

# RiskTopics

## Activity hazard analysis (AHA) for construction

### Zurich Resilience Solutions - Risk Engineering

An activity hazard analysis (AHA) analyzes each task, scope of work or defined feature of work to be performed during the project duration. An AHA is one of the key components to identifying and mitigating exposures on construction projects. There are multiple layers of analysis that can be used to prevent loss and as AHA is just one of the steps that should be taken as part of a comprehensive project risk review.

#### Introduction

Once the JHA is complete, the AHA should focus on each task, scope of work or defined feature of work (DFW). This analysis focuses on the relationship between the worker, the task, the tools and the work environment. The AHA includes site conditions, equipment, materials, PPE and required training to perform the task.

#### Discussion

##### Definitions

**Job hazard analysis (JHA):** Focuses on all the major components and risks of the project and identifies hazards. Furthermore, controls are identified to reduce or eliminate those risks. Address specific high hazards such as quality, procurement, scopes of work that present high hazards such as traffic control, pedestrian traffic, shutdowns, utilities, vibration, blasting, excavation near other structures, risks of collapse, water infiltration, etc. This analysis should lead to which activities or scopes will require a specific activity hazard analysis.

**Activity hazard analysis (AHA):** Analysis (AHA) analyzes each task, scope of work or defined feature of work to be performed associated with the project. The analysis focuses on the relationship between the worker, the task, the tools, and the work environment. The AHA includes site conditions, equipment, materials, PPE and required training to perform the task. This applies to all defined features of work such as sheeting and shoring, curtainwall, waterproofing, flying forms, concrete placement, steel erection, excavation, sprinkler shutdowns for renovations, utility tie-ins, roofing, solar panel installation, etc. This analysis should also lead to what mock-ups should be constructed.

## Definitions continued

**Daily hazard analysis (DHA):** Looks at the day's activities and what potential hazards exist based on site conditions and the scope of work for that day. Review the DHA prior to starting work, after a shift change or when conditions change. Consider things like weather, traffic, overhead hazards, work area hazards, fall hazards, silica exposures, construction traffic, deliveries, PPE, tools in good working condition, housekeeping, etc.

For any hazard analysis, the risks should be identified, defined, and evaluated based on their possible causes, potential outcomes, and associated risks. Each risk should be rated based on their priority, severity, potential impact, and probability. Each risk should have an associated control measure. Each risk should be assigned to an individual for responsibility. Risks should be discussed among the entire project team as each member may have seen risks arising from unexpected causes on other projects. Using employees performing the tasks to help create and maintain these documents is considered a key practice

For more detailed information on breaking down these steps, please see the Zurich Risk Topic entitled "Hazard identification and risk register."

The lifecycle analysis of hazard identification should start with a Risk Register and then flow down to the DHA:



## Guidance

### Activity hazard analysis (AHA)

The analysis should include each step to accomplish the activity as well as site conditions, equipment, materials, PPE, inspection requirements and required training. Workers scheduled to perform the tasks should be cross referenced with employee training records.

For each work step, hazards should be identified. Controls should then be identified to reduce any exposure. Controls may be engineered, administrative or Personal Protective Equipment (PPE). The risk should be rated as to severity and probability. The hazard should be re-evaluated after the controls are identified to determine if the exposure has been reduced to an acceptable level. The AHA should outline in detail the correct/safest way to perform the steps. Management should verify that the work is being done in accordance with the AHA.

Once the AHA is completed, each worker assigned to perform the tasks should review and sign the AHA indicating that they understand the hazards, any required engineer or administrative controls, PPE and safe work practices they are to implement. The supervisor should conduct a pre-task meeting prior to the activity beginning and again if any conditions or work practices change. The AHA should be updated and signed off on if any conditions change.

It is a key practice to review the AHA at the end of the shift to determine if any changes are needed or if any incidents have occurred. If incidents have occurred, the AHA should be revised if the incident could be avoided by re-addressing the hazard or the control.

The next step in the process would be to look at what hazards exist on each specific day by utilizing a DHA. is reinforced.

## Conclusion

Identifying and mitigating risks is a critical step in any construction project to reduce risk, injuries, and potential claims. These risks should be continually monitored, updated, and communicated to workers as any conditions change. Even if no changes were made, hazards that were previously missed may be identified as work progresses.

For more information on Zurich's extensive Risk Engineering and Sustainability services, please contact your Risk Engineer or visit us at [Risk Engineering and Sustainability Services | Zurich Insurance \(zurichna.com\)](https://zurichna.com).

## Resources

Zurich can help! The Zurich Hazard Analysis (ZHA) approach leverages your in-house expertise to systematically identify and manage key hazards. We then work with you to tailor risk improvement measures to help you reduce those hazards. A Zurich risk engineering consultant can help you identify key risks and assign a probability and severity to each, which can help you prioritize risk improvement actions designed to reduce those hazards. To learn more, please contact your risk engineering account coordinator.

## Other related Zurich RiskTopics

- Hazard identification and risk register for construction
- Job hazard analysis (JHA) for construction
- Daily hazard analysis (DHA) for construction

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