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# Planning, Training and Exercising for Crisis Events on the Railroad

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## Preparing for Climate Change on the Railroad

### Using THIRA and ICS to Prepare: Introduction

Railroads are facing new impacts on infrastructure and operations from climate change: enhanced heat, stronger hurricanes, more frequent wildland fires, for example. Existing emergency management guidance provides a basis for developing threat analyses for railroad service areas. Once the threats are analyzed the Incident Command System (ICS) guidance for field response can be enhanced to address the new climate change challenges, providing guidance for train crews, maintenance of way staff and administrators including rules instructors. New class materials can be developed to provide the needed instructions. This threat analysis can also inform the management of the emergency operations center (EOC). New sections can be added to EOC plans to guide staff in developing and implementing response capabilities for climate change disasters that are similar to the current guidance for hazardous materials events.

Training based on the new plans can be offered for railroad personnel in ICS and EOC management during climate change events. Exercises can then be held to determine the usability of the plans. These can include discussion-based exercises that allow all emergency management staff to evaluate the complex steps of climate change. Once the plans have been refined a facilitated exercise can enable staff to test the new actions.



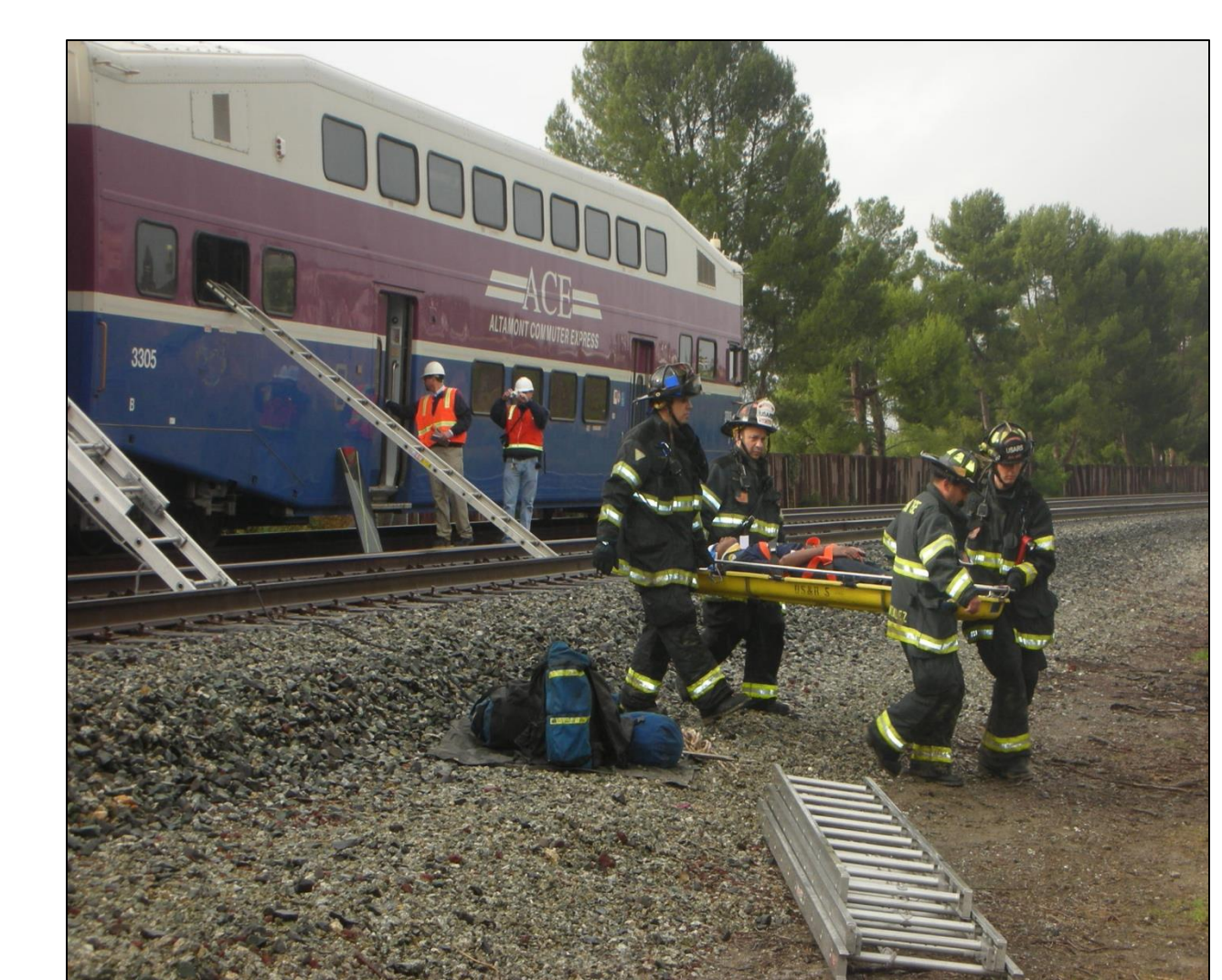
### Objectives

To develop emergency management support products, including best practices, NIMS/ICS training, planning guidelines and scenarios, that can assist rail sector partners in developing climate change resilient emergency planning, training and exercises that prepare critical rail systems for climate-related catastrophic events, in partnership with local public safety entities in areas served, which are disproportionately rural, according to NIMS regulations.

Provide easily understood guidance for the elements of emergency management:

- Threat analysis
- ICS guidance for climate change
- EOC guidance for climate change
- Emergency plans guidance for climate change
- Exercises for the elements of emergency management for climate change.

Exercises will start with discussion-based exercises to evaluate the functionality of the plans. Once the plan has been positively evaluated a functional exercise can be held, allowing personnel to simulate their actions during a climate change disaster.



### Key Findings for Year 1

1. The American Association of Railroads and the Federal Railway Administration have recognized the need for increased resilience on railroads as they face climate change-related challenges. Their publications offer general guidance on confronting climate change.
2. Privately owned freight railroads are unwilling to discuss climate change resilience plans and gaps with outside researchers, while Amtrak has provided useful emergency planning information.
3. The DOT and Office of Pipeline and Hazardous Materials Safety Administration has issued an ICS guide for railroads to use during hazardous materials emergencies, acknowledging that the National Incident Management System mandates its use in multijurisdictional events.
4. All Class 1 railroads in the US and Canada have issued ICS-based emergency plans for response to hazardous materials events.

The first year of research produced the THIRA and ICS guides through the cooperation of Amtrak. Future plan development requires obtaining a railroad partner agency that will discuss climate change planning and gaps.

