 10,187,173  | 10,543,246  | 10,469,120  | 10,283,110  | 9,597,192   | 9,381,048   |
| <b>Total # of First Report of Injury Filed by Year (12A's)</b>   | 462         | 461         | 516         | 627         | 510         | 515         |
| <b>Total # of OSHA Recordable Injury &amp; Illness Cases</b>   | 339         | 276         | 312         | 343         | 283         | 307         |
| <b>Total # of OSHA Lost Workday Injury &amp; Illness Cases</b>   | 156         | 125         | 134         | 134         | 114         | 118         |
| <b>OSHA Incidence Rate</b>   | 6.68        | 5.24        | 5.96        | 6.67        | 5.9         | 6.52        |
| <b>OSHA Lost Workday Case Rate</b>   | 3.06        | 2.37        | 2.56        | 2.63        | 2.38        | 2.49        |
| <b>OSHA Severity Rate</b>  | 140.63      | 88.19       | 77.49       | 98.22       | 106.39      | 117.22      |
| <b>OSHA Lost Workdays per Lost Workday Case</b>  | 45.92       | 37.19       | 30.27       | 37.41       | 44.79       | 46.59       |
| <b>OSHA Number of Lost Workdays</b>  | 7,163       | 4,649       | 4,056       | 5,050       | 5,106       | 5,444       |
| <b>OSHA Number of Restricted Days</b>  | 4,902       | 5,206       | 5,666       | 7,851       | 5,535       | 4,333       |
| <b><u>Maintenance Employee Summary</u></b>   |             |             |             |             |             |             |
| <b>Maintenance # of Recordable Injury/Illnesses</b>  | 334         | 270         | 279         | 330         | 271         | 285         |
| <b>Maintenance # of Lost Workday Cases</b>   | 152         | 121         | 118         | 127         | 107         | 110         |
| <b>Maintenance Incidence Rate</b>  | 6.56        | 5.12        | 7.23        | 8.20        | 7.27        | 7.81        |
| <b>Maintenance Lost Workday Case Rate</b>  | 2.98        | 2.30        | 2.87        | 3.15        | 2.87        | 3.01        |
| <b>Maintenance Severity Rate</b>   | 140.43      | 78.06       | 77.2        | 97.75       | 104.91      | 110.31      |
| <b>Maintenance Lost Workdays per Lost Workday Case</b>   | 47.06       | 34.01       | 34.25       | 39.57       | 47.06       | 47.04       |
| <b>Maintenance Number of Lost Workdays</b>   | 7,153       | 4,115       | 4,041       | 5,026       | 5,035       | 5,174       |
| <p><i>Note: We update each case as the out of work or work restriction status changes, although the case occurred during a specific calendar year lost/restricted time may continue to accumulate up to the maximum of 180 days lost or restricted or a combination of both.</i></p> |             |             |             |             |             |             |

Source: OSHO

While an overwhelming number of our employees surveyed (86%) indicated that safety was an important issue to management at SCDOT as evidenced by the safety meetings, safety bulletins, training, etc., almost 44% stated that SCDOT at times sacrifices safety to “get the job done.”

**Recommendation 8:**

Based upon SCDOT statistics as well as the response of the staff as measured by our surveys, we recommend that a new occupational safety campaign and program be initiated at SCDOT. Although we could not determine the total amount of funds expended on safety initiatives, current funding could be utilized to support a new effort with redistribution of those moneys to staffing, training, equipment, and rewards/recognition programs.

As stated in the draft of the *SCDOT Strategic Management Plan*, this initiative should serve to “revitalize programs and develop an investment strategy” and should encompass at a minimum recommendations in this audit report.

- Revision and re-issue of *SCDOT Departmental Directive No. 12 Employee Safety Program*, including the referencing of employee and supervisory disciplinary actions for safety violations, if warranted, and reinforcement of job protection for reporting of safety violations (whistle-blower policy).
- Implementation of the *Work Zone Manual* with necessary equipment purchases.
- Establishment of a SCDOT employee safety council and consideration of an employee hotline for reporting safety concerns, as to be determined by this committee.
- Establishment of safety training budget.
- Implementation of a safety rewards and recognition program.

## ***Department Response***

MEMORANDUM

To: Paul Townes, Chief Internal Auditor  
From: ~~for~~ *Wendy B. Nicholas* Robert J. St. Onge, Jr., Secretary of Transportation  
Date: May 6, 2013  
Subject: SCDOT Response to the Safety Audit

We have reviewed the findings and recommendations in the subject report emailed on April 22, 2013. We appreciate the efforts of the Office of the Chief Internal Auditor (OCIA) and the willingness of OCIA to work with our staff. We approach audits as an opportunity to learn and improve, and are confident that our collaboration will ultimately yield an optimized process for all of our stakeholders and customers. Listed below are our responses to each of the twelve recommendations outlined in your report.

Recommendation 1 looked at the organizational location of the Occupational Safety and Health Office (OSHO) within SCDOT and suggested that the Human Resources (HR) Division was a better organizational fit. Our Strategic Management Plan (SMP) is intentionally organized into critical management areas to force interaction, coordination, and integration across potential and historical work channels. We acknowledge in the SMP that safety-related activities are not only operational and HR-related, but the responsibility of all areas of SCDOT. For now, we have chosen to house our safety-related activities in the operational support channel, tied closely to HR. As the SMP and our evaluation of results mature over time, we will revisit where the OSHO should reside.

Recommendation 2 suggested the SCDOT safety program be administered through a standardized organization with clear reporting and responsibilities for each safety position. We concur with this and have been in discussion for some time about the responsibility for and delivery of occupational safety field services. This recommendation is in alignment with the corrective path we have initiated. As part of SCDOT's overall manpower management review, the functions and structure of our safety programs and personnel have been evaluated. Recommendations for change have been submitted and are being reviewed.

Recommendation 3 advocated the creation of a new, internal "SCDOT Occupational Safety Council" to address the concerns and recommendations of SCDOT employees. The SCDOT Safety Council has been active for over one year now. It has a broad-based charter, to mirror the Department's broad-based safety concerns. The Safety Council addresses national and state standards, interagency concerns, and in-house occupational safety concerns. The SMP includes an element to establish an agency occupational safety council and



subordinate council within each district to analyze trends and develop countermeasures to ensure the safety of our employees.

Recommendation 4 dealt with SCDOT Departmental Directive No. 12 (DD 12), Employee Safety Policy, and suggested that the directive be revised and reissued with a renewed commitment by management to safety at SCDOT. The SMP addresses such a revitalization of the safety program and the reissuance of DD 12 will be a major part of achieving that objective. DD 12 directs employees to the *SCDOT Employee Safety Manual*, which essentially is the agency's safety policy. The manual fully addresses all agency safety policies and programs in detail. The manual is reviewed and updated annually; therefore, it is incorrect to state that there has been only one minor revision since 1997. DD 12 will be reworked upon completion of the manpower review.

Recommendation 5 proposed SCDOT consider the adoption of a safety rewards and recognition program. This could be accomplished on a district, county or individual employee basis or a combination of all. We concur with this recommendation and agency management previously directed staff to look broadly at our recognition program and to provide recommendations to revitalize it, including safety achievements. This is a work in progress and is included in the SMP.

Recommendation 6 advised SCDOT to consider the development and utilization of a safety budget to capture the costs associated with the safety program, including dedicated personnel, safety equipment and gear (safety boots, eyewear and vests), training, and employee wellness. The cost associated with some safety items, such as training, could reasonably be captured as a separate budget expenditure. Other items are more subjective in nature, and would be more difficult to capture. For example, replacing the brakes on a vehicle could be recorded as a safety expenditure or as routine vehicle maintenance. We will explore our options with our finance personnel to identify safety costs that can be captured.

Recommendation 7 addressed the schedule for review, acceptance and implementation, including necessary equipment purchases, for high speed work zone traffic control. In addition, OCIA recommended that in the case of an employee fatality or serious injury, an investigative report and a report of management corrective action to address the unsafe condition be required. Distribution of these reports should be to a strategic management team, including the SCDOT Commission at their discretion.

We are saddened by the deaths of two of the agency's workers on our highways. Our employees are exposed to numerous risks daily as they perform their duties, and we strive to minimize the risks and their impacts. Both workers were killed by impaired drivers who were repeat offenders, which unfortunately is an increasing trend in South Carolina. It is difficult for the agency to mitigate those circumstances. However, in order to address those issues we can control, SCDOT reviewed each case in detail and initiated and emphasized corrective actions for all work zones, particularly those that are high risk. We have developed a procedure to analyze risks for each work activity, and we are

training our crews to perform those risk assessments. We will review the availability of capital safety equipment, such as truck-mounted attenuators.

Recommendation 8 reviewed SCDOT statistics as well as staff responses to OCIA surveys, and recommended that a new occupational safety campaign and program be initiated. However, the OCIA findings stated that “one measure of the effectiveness of the program could be an analysis of the OSHA and injury statistics.” This analysis is flawed because of changes to guidelines concerning the reporting of employee injuries. It is inaccurate to compare the total number of injuries reported for years 2007 through 2012.

A more accurate analysis would result from comparing the number of OSHA-recordable cases for those years. Comparison of OSHA-recordable cases shows that SCDOT injuries have fluctuated from year to year, with an overall decrease during the stated timeframe. In addition, the finding states injury severity rates (ISR) have risen. As indicated by the second chart, that is inaccurate; the OSHA severity rate has decreased.

During the past few years, the agency implemented several strategies aimed toward reducing accident rates. These strategies included increased training requirements for CDL drivers, policies focused toward making drivers more aware of their surroundings (cone policy), and increased discussions between management and employees regarding vehicle safety. Since 2007, we have seen a 45 percent reduction in vehicle accidents.

It is the agency’s goal to decrease both accident and injury rates. The SMP has an objective to provide employees with a safe work environment. Implementation includes enforcement of safety policies, identification of deficiencies, and development of countermeasures; ultimately achieving lower accident and injury rates. We will review the idea of an in-house safety campaign to complement the Toward Zero Deaths campaign we contemplate with our interagency partners.

Again, we appreciate the work of your office on this review. While this report identified several safety concerns within SCDOT, we are encouraged that issues raised were previously identified and that our approach to improvements was verified by your recommendations.

Employee safety remains paramount to our agency, and we continue to evaluate ways to improve the working environment for our employees. If I can be of further assistance, please do not hesitate to contact me.

ec: Craig Forrest, SCDOT Commissioner At-Large  
Christy Hall, Deputy Secretary for Finance and Administration  
John Walsh, Deputy Secretary for Engineering  
Clem Watson, Chief Engineer for Operations  
Andrew Leaphart, Director of Support Services  
Michele Paoleschi, Director of Customer Relations  
John Gaither, Director of the Occupational Safety and Health Office  
Linda McDonald, Chief Counsel