

AI Job Hazard Analysis

a task, broken into steps, hazards and controls

How to turn a short task clip or a written description into a formal JHA - ordered steps, the hazards at each one, and the controls worked through the hierarchy of controls.

Version 1.0

User Guide · for end users

Screens captured July 2026

ShieldSphere's AI Job Hazard Analysis breaks a task into the steps a worker actually performs, names the hazard at each step, and prescribes the control that removes it. Give it a short video of the job or a written description, and it returns ordered steps, risk-rated hazards, controls labelled by the hierarchy of controls, and the required PPE - drafted in minutes rather than an afternoon.

WHAT'S IN THIS GUIDE

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1 What Job Hazard Analysis does

A Job Hazard Analysis breaks a task into the steps a worker actually performs, names the hazard at each step, and prescribes the control that removes it - the document safety professionals build by hand in an afternoon, drafted here in minutes.

You give it a task two ways - a short video clip of the job being done, or a written description - and it returns:

1. **Ordered steps** - the task as a sequence, in the order it happens.
2. **Hazards at each step** - each with a risk level and a plain-language explanation.
3. **Controls** - the fix for each hazard, labelled by where it sits in the **hierarchy of controls**.
4. **Required PPE** - pulled together from the controls, including gear needed only for specific steps.

THE HIERARCHY OF CONTROLS

Not all fixes are equal. The strongest is to **eliminate** the hazard, then **substitute** something safer, then **engineering** controls (guards, interlocks), then **administrative** controls (procedures, training), and only last, **PPE**. The JHA tags every control with its level so you can see whether you are truly fixing the hazard or just asking people to wear gloves around it.

START FROM A HAZARD SCAN

If a task came out of the **AI Hazard Scanner**, use *Create JHA from this scan* there - it lands here with the description already filled in from the scan's findings. See the AI Hazard Scanner User Guide.

2 Words you'll see

TERM	WHAT IT MEANS
Task	The job being analysed - "Operating a roll mill", "Replacing a press-brake die".
Step	One stage of the task, in the order the worker performs it.
Hazard	A way the step could hurt someone, with a risk level (Critical / High / Medium / Low).
Control	The measure that removes or reduces the hazard, tagged by its level in the hierarchy.
Hierarchy of controls	Elimination → Substitution → Engineering → Administrative → PPE, strongest first.
Required PPE	The personal protective equipment the controls call for, gathered into one checklist.
Draft / Final	A JHA you are still editing, versus one you have reviewed and marked final.
Employee handout	A worker-facing version of the JHA, optionally with the controls included.

3 Generate a JHA

Two routes in - a clip or a description - and the same formal analysis out.

AI Job Hazard Analysis → **New JHA**

The JHA screen. Upload or describe on the left, the analysis appears in the middle, and your **Recent analyses** sit on the right, each labelled with its risk, step count and hazard count.

1 Give it the task

Either **drag a task clip** onto the upload box - MP4, MOV or WebM, up to sixty seconds and 50 MB, with frames pulled in your browser - or skip the clip and **describe the task** in the text box. A written description on its own is enough to generate a full JHA; a clip just adds the detail a camera catches that words miss.

2 Set the jurisdiction

Choose the **Work State** and **OSHA Framework** - General Industry (1910), Construction (1926), and so on - so the controls are written against the rules that apply. The JHA saves to the site named under the framework.

TIPS FOR A COMPLETE JHA

Break the task into the steps the worker actually performs. Note tools, materials and energy sources - electrical, pneumatic, chemical. Mention anything off-camera the clip will not show. For a clip, hold it steady and keep it under sixty seconds while the task is performed.

3

Click Generate JHA

In a few seconds the analysis appears in the center and saves as a **Draft** in Recent analyses. From here you review it - the AI drafts, you decide what is right for your floor.

4 Read the analysis

Top to bottom: how bad, what to wear, and then the task itself - step by step, hazard by hazard, control by control.

TSC Safety

OWNER

Signed in as Matt Thompson

Organization Overview

CURRENT PROFILE

Demo Company

WORKSPACE

Site Overview

Compliance

AI Hazard Scanner

AI Job Hazard Analysis

AI Ergonomic Evaluation

Inspect

Incidents

SDS

ZeroState

Assets

Policies

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Log out

AI Job Hazard Analysis

Upload a short clip of a task (up to 60 seconds) or just describe it, and draft a formal JHA in minutes: ordered steps, the hazards at each step, and controls worked through the hierarchy of controls.

Choose Files No file chosen

Drag a task clip here, or click to browse

MP4, MOV, or WebM - 560s - 50MB - frames extracted in your browser

No clip? Just describe the task below.

OR

Task Title (optional)

operating a roll mill

Describe the Task (or upload a clip above)

Walk through the task step by step — tools and materials, energy sources (electrical, pneumatic, chemical), the environment, and the hazards involved. With no clip, this is the sole basis for the JHA.

Generate a JHA from your written description alone — no video needed.

Work State / OSHA Jurisdiction

Delaware

OSHA Framework

General Industry (1910)

Saving to Demo Company

Generate JHA

Tips for a complete JHA

Break the task into the steps the worker actually performs

Note tools, materials, and energy sources

Critical Overall Risk

Operating a Roll Mill - Demo Company - Delaware

4 steps - 9 hazards

Required PPE for this task

Safety glasses / eye protection

Work gloves

Safety footwear (toe protection)

Cut-resistant gloves

Close-fitting clothing (no loose items)

Slip-resistant footwear

ONLY FOR SPECIFIC PARTS OF THE TASK

Arc-rated / flame-resistant clothing (step 1)

Cut-resistant sleeves (step 3)

Voltage-rated (electrical) gloves (step 1)

Derived from the hazard controls below. Open the editor to review and approve this checklist.

Step 1: Prepare Roll Mill and Shear for Operation

The team member ensures the roll mill and downstream shear are set up, guards are in place, and the line is started for production.

Machine guarding / caught-in

Exposure to in-running nip points and rotating rolls on the roll mill and moving blades on the shear during setup and start-up if guards or interlocks are missing, bypassed, or not properly adjusted.

ENGINEERING CONTROLS: Install and maintain fixed guards and interlocked barrier guards around roll nip points...

Critical Risk

Electrical

Risk of electrical shock or arc flash during start-up or minor adjustments if panels are open, damaged cords are present, or controls are improperly maintained.

SUBSTITUTION: Use low-voltage control circuits and intrinsically safer control devices where practical...

High Risk

Suggest tasks

New JHA

Draft

Mark as final

Edit JHA

Full Analysis (PDF)

Email Full Analysis

Employee Handout

Email Employee Handout

Include controls on handout

Recent analyses

Stationary View of Machine A...

Critical - 5 steps - 12 hazards

6/2/2026

Move

Copy

Operating a Roll Mill 2

Critical - 2 steps - 6 hazards

6/2/2026

Move

Copy

Operating Large Metalworkin...

Critical - 1 step - 3 hazards

6/2/2026

Move

Copy

Operating a Roll Mill

Critical - 4 steps - 9 hazards

The analysis, top. A **Critical Overall Risk** banner with the step and hazard count, then the **Required PPE** block - note the items flagged for specific steps only.

Each step is a titled band, followed by its hazards. Every hazard carries a **risk badge**, a description of how it could hurt someone, and one or more **controls** - each tagged with its level in the hierarchy, so you can read at a glance whether the fix eliminates the hazard or merely manages it.

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Break the task into the steps the worker actually performs

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Mention anything off-camera the clip won't show

For a clip, keep it steady and under 60s while the task is performed

Electrical

Risk of electrical shock or arc flash during start-up or minor adjustments if panels are open, damaged cords are present, or controls are improperly maintained.

SUBSTITUTION: Use low-voltage control circuits and intrinsically safer control devices where practical...

High Risk

Step 2 Monitor Roll Mill Operation

The team member observes the roll mill and shear operation, watching material pass through and monitoring for jams, misfeeds, or quality issues.

Machine guarding / caught-in

Potential for hands, clothing, or tools to be caught in in-running nip points or moving parts if the operator reaches into the roll mill or shear area while monitoring or attempting minor adjustments.

ENGINEERING Use fixed and interlocked guards to prevent reaching into nip points; install viewing... CONTROLS:

Critical Risk

Ergonomics / posture

Prolonged standing and awkward postures while continuously watching the line may cause fatigue, discomfort, or musculoskeletal strain.

ELIMINATION: Automate monitoring using sensors and alarms to reduce the need for continuous...

Medium Risk

Step 3 Take Finished Parts Out of the Shear Discharge Area

The team member removes finished parts as they exit the shear at the end of the line, handling and placing them into containers, racks, or onto conveyors.

Machine guarding / caught-in / struck-by

Risk of hands or fingers entering the shear discharge area near moving blades or pinch points, and risk of being struck by ejecting parts if the shear cycles unexpectedly while the worker is removing parts.

ELIMINATION: Eliminate manual removal by installing an automated take-away conveyor or...

Critical Risk

Ergonomics / material handling

Manual lifting, carrying, and stacking of finished parts can cause strains or sprains, especially if parts are heavy, awkward, or handled repetitively.

ELIMINATION: Eliminate manual lifting by using conveyors, gravity chutes, or mechanical assist device...

High Risk

Operating Large Metalworkin...

Critical - 1 step - 3 hazards

6/2/2026

Move

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Operating a Roll Mill

Critical - 4 steps - 9 hazards

6/2/2026

Move

Copy

Operating or Setting Up a Lar...

Critical - 1 step - 4 hazards

6/2/2026

Move

Copy

Steps, hazards, controls. The tags - **ELIMINATION** , **SUBSTITUTION** , **ENGINEERING CONTROLS** - are the whole point: they push the fix up the hierarchy, away from "wear PPE and be careful".

5 Finalize and share

The panel on the right of any analysis is where a draft becomes a working document:

CONTROL	WHAT IT DOES
Edit JHA	Adjust steps, hazards and controls before you commit - the AI's draft is a starting point, not the last word.
Mark as final	Locks the analysis as your reviewed, approved version. The badge flips from <i>Draft</i> to final.
Full Analysis (PDF)	The complete JHA - steps, hazards, controls and PPE - as a document for the file or the client.
Email Full Analysis	Sends that full version straight from the app.
Employee Handout	A worker-facing version for the crew doing the job. The Include controls on handout toggle decides whether they see the controls too.
Email Employee Handout	Sends the handout to the people who need it.

REVIEW BEFORE YOU MARK FINAL

A JHA is a document people will work to. Read every step against how the job is really done on your floor, edit anything the AI over- or under-called, and only then mark it final.

6 Suggested tasks for your industry

Not sure which tasks to analyse first? Click **Suggest tasks** at the top right, tell it your industry, and it proposes the common high-risk jobs for that kind of work. Pick the ones that apply and it drafts a JHA for each in one go.

The screenshot displays the TSG Safety AI Job Hazard Analysis (JHA) interface. A modal window titled "Suggest JHA tasks for your industry" is open in the center. The modal prompts the user to "Tell us your industry and we'll suggest common high-risk tasks. Pick the ones that apply and we'll generate a draft Job Hazard Analysis for each." It features an "Industry" input field with the example text "e.g. Commercial construction, Food mar" and a "Suggest tasks" button. Below the input field are "Cancel" and "Create JHAs" buttons. The background interface shows the "AI Job Hazard Analysis" workflow, including a "Choose Files" section, a "Task Title" field with "operating a roll mill", a "Describe the Task" section, and a "Work State / OSHA Jurisdiction" dropdown set to "Delaware". The right sidebar contains a "Draft" section with a "Mark as final" button, and a "Recent analyses" section listing previous JHAs.

Suggest JHA tasks. A fast way to stand up a library of analyses for a new site, rather than starting from a blank page every time.

7 Troubleshooting

SYMPTOM	CAUSE AND FIX
Generate JHA does nothing	There is no clip and no description. Add one - a written description alone is enough.
My clip will not upload	It is over sixty seconds or 50 MB, or an unsupported format. Use MP4, MOV or WebM, shorter and steadier.
The steps do not match how we do the job	Use Edit JHA to reorder, add or remove steps before marking it final. The draft is a starting point.
The controls are all PPE	That usually means the description was thin. Add detail about the equipment and energy sources so the AI can propose engineering and elimination controls.
Workers should not see the controls	Turn off Include controls on handout before sending the employee handout.
I want it saved to a different site	Check the site named under the OSHA Framework, or use Move on the analysis in Recent analyses.