



## Sathyanarayanan Rajendran Central Washington University

### DON B. DAILY SAFETY GRANT

A team of college students and faculty working closely with an assigned steel industry mentor developed a steel manufacturing and fabrication training program. The team developed the training program based on active-learning techniques. It includes seven real-world case studies, which can be modified to allow program participants to participate in the entire program or selected cases.

The specific goal of this project, undertaken with the help of active industry mentors, is to prepare trainees, both workers in the field and college students, to evaluate reinforcing bar manufacturing and fabrication activities for hazards and develop control methods through a facility-specific safety plan. The primary learning objective of the proposed case study is to prepare students to evaluate the safety challenges associated with selected complex steel manufacturing and fabrication activities and to develop control methods through a facility-specific safety plan.

Creating a site-specific safety plan (SSSP) requires knowledge from all participating parties. The SSSP is tailored to specific aspects of the manufacturing site. The main goal of the plan is to ensure that safety is considered in all aspects of work at the plant. Creating the SSSP should be the first step in creating an injury-free work environment. Workers should not be allowed to begin work until the SSSP and associated job hazard analyses (JHAs) and safe operating procedures (SOPs) have been created, and each employee has been trained on how to follow them.

All participating parties must be trained to understand the basics of hazard identification and control. The best

training programs, whether in the field or a university classroom, are accurate, credible, clear and practical, and include active-learning activities based on real-world scenarios. Case studies are especially effective for training when they relate directly to the concept/technique being introduced by the trainer or professor. Some of the many advantages of using case studies in safety training include the ability to help participants develop vital and transferable skills, such as problem-solving and decision-making in complex situations. These skills are essential when responding to safety challenges, making the product of this project a valuable addition to any safety training program.

The students developed a training document with seven cases related to the steel manufacturing process, prompting questions, and instructor guidance for administering the learning activities. For two cases, the team included some recommendations and suggestions for utilization. Trainers or college professors can use this document in their classrooms to create an awareness of hazards and controls that will help them create effective SSSPs or similar documents at steel manufacturing sites.