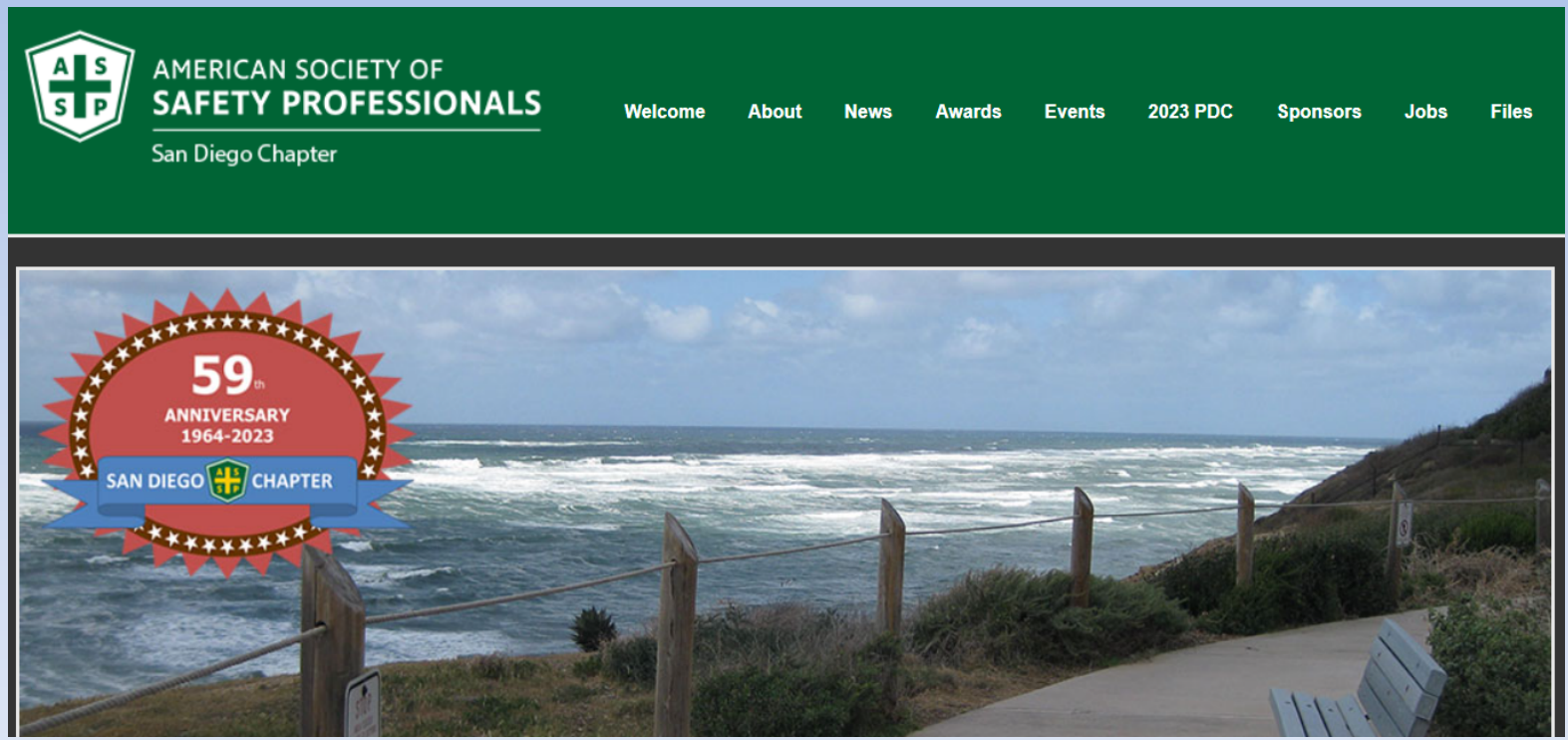
# Hazard Analysis

## Presented by Steve Workman CEAS (Certified Ergonomics Assessment Specialist)

Departmental Safety Coordinator, San Diego Sheriff's Department



# Hazard Analysis vs JSA

**JSA - Focuses on job-specific controls and is typically performed for a single task, assessing each step of the job, without identifying levels of risk.**

**Hazard analysis - Assesses hazards and is accompanied with a matrix that identifies levels of risk and controls.**

# Steve's Safety Philosophy

- How do employee's currently practice safety? (Value)
- This procedure provides (requires) employee involvement.
- Provides a higher level of compliance.

# Injury and Illness Prevention Program (IIPP)

- Required for every employer by Title 8, CCR (CA Code of Regulations) Section 3203 **Injury and Illness Prevention Program.**

**Eight Required Sections**

1. Responsibility
2. Compliance
3. Communication
4. Hazard Assessment
5. Accident/Exposure Investigation
6. Hazard Correction
7. Training and Instruction
8. Recordkeeping

Sheriff's Department IIPP was updated in 2014.

The original document contained 164 pages and now contains seven pages.

# §3203. Injury and Illness Prevention Program.

(a) Effective July 1, 1991, every employer shall establish, implement and maintain an effective Injury and Illness Prevention Program (Program). The Program shall be in writing and, shall, at a minimum:

(1) Identify the person or persons with authority and responsibility for implementing the Program.

(2) Include a system for ensuring that employees comply with safe and healthy work practices. Substantial compliance with this provision includes recognition of employees who follow safe and healthful work practices, training and retraining programs, disciplinary actions, or any other such means that ensures employee compliance with safe and healthful work practices.

(3) Include a system for communicating with employees in a form readily understandable by all affected employees on matters relating to occupational safety and health, including provisions designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal. Substantial compliance with this provision includes meetings, training programs, posting, written communications, a system of anonymous notification by employees about hazards, labor/management safety and health committees, or any other means that ensures communication with employees.

(4) Include procedures for identifying and evaluating work place hazards including scheduled periodic inspections to identify unsafe conditions and work practices. Inspections shall be made to identify and evaluate hazards: …

# ISO Format

| | | |
|---|---|---|
| A GENERAL DYNAMICS COMPANY<br>Safety Procedure Manual | **Hazard Analysis** | **Procedure No.: 90**<br>Revision: -- |

**1.0 Purpose:**

To establish a process that enables NASSCO to identify, evaluate and control its occupational health and safety risks on an ongoing basis.

**2.0 Scope:**

This procedure applies to the activities or services conducted at the NASSCO facility, that NASSCO can have an influence over and that can affect the health and safety of people, or damage to equipment and property.

**3.0 References:**

(a) Areas and Responsible Positions List as maintained by the Safety Department
(b) Hazard Analysis Form as maintained by the Safety Department (latest version). See Attachment (1) for sample.

**4.0 Definitions:**

4.1 Accident- An unplanned and undesired event that results in harm.

4.2 Competent personnel – Employees with appropriate level of shipyard experience and the ability to recognize hazards, assess risk, and decide on necessary controls.

# ISO Format

| | Hazard Analysis | |
|---|---|---|

**Purpose:**
To establish a process that identifies, evaluates and communicates occupational health and safety risks on an ongoing basis.

**Scope:**
This procedure applies to the activities or services that the Department can have an influence over and can affect the health and safety of people, or damage to equipment and property.

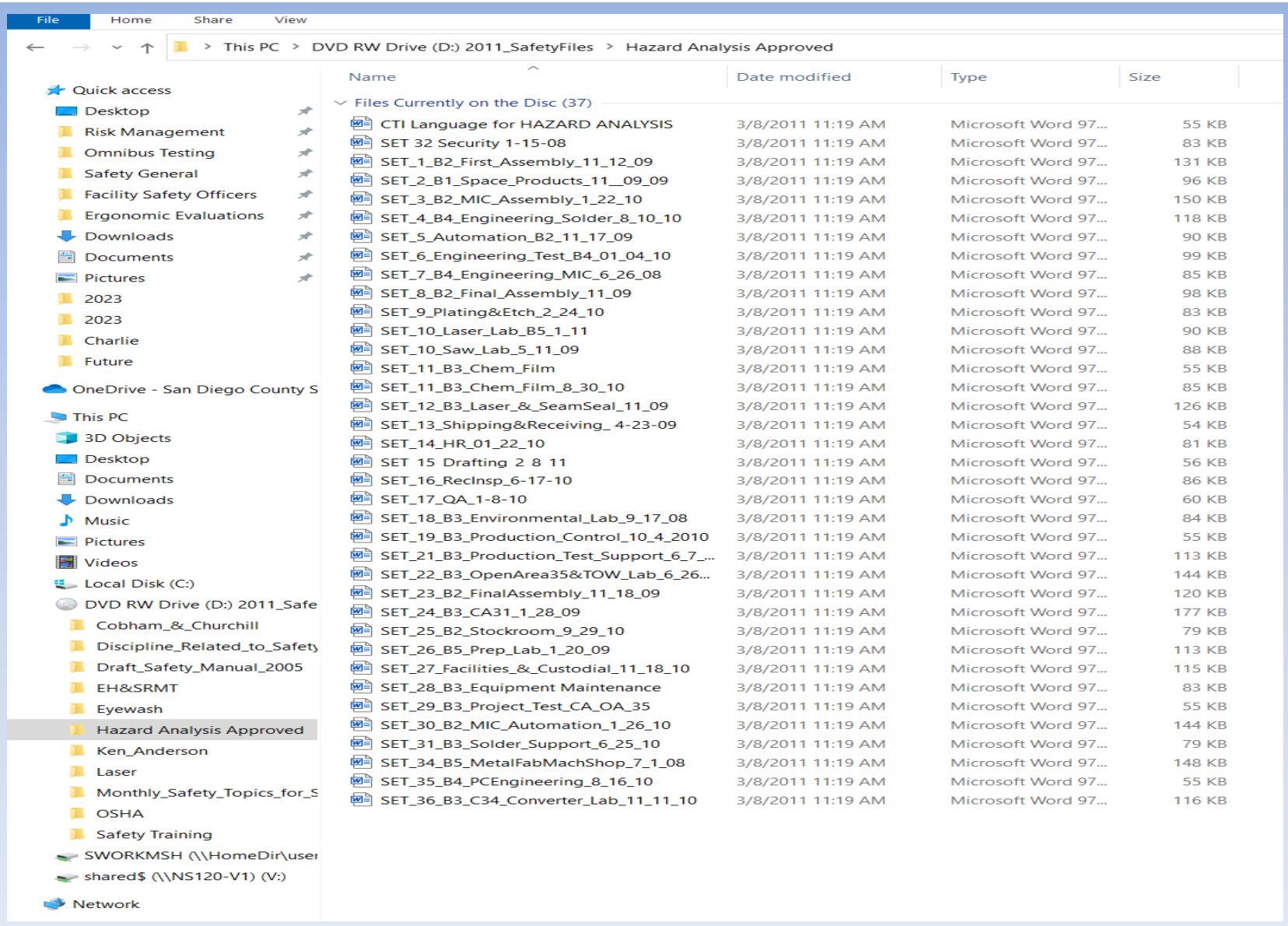
**References:**
(a) Hazard Analysis Form as maintained by the company Departmental Safety Coordinator (latest version).

**Definitions:**
Competent personnel – Employees with appropriate level of training and experience and the ability to recognize hazards, assess risk, and decide on necessary controls.

Harm- Includes death, injury, physical or mental ill health, damage to property, loss of production, or any combination of these.

Incident- The event which occurs at the work site and which:

a) Results in death or injury to person where the injury requires medical attention, which includes first aid cases or
b) Results in or has a potential to cause losses to persons, property, or process or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Quick access
Desktop
Risk Management
Omnibus Testing
Safety General
Facility Safety Officers
Ergonomic Evaluations
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ASSP Update

# ASSP Publishes Guidance for Implementing ISO 45001 Standard

ASSP has published an implementation guide for ISO 45001. ASSP/ISO TR-45002-2023, Occupational Health and Safety Management Systems—General Guidelines for the Implementation of ISO 45001-2018, provides guidance to help organizations establish, implement, maintain and continuously improve an occupational health and safety management system so it conforms to the ISO 45001 standard.

The technical report offers guidance on how to implement the requirements in the standard in any type of organization and should be used in conjunction with the standard. Where the standard states what should be done, the technical report expands on that and provides guidance, including real-life cases, on how it can be done.

The intent of the ISO 45001 standard is to enable organizations to protect all workers from injury and ill health, regardless of individual characteristics. The technical report provides additional guidance on how to ensure that the specific needs of individuals and groups of workers are addressed, recognizing that a generic approach to OSH management can lead to the needs of different genders, age and minority groups not being fully addressed.

Learn more at **https://assp.us/3Dvemlm**.

| **Location (Building Name & Address)** | **Prepared By** | Dave Not-here | **Signature** | **Employee #** | **Date** |
|---|---|---|---|---|---|
| | | | *Dave Not-here* | | **1/19/2024** |
| **Production #1**<br>**101 Giterdone Ave** | **Reviewed by Manager** | Kent Bereal | *Kent Bereal* | | **1/19/2024** |
| | **Reviewed by Departmental Safety Coordinator** | Steve Workman | *Steve Workman* | | **2/1/2024** |

| **(A)** Activity | **(B)** Identified Hazard | **(C)** Hazard Effects | **(D)** Current Controls | **(E)** Severity | **(F)** Likelihood | **(G)** Risk | **(H)** Recommended Additional Action |
|---|---|---|---|---|---|---|---|
| | | | | *Without Controls* | | | Recommendation when RISK WITH CONTROLS exceed 3 |
| | | | | *With Existing Controls* | | | |
| | | | | *Without Controls* | | | |
| | | | | *With Existing Controls* | | | |
| | | | | *Without Controls* | | | |
| | | | | *With Existing Controls* | | | |

| **Location (Building Name & Address)** | **Prepared By** | Dave Not-here | **Signature** | **Employee #** | **Date** |
|---|---|---|---|---|---|
| | | | *Dave Not-here* | | **1/19/2024** |
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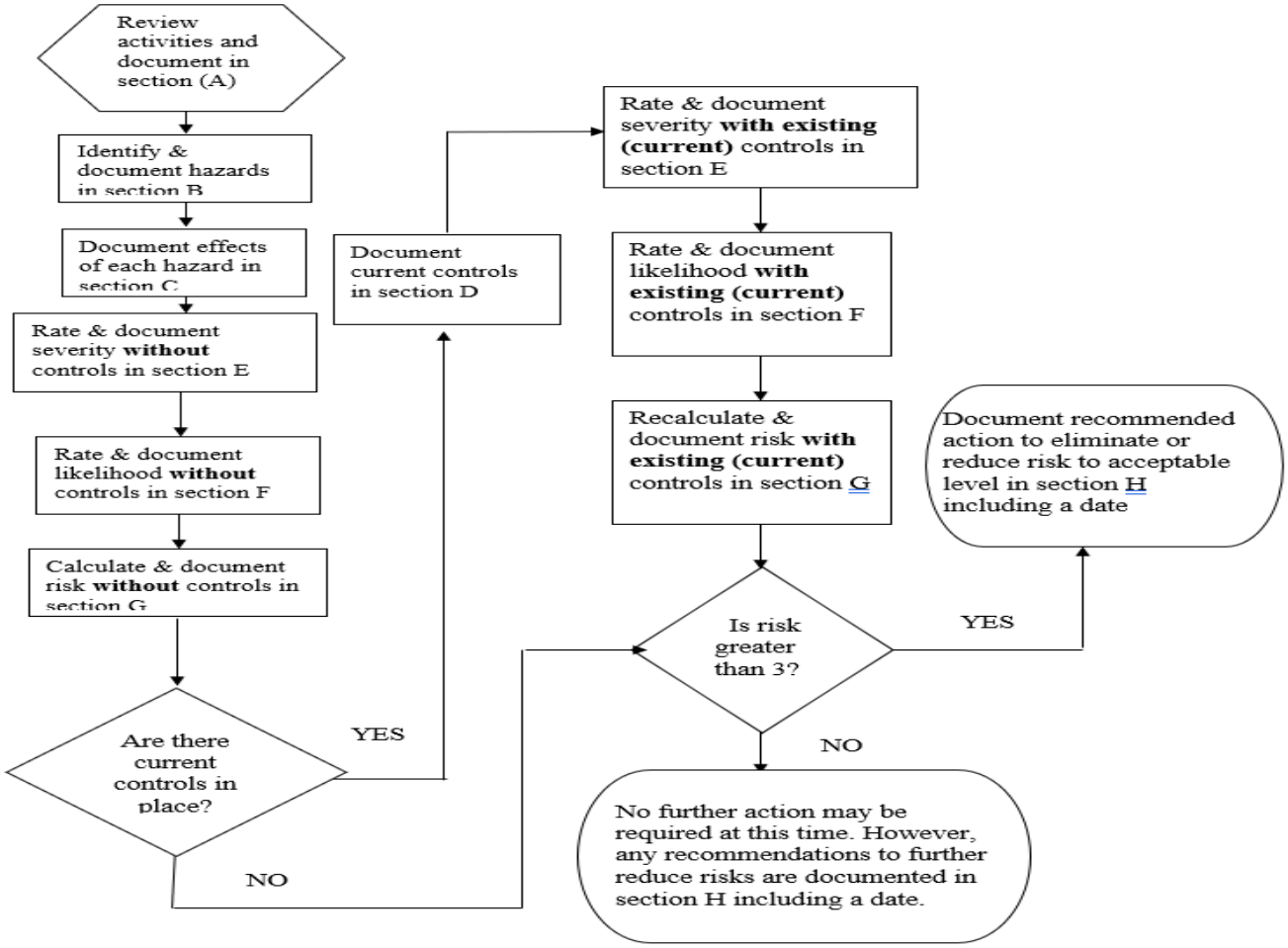
| **(A)** Activity | **(B)** Identified Hazard | **(C)** Hazard Effects | **(D)** Current Controls | **(E)** Severity | **(F)** Likelihood | **(G)** Risk | **(H)** Recommended Additional Action |
|---|---|---|---|---|---|---|---|
| Stripping parts in chemical bath. | • Skin contact with Chem<br>• Eye contact<br>• Exposure to fumes | • Burns<br>• Blindness<br>• Lung damage | • Apron, gloves<br>• Face shield, & Goggles<br>• Respirator | *Without Controls*<br>2 | 3 | 6 | Recommendation when RISK WITH CONTROLS exceed 3 |
| | | | | *With Existing Controls*<br>2 | 1 | 2 | |
| | | | | *Without Controls* | | | |
| | | | | *With Existing Controls* | | | |
| | | | | *Without Controls* | | | |
| | | | | *With Existing Controls* | | | |

**Attachment 1**- Flowchart for Assessing Risk



**Attachment 2** - Risk Matrix

| | | SEVERITY | | |
|---|---|---|---|---|
| | | 3.<br>• Fatality<br>• 30 days lost work<br>• Property Damage $100,000 | 2.<br>• 7 days lost time injury<br>• Permanent injury<br>• Property Damage $10,000 | 1.<br>• Minor Injury<br>• Negligible lost time<br>• Property damage $1,000 |
| **LIKELIHOOD** | 3. Likely to occur in next year | **9** | **6** | **3** |
| | 2. Likely to occur in next 2-3 years | **6** | **4** | **2** |
| | 1. Unlikely to occur | **3** | **2** | **1** |

SEVERITY (Consequences) X LIKELIHOOD (Probability of Occurrence) = RISK

Shaded Areas indicate tolerable risks are adequately controlled when the stipulated safeguards or precautionary measures are effectively implemented.

# Presentation Handouts

| | Hazard Analysis | |
|---|---|---|

**Purpose:**
To establish a process that identifies, evaluates and communicates occupational health and safety risks on an ongoing basis.

**Scope:**
This procedure applies to the activities or services that the Department can have an influence over and can affect the health and safety of people, or damage to equipment and property.

**References:**
(a) Hazard Analysis Form as maintained by the company Departmental Safety Coordinator (latest version).

**Definitions:**
Competent personnel – Employees with appropriate level of training and experience and the ability to recognize hazards, assess risk, and decide on necessary controls.

Harm- Includes death, injury, physical or mental ill health, damage to property, loss of production, or any combination of these.

Incident- The event which occurs at the work site and which:
a) Results in death or injury to person where the injury requires medical attention, which includes first aid cases or
b) Results in or has a potential to cause losses to persons, property, or process or
c) Is a significant non-conformance of statutory requirements, safe work procedures, or rules and procedures.

Lost Time Injury- Work related injury or illness, which renders the injured person unable to perform his normal duties on any day following the day of accident.

Risk- The combination of the likelihood and severity of a specified hazardous event occurring.

Risk Assessment- The process of analyzing the level of risk, considering those in danger, and evaluating whether hazards are adequately controlled, taking into account any measures already in place.

Risk Management- Process of identifying hazards, assessing risk, taking action to eliminate or reduce risk, and monitoring and reviewing results.

**Responsibility:**
The Departmental Safety Coordinator is responsible for maintaining this procedure and ensuring that it is followed.

Each manager is responsible for maintaining a completed Hazard Analysis Form for each work group (Reference (a) and attachment (3)).
Supervisors are to review the area hazard analysis when investigating injuries. Special attention is given to the adequacy of existing controls.

**Procedure:**

Hazard analysis is conducted or reviewed when facilities change, new processes are put into place or existing processes are substantially changed, or after any incident that raises into question the adequacy of existing controls.

*Identifying activities and hazards*

Step 1. Each activity is documented in section (A) of the form. Refer to the Flow Chart for Accessing Risks, attachment 1, for an overview.

*Assessing risks*

Step 2. Potential hazards that are associated with the subject activity are documented in section B of the Hazard Analysis Form.

Step 3. Possible effects of each identified hazard is listed in section C on the Hazard Analysis Form. Include in this section, hazards to all that may be at risk, such as new employees, visitors, etc. who may or may not be familiar with the procedures.

Step 4. Without considering the existing controls, rate the Severity of the identified hazard from 1 to 3 based on the Risk Matrix provided in Attachment 2. Document this in section E (without controls) on the Hazard Analysis Form.

Step 5. Without considering the existing controls, rate the Likelihood of the hazard happening from 1 to 3 based on the Risk Matrix. Document this rating in section F (without controls) on the Hazard Analysis Form.

Step 6. Calculate the Risk Rating of each hazard based on the formula:

***Severity x Likelihood = Risk.***

Document this in section G (without controls) on the Hazard Analysis Form. If no controls are currently in place for an activity, skip step 7 and proceed to step 8.

*Document Controls*

Step 7. Document current controls in section D. Repeat steps 4 and 5 taking into account controls currently in place (section D) and document results in sections E, F, and G (with existing controls).

*Recommended Action*

Step 8. If the Risk Rating with existing controls exceeds 3, determine the corrective action to be taken to mitigate the risk and document it in section H (Recommended Action) of the Hazard Analysis Form. Any recommended action requires a due date. The order of preferred control methods is:

- First, ***eliminate the hazard***, such as using a triangle shaped holder to prevent sharp tools from rolling off workbench onto lap.
- Second, ***isolate the hazard*** if elimination is not possible, such as storing hazardous waste in a fenced area until it can be safely transported.

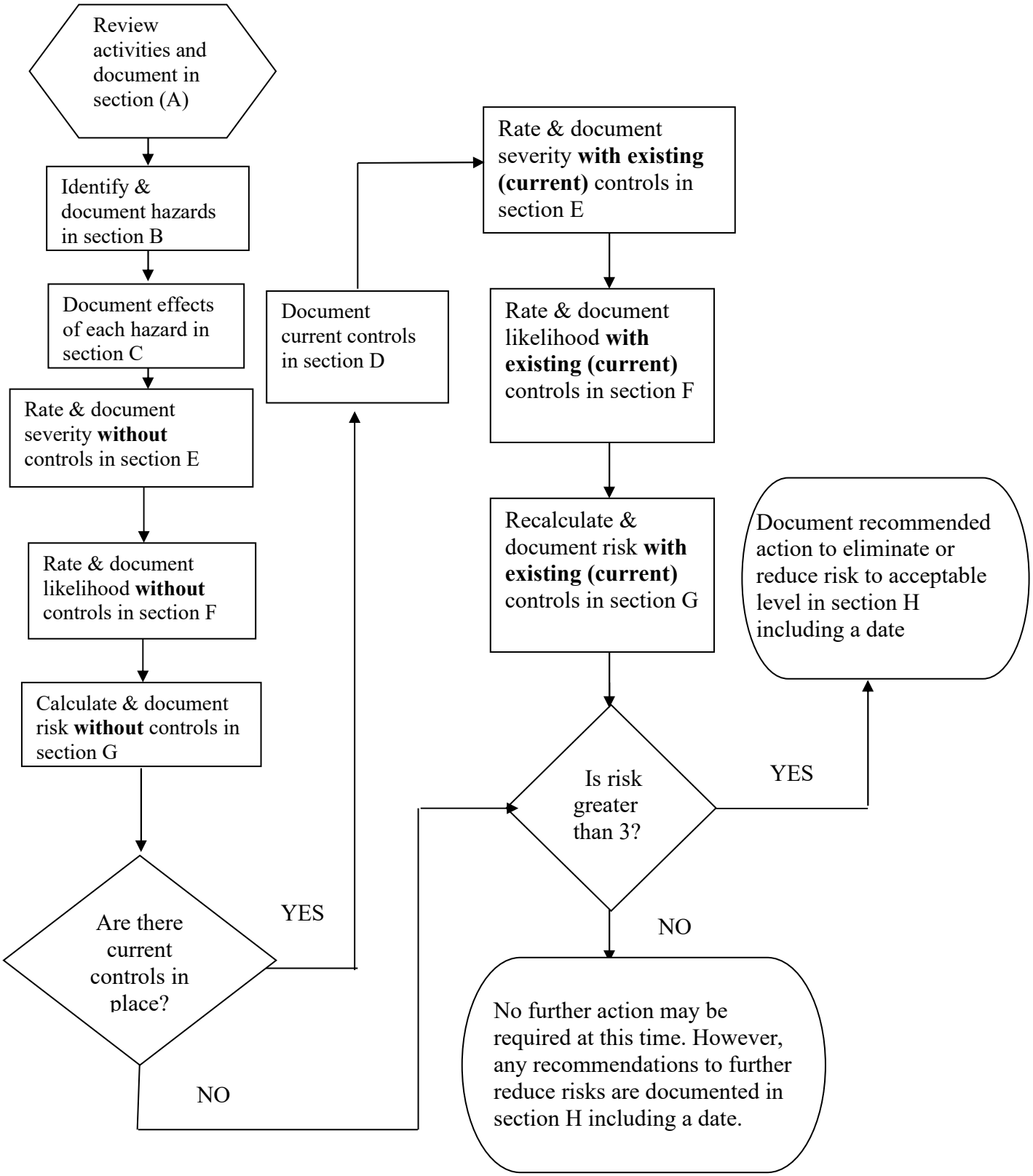
- Third, use ***personal protective equipment*** if elimination and isolation are not possible, such as wearing safety glasses when using an acid tank.

*Administration*
Step 9. The Facility Safety Officer (FSO) performing each risk assessment signs and dates the Hazard Analysis Form. The Hazard Analysis form is then submitted to the responsible manager to begin the review and signature cycle. After review by the responsible manager, the Departmental Safety Coordinator performs the final review. Any changes that occur during the signature cycle are discussed and initialed by the originator and previous signers. The responsible manager maintains the original form and ensures that it is posted on or near the work area. Each hazard analysis is also reviewed and updated no less than every two years and as requested by the Departmental Safety Coordinator.

**Attachments:**

Attachment (1) - Flowchart for Assessing Risk
Attachment (2) - Risk Matrix
Attachment (3) - Hazard Analysis Form Sample

**Attachment 1-** Flowchart for Assessing Risk



**Attachment 2** - Risk Matrix

| | | SEVERITY | | |
|---|---|---|---|---|
| | | 3.<br>• Fatality<br>• 30 days lost work<br>• Property Damage $100,000 | 2.<br>• 7 days lost time injury<br>• Permanent injury<br>• Property Damage $10,000 | 1.<br>• Minor Injury<br>• Negligible lost time<br>• Property damage $1,000 |
| **LIKELIHOOD** | 3. Likely to occur in next year | **9** | **6** | **3** |
| | 2. Likely to occur in next 2-3 years | **6** | **4** | **2** |
| | 1. Unlikely to occur | **3** | **2** | **1** |

SEVERITY (Consequences) X LIKELIHOOD (Probability of Occurrence) = RISK

Shaded Areas indicate tolerable risks are adequately controlled when the stipulated safeguards or precautionary measures are effectively implemented.

**Attachment 3** -Hazard Analysis Form Sample

| **Location (Building Name & Adress)** **Name of Area** | | | **Signature** | **Employee ID** | **Date** |
|---|---|---|---|---|---|
| | **Prepared By** | NAME HERE | | | |
| | **Reviewed by Manager** | NAME HERE | | | |
| | **Reviewed by Safety Officer** | **Steve Workman** | | | |

| **(A)** Activity | **(B)** Identified Hazard | **(C)** Hazard Effects | **(D)** Current Controls | **(E)** Severity | **(F)** Likelihood | **(G)** Risk | **(H)** Recommended Additional Action |
|---|---|---|---|---|---|---|---|
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |



**Severity of Consequence:** (3) Fatality; injury with 30 days lost work; property or equipment damage $100,000; (2) 7 days lost time injury; permanent injury; property or equipment damage$10,000; (1) Minor injury, negligible lost time; damage $1,000.
**Likelihood:** (3) Likely to occur in next year; (2) Likely to occur in next 2-3 years; (1) Unlikely to occur in next 2-3 years
**(G)** Risk =Severity x Likelihood **Tolerable Risk when stipulated controls are in effect: 1-3 (H)** Recommendation required when RISK WITH CONTROLS exceeds 3.

| **Location (Building Name & Address)** | **Prepared By** | | **Signature** | **Employee #** | **Date** |
|---|---|---|---|---|---|
| | **Reviewed by Manager** | | | | |
| | **Reviewed by Departmental Safety Coordinator** | Steve Workman | | | |

| **(A)** Activity | **(B)** Identified Hazard | **(C)** Hazard Effects | **(D)** Current Controls | **(E)** Severity | **(F)** Likelihood | **(G)** Risk | **(H)** Recommended Additional Action |
|---|---|---|---|---|---|---|---|
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | ***Without Controls*** | | | |
| | | | | ***With Existing Controls*** | | | |

REV Date May 2014

**Severity of Consequence:** (3) Fatality; injury with 30 days lost work; property or equipment damage $100,000; (2) 7 days lost time injury; permanent injury; property or equipment damage$10,000; (1) Minor injury, negligible lost production time; damage $1,000. **Likelihood:** (3) Likely to occur in next year; (2) Likely to occur in next 2-3 years; (1) Unlikely to occur in next 2-3 years

**(G)** Risk =Severity x Likelihood **Tolerable Risk when stipulated controls are in effect: 1-3 (H)** Recommendation required when RISK WITH CONTROLS exceeds 3.

**Hazard Analysis are valid for two years from date approved by Departmental Safety Coordinator.**

| **(A)** Activity | **(B)** Identified Hazard | **(C)** Hazard Effects | **(D)** Current Controls | **(E)** Severity | **(F)** Likelihood | **(G)** Risk | **(H)** Recommended Additional Action |
|---|---|---|---|---|---|---|---|
| | | | | ***Without Controls*** | | | |
| | | | | | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | | | | |
| | | | | ***Without Controls*** | | | |
| | | | | | | | |
| | | | | ***With Existing Controls*** | | | |
| | | | | | | | |

REV Date May 2014

**Severity of Consequence:** (3) Fatality; injury with 30 days lost work; property or equipment damage $100,000; (2) 7 days lost time injury; permanent injury; property or equipment damage$10,000; (1) Minor injury, negligible lost production time; damage $1,000. **Likelihood:** (3) Likely to occur in next year; (2) Likely to occur in next 2-3 years; (1) Unlikely to occur in next 2-3 years

**(G)** Risk =Severity x Likelihood **Tolerable Risk when stipulated controls are in effect: 1-3 (H)** Recommendation required when RISK WITH CONTROLS exceeds 3.

**Hazard Analysis are valid for two years from date approved by Departmental Safety Coordinator.**