



**Executive Summary -Worksite Assessment Team Reports**  
**City Center and Cosmopolitan Construction Projects,**  
**Las Vegas, Nevada**  
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## Executive Summary

CPWR-The Center for Construction Research and Training (CPWR) conducted a safety and health worksite assessment of the City Center and Cosmopolitan Construction projects as part of a negotiated Memorandum of Understanding (MOU) between Perini Building Corporation and the Southern Nevada Building Trades Council. After an initial site visit in June 2008, CPWR's Worksite Assessment Team determined that the assessment would address the following six components:

- 1) A fall hazard identification and control audit of two randomly selected buildings (Aria and Mandarin);
- 2) An assessment of the safety climate on the sites through a safety climate survey that included workers, foremen, superintendents and top management executives;
- 3) Observations and Recommendations on Perini's Safety Orientation Training Program;
- 4) Observations and Recommendations on Perini's safety staff interactions with personnel on the site regarding jobsite safety practices;
- 5) Observations and Recommendation on Perini's safety management programs; and
- 6) Observations and Recommendations based on face-to-face interviews with selected personnel on both City Center and Cosmopolitan projects;

The findings of each of the six areas assessed were presented to Perini Building Co. and the Southern Nevada Building Trades Council in four separate reports:

- \* The first report provided results from a Fall Hazard Identification and Control Audit conducted in August 2008 and was provided to Perini and the Southern Nevada Building Trades Council (*September 2008*).
- \* The second report offered preliminary analysis of the safety climate survey data on workers' perceptions about Perini's safety program, their employers and their individual views about safety on the site (*October 2008*).
- \* The third report included an evaluation of the safety orientation training program, feedback on Perini safety program and materials, observations based on accompanying Perini safety staff on-site, and face-to-face interviews with selected workers (*November 2008*).
- \* The final report includes results from the safety climate survey which covers: workers, foremen, superintendents, and top management executives (*January 2009*). Conclusions and recommendations provided in each of the reports are summarized below.

## **Report 1: Fall Hazard Identification and Control Audit Report**

### ***Fall-Safe Audit Tool Report***

The Fall-Safe audit tool designed by CPWR collaborators at the University of West Virginia was used as both a data collection tool for research as well as a feedback reporting mechanism for the contractors for continuous improvement. The report is organized by Location (named by the auditor), Exposure category, Intervention category, and the list of related OSHA regulatory questions relating to that specific intervention..

### **Mandarin Building – Summary of Fall Hazards and Controls**

The fall hazards identified in the Mandarin building audit, especially worker behavior created hazards, were starkly different than in the Aria building. Employee use of ladders on the Mandarin site was nearly perfect, and the hazards identified were not as serious. This site also had many more holes than the Aria building, yet the holes were more often properly protected.

This site utilized engineering controls (guardrails, hole covers) over personal fall arrest which is a preferred method. The recommendation is to implement an intensive fall hazard control maintenance program that ensured the security, strength and required identifiers for all guardrails and hole covers. Personnel should be trained in the requirements of hole covers and guardrails as well as user training for all types of ladders, scissor lifts and aerial lifts.

The Site Summary Score of 82.33% would be considered an acceptable score if this contractor were part of the Fall-Safe program. The report detailed instances of specific hazards that were mostly attributed to guardrails and hole covers.

### **Aria Building-Summary of Fall Hazards and Controls**

The majority of the fall hazards identified that were not properly controlled in this audit were in the areas of guardrails and ladders. Many of the guardrails that required toeboards utilized the screens that meet the 200 pound strength requirement if anchored properly. In most cases, the screens had become loose and were not re-secured properly creating a falling object hazard. Also, the majority of wire rope guardrails were not properly flagged. The majority of ladder deficiencies were related to employee use of ladders as well as housekeeping around the ladder access / egress points.

Fall hazards that were well controlled were the use of personal fall arrest although on this building audit there was only one individual audited. The majority of the questions related to scaffolding and all fall hazards audit questions for 5 scissor lifts audited were answered positively.

The areas of emphasis recommended based on the audit conducted would be in the areas of ladder safety and proper guardrail installation, maintenance and awareness.

The Site Summary Score of 73.32% would be considered a barely acceptable score if this contractor were part of the Fall-Safe program. The minimum acceptable score to stay a member of the Fall-Safe Program is 70%. On average the baseline (initial) audit scores of the Fall-Safe contractors were approximately 70%. With all of the intervention work, site analysis and training ongoing on this site, we would not consider this audit a baseline audit. Finally, this building's overall site summary score was 10% less than the Mandarin building which had more fall exposures.

## **Report 2: Summary of Site Visit Recommendations**

**Following are Assessment Team recommendations based on observations, interviews and assessment of the orientation training program and safety program management:**

### ***Safety Orientation***

Site Safety orientation should be provided with a Spanish Translation for the entire training.

Perini safety rules and procedures should be distributed to employees.

Safety contact information should also be provided to employees, including open discussion of site fatalities at orientation.

Hazard and near miss reporting should be encouraged for all.

### ***Safety Program Management***

Daily Safety Logs should be used to ID possible issues for in-depth (root cause) investigations

Safety committee meeting attendance should be required and monitored.

Communication on incident reports should be provided job-wide, not just to Perini employees.

Joint labor management site safety committees should meet once a quarter, staffed with personnel with appropriate skills and expertise.

Root cause information should be added to incident investigation forms.

Consider on-site clinic to facilitate prompt and efficient attention to injuries and illnesses.

### **Report 3 & 4: Safety Climate Surveys**

The results of the safety climate surveys revealed the factors that best predict workers' safety performance from different organizational levels. The results suggest several areas for improvement and/or management attention. Based on prediction models developed from the four surveys, positive Perini safety climate, Perini and subcontractor safety programs, safety practices, and foremen safety management, as well as quality toolbox talks are, overall, consistently associated with an increase in safety performance. The results also revealed that there were discrepant perceptions about safety issues between the four organizational levels, and the two job site. A major recommendation is to promote and maintain a positive safety climate as a goal of the leadership involved in these projects.

Four key recommendations were provided with suggestions for how to achieve them. First, demonstrate the organizations' commitment to safety and its willingness to assume responsibility and solve safety problems in action. Second, involve senior and mid-level management in safety. This includes both general contracts and subcontractors receiving training on pro-active management skills. Third, an environment must be created to encourage foremen to display positive and constructive attitudes and actions, expectations, and communication about safety. Last, but not least, workers, should be encouraged to be actively involved in safety.