# Hazard Assessment Plan

## Purpose

Hazard assessment, hazard analysis, hazard evaluation, exposure determination, exposure assessment, and worksite analysis are just some of the terms given to the practice of identifying actual and potential hazards at a worksite. To be effective, these “hazard assessments” require an active, on-going, thorough, and orderly examination and analysis of processes and working conditions.

At Company name, we know that hazard assessments are an important part of an overall environmental, safety, and health program. However, in some cases, these assessments are also required. The purpose of this Hazard Assessment Plan is to provide one source of written documentation for the hazard assessment measures our company is taking to meet:

Enter hazard assessment regulations you are trying to meet.

More Info – Sample answer:

* The hazard assessment provision of OSHA 29 CFR 1910.132, Personal Protective Equipment (PPE) – General Requirements.
* The process hazard analysis provision of OSHA 29 CFR 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals.
* The hazard assessment and hazard \_\_\_\_\_\_\_\_\_\_\_\_ (enter “review” and/or “analysis,” if applicable) provisions of EPA 40 CFR 68, Chemical Accident Prevention Provisions, also called the Risk Management Program rule.
* \_\_\_\_\_\_\_\_\_\_\_\_\_ (other).

As we complete hazard assessments, we utilize the results to correct problems or potential problems to ensure a safe environment for our employees and the surrounding community.

## Administrative duties

Name/title, our Hazard Assessment Plan Administrator, is responsible for developing and maintaining our facility’s written Hazard Assessment Plan. This person is solely responsible for all facets of the plan and has full authority to make necessary decisions to ensure the success of this plan. Our Plan Administrator is also qualified via appropriate training and experience that is commensurate with the complexity of the plan to administer or oversee it and conduct the required evaluations of plan effectiveness.

The Hazard Assessment Plan is available for review and is kept at Enter location. Feel free to ask our Administrator for further information. We strive for clear understanding and safe operations. If after reading this plan, you find that improvements can be made, please contact the Plan Administrator. We encourage all suggestions because we are committed to the success of our written plan.

## OSHA PPE hazard assessment

Potential hazards in any workplace may be physical- or health-related, and a comprehensive and effective hazard assessment in accordance with §1910.132 should be capable of identifying hazards in both categories. We consider certain general guidelines for assessing the Enter hazard situations hazard situations that exist in our workplace and match PPE to the particular hazards, as needed. We also exercise common sense and appropriate expertise to accomplish these tasks.

More Info –

Examples include foot, head, eye and face, and hand hazard situations, respiratory hazard situations, fall hazard situations, and electrical hazard situations.

Our most recent PPE hazard assessment was completed Enter date. In order to assess the need for PPE, the following steps were taken:

1. Name/title reviewed all injury and illness records to spot any trends or areas of concern.

1. Name/title conducted a walk-through survey of workplace areas where hazards or areas of concern may be found. This includes randomly consulting with employees, noting the basic layout of the facility, and ensuring that extra care is taken in the survey for any new equipment or processes. The purpose of the survey was to identify sources of hazards to employees. During the walk-through survey Name/title observed and recorded the following hazards:

### Sources of motion or impactDescribe observed hazard(s), i.e., machinery or processes where any movement of tools, machine elements, or particles or flying fragments could exist; movement of personnel that could result in collision with stationary objects; or movement of vehicles that could collide with employees. Enter the word “None” if a given source was not found.

### Sources of falling or dropping objectsDescribe observed hazard(s).

### Sources of sharp objectsDescribe observed hazard(s), i.e., sharp objects which might pierce the feet or cut the hands. Enter the word “None” if a given source was not found.

### Sources of rolling or pinching objectsDescribe observed hazard(s), i.e., which could crush the feet.

### Sources of employee fall exposuresDescribe observed hazard(s), if any.

### Sources of electrical hazardsDescribe observed hazard(s), i.e., electric shock or burns from electric arcs, blasts, or heat.

### Sources of chemical exposuresDescribe observed hazard(s).

### Sources of harmful dustDescribe observed hazard(s).

### Sources of biological hazardsDescribe observed hazard(s), such as blood or other potentially infectious materials.

### Sources of high temperaturesDescribe observed hazard(s), i.e., sources of high temperatures that could result in burns, eye injury, or fire, etc.

* + Sources of light radiation
	Describe observed hazard(s), i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.
	+ Sources of noise
	Describe observed hazard(s).
	+ Facility layout concerns
	Describe observed concern(s).
	+ Other sources
	Describe observed hazard(s), i.e., fire, tripping, confined space, egress, or tool hazards, or indicate none.
1. Name/title reviewed the suitability of existing PPE based on levels of exposure, including an evaluation of PPE condition and age, number of person-hours workers wear various protective ensembles, adequacy of PPE training/fit, PPE costs, etc.).
2. Name/title organized the data and information from the reviews and the survey so that they may be efficiently used in determining the proper types of PPE required at the worksite.
3. Name/title made an estimate of the potential for injuries for each hazard. Each of the basic hazards was reviewed and the injury type and the severity, probability, and overall risk of each potential injury for each hazard found was determined. These estimates are provided below: More Info – You may wish to use severity ratings like Catastrophic (4), Critical (3), Moderate (2), or Minor (1). You may wish to use probability ratings like Expected (5), Likely (4), Moderate (3), Unlikely (2), or Rare (1). Severity plus probability equals overall risk. You may wish to use an overall risk rating of Very high (6-9), High (4-6), Moderate (3-4), and Low (2-3).

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| **Hazard:** | **Potential injury/illness type:** | **Severity and probability of injury or illness:** | **Overall risk rating:** |
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1. Name/title documented the hazard assessment via a written certification that identifies: More Info – List general contents, i.e., the workplace evaluated, the person certifying that the evaluation was performed, the date(s) of the hazard assessment, a statement that the document is a certification of hazard assessment, etc..

We have attached our hazard assessment certification in the Appendices to this written Hazard Assessment Plan.

Because our hazard assessment efforts are ongoing, our company performs regular hazard assessments. It is the best way to review the hazards in the workplace and protect employees from those hazards. Hazards can change; therefore, we perform a hazard assessment of our facility (using the six steps above) Enter frequency, i.e., annually, and list other times when the hazard assessment is performed, i.e., if changes in conditions, equipment, processes, control measures, operating procedures, or personnel occur.

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with machine guarding, engineering controls, administrative controls, safe work practices, and sound manufacturing practices. Therefore, based on a given hazard assessment or reassessment, Name/title first determines if the hazards can be eliminated or reduced through feasible engineering, administrative, and/or work practice controls. If so, Name/title ensures that those control measures are implemented and a schedule for completing that implementation is set.

If engineering, administrative, and/or work practices are infeasible or have been exhausted but hazards remain, Name/title selects appropriate PPE and protective clothing by: Explain how protective equipment is selected, i.e., by becoming familiar with the potential hazards and the PPE and clothing types available; by following or going beyond OSHA selection requirements at §1910.132; by fitting the user with a proper, comfortable, well-fitting protective device, etc..

All selections will meet any applicable OSHA requirements. Careful consideration is also given to comfort and fit. Outside consultation, PPE manufacturer’s assistance, and any other recognized authorities will be consulted if there is any doubt regarding proper selection.

Name/title communicates the PPE selections with affected employees and PPE training is provided in accordance with OSHA requirements.

## OSHA process hazard analyses (PHAs)

The PHA is an organized and systematic effort to identify and analyze the potential hazards associated with the processing or handling of highly hazardous chemicals. Each PHA focuses on equipment, instrumentation, utilities, human actions (routine and non-routine), and external factors that might impact a process. These considerations assist in determining the hazards and potential failure points or failure modes in a process.

It should be noted that OSHA defines a process as “any activity involving a highly hazardous chemical including any use, storage, manufacturing, handling, or the [onsite] movement of such chemicals, or combination of these activities.” For purposes of this definition, any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release must be considered a single process.

### PHA team

Before we actually perform our PHAs, we consult with affected employees and their authorized representatives on how to best conduct and develop these analyses. Under OSHA 29 CFR 1910.119, how does your facility consult with employees and representatives on how to best conduct and develop process hazard analyses (PHA)?. We then designate a team of Enter employees and/or contract employees with expertise in engineering and process operations. Our last PHA, dated Enter date, consisted of the following team members:

More Info – Sample answer:

“Role” may be a “team leader who is fully knowledgeable in the proper implementation of the PHA methodology that is to be used and who is impartial in the evaluation,” a “member who is knowledgeable in the specific PHA methodology to be used,” or “Member who has experience and knowledge specific to the [enter process name].”

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| **Role:** | **Team member name/title:** | **Qualifications:** |
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### PHA priority order

Because we have more than one process, the team performed a preliminary or gross hazard analysis by Enter method of performing analysis.

Then the team determined priority order (see the table below) for conducting the PHAs (which processes to analyze first and so on) based on Enter rationale, including such considerations as the extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process.

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| **Priority order:** | **Process name:** |
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### Methodologies and other factors

Once a priority was established the team used the following methodologies to determine and evaluate process hazards:

More Info – Methodologies include: what-if; checklist; what-if/checklist; hazard and operability study (HAZOP); failure mode and effects analysis (FMEA); fault tree analysis; or an appropriate equivalent methodology as listed in §1910.119(e)(2). The analysis may involve the use of different methodologies for various parts of the process. Then conclusions can be integrated into one final study/evaluation. See §1910.119 Appendix D for guidance.

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| **Process name:** | **Methodologies to determine/evaluate hazards:** |
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For each process, we have identified any previous incidents which had a likely potential for catastrophic consequences in the workplace, considered how facility siting affects or creates process hazards, and identified human factors that may play a role in affecting or creating process hazards. Our findings are as follows:

More Info – Attach calculations, charts, and other documents that verify facility siting has been considered. Human factors may include a review of operator/process and operator/equipment interface, the number and frequency of operator tasks, work schedules, control displays, automatic versus manual procedures, operator feedback, signs, etc.

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| **Process name:** | **Previous incidents:** | **Facility siting considered (Y/N):** | **Human factors:** |
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We have attached documents to show that facility siting has been considered.

### Process hazards and controls

Using the methodologies and other information listed in the table above, we have determined the hazards and engineering and administrative controls of each process:

More Info – Controls may include detection methodologies to provide early warning of releases; inventory reduction; substitution of less hazardous materials; protective systems such as deluges, monitors, or foams; increased separation distances; modification of the process temperature or pressure; redundancy in instrumentation, etc. In the last column provide a qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace.

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| **Process name and hazards:** | **Control measures and interrelationships:** | **Consequences of failure of control measures:** | **Range of possible safety/health effects on employees if controls fail:** |
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### Findings and recommendations

We have followed and will follow the procedure below to document all process hazard analysis findings and recommendations and ensure recommendations are resolved in a timely manner:

1. The PHA team documents all findings and recommendations and sends them to Name/title who provides employees and their authorized representatives access to all findings and recommendations of the team.
2. Name/title assures that recommendations are resolved as soon as possible by: Method to assure that recommendations are resolved, i.e., coming up with a list of actions to be taken, developing a schedule of when actions are to be completed, and assigning actions to employees or contractors that have the knowledge, skill, and time to complete them.
3. Name/title develops a written schedule of when actions are to be completed.
4. Name/title assigns recommendation-based actions and shares the written schedule with specific employees or contractors that have the knowledge, skill, and time to complete them.
5. Name/title also communicates the list of the actions to be taken with operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.
6. Name/title documents all resolutions of recommendations, specific actions to be taken, and schedules of when actions are to be completed, as well as the date(s) those actions are actually completed.
7. These documents are all dated or time-stamped and kept Enter location, i.e., attached to this plan for the life of each process.

### PHA reviews and updates

Our PHAs are reviewed, updated, and revalidated by a team meeting the PHA team criteria in §1910.119(e)(4) to ensure the PHAs are consistent with the current processes:

Enter frequency, at least every 5 years.

For changing processes, Name/title ensures that all issues identified in the PHA review are resolved *before* startup of a changed process.

Any updated or revalidated PHA is then dated and kept Enter location, i.e., attached to this plan and our Process Safety Management Program for the life of the process.

### Key PHA dates

Below we provide the date of our last PHA, PHA update, or PHA revalidation; an indication of any changes since the last PHA or PHA update; the expected or actual date of completion of all changes resulting from the last PHA or PHA update; and the date of the next PHA update and revalidation:

More Info – Changes might include reduction in chemical inventory, increase in chemical inventory, change in process parameters (temperature, pressure, flow rates, etc.), installation of process controls, installation of process detection systems, installation of perimeter monitoring systems, installation of migration systems, none recommended by team, none are applicable, or other changes.

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| **Process name and date of last PHA, PHA update, or PHA revalidation:** | **Changes made since last PHA or PHA update:** | **Expected/Actual date of completion of changes resulting from last PHA/PHA update:** | **Date of next PHA update and revalidation:** |
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## EPA risk management

According to 40 CFR 68, a “process” means any activity involving a regulated substance including any use, storage, manufacturing, handling, or onsite movement of such substances, or combination of these activities. Company name

 is covered by the Risk Management Program rule because we have a stationary source(s) that has more than a threshold quantity of a regulated substance(s) in a process(es). This means we have implemented a risk management plan (RMP) and, among other things, completed a:

More Info – Sample answer:

* Hazard assessment.
* Program 2 hazard review.
* Program 3 process hazard analysis.

### Hazard assessment

Our written hazard assessment details an evaluation of worst-case and alternative accidental releases, the potential effects of an accidental release, and a five-year accident history.

### Off-site consequence analysis

Off-site consequence analysis consists of two elements — the worst-case release scenario analysis and the alternative release scenario analysis (if required). A worst-case release means the release of the largest quantity of a regulated substance from a vessel or process line failure that results in the greatest distance to an endpoint defined in §68.22(a). An alternative release is a release under more realistic circumstances. So the off-site consequence analysis involves identifying the potential reach and effect of hypothetical worst-case and alternative accidental releases.

The off-site consequence parameters we are using for our scenario analyses are listed in the table below:

More Info – Parameter types are listed in §68.22. For Program 1 processes, no alternative release scenarios are required.

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| **Parameter type:** | **Parameter used for worst-case release scenario analysis:** | **Parameter used for alternative release scenario analysis (if required):** |
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The following covers our worst-case release scenarios: More Info – For each Program 1 process, describe one worst-case scenario. For all Program 2 and 3 processes, describe one worst-case scenario for all toxics, one worst-case scenario representing all regulated flammables, and additional worst-case scenarios if there are different public receptors that could be affected.

The following covers our alternative release scenarios: More Info – For Program 1 processes, no alternative release scenarios are required. For all Program 2 and 3 processes, describe at least one alternative release scenario for each toxic and at least one alternative scenario representing all flammables held above the applicable threshold quantity in processes.

The potential off-site impacts that a release could have on the surrounding communities, population, and environment are listed below:

More Info – List off-site impacts as required by §68.30 and .33. The terms “environmental receptor,” “offsite,” and “public receptor” are defined at §68.3.

Name/title reviews and updates our off-site consequence analyses Enter frequency, at least every five years. During these reviews, we ensure the following elements have not changed:

Enter elements.

More Info – Sample answer:

* Process conditions.
* Quantities of regulated substances stored and handled.
* Off-site impacts (public and environmental receptors).
* Population numbers.
* \_\_\_\_\_\_\_\_\_ (other).

If there are no changes, Name/title documents that the review occurred.

Sometimes the off-site analyses must be changed between the Enter frequency, at least every five years review cycle. Name/title completes a revised analysis within six months of a change to one or more of the following and submits a revised RMP as provided in §68.190:

* Process conditions.
* Quantities of regulated substances stored and handled.
* Any aspect of the stationary source that might reasonably be expected to increase or decrease the distance to the endpoint by a factor of two or more.

Name/title maintains the following records of our off-site consequence analyses Enter location of documentation, i.e., attached in the Appendices of this written plan or attached to the Risk Management Plan:

* For worst-case scenarios:
	+ Description of the vessel or pipeline and substance selected as worst case;
	+ Assumptions and parameters used, including assumptions for the use of any administrative controls and any passive mitigation that are assumed to limit the quantity that could be released;
	+ Rationale for selection of the scenarios; and
	+ Anticipated effect of the controls and mitigation on the release quantity and rate.
* For alternative release scenarios:
	+ Description of the scenarios identified;
	+ Assumptions and parameters used, including assumptions for the use of any administrative controls and any mitigation that were assumed to limit the quantity that could be released;
	+ Rational for the selection of specific scenarios; and
	+ Effect of the controls and mitigation on the release quantity and rate.
* Documentation of estimated quantity released, release rate, and duration of release.
* Methodology used to determine distance to endpoints.
* Data used to estimate population and environmental receptors potentially affected.

### Five-year accident history

Technically, a five-year accident history is a report of significant accidental releases of one or more regulated substances from a covered process in the five years prior to our submission of an initial or updated RMP. Significant accidental releases would be those that caused at least one of the following:

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| **Onsite:** | **Off-site:** |
| * Deaths
* Injuries
* Significant property damage
 | * Deaths
* Injuries
* Property damage
* Evacuations
* Sheltering in place
* Environmental damage
 |

In our five-year accident history, we cover any releases of a regulated substance from a process where the regulated substance is held Enter the words “at its threshold” or “at any” quantity in the process.

More Info – EPA only requires those regulated substances held above their threshold quantity to be covered, but you may wish to cover all quantities.

A summary of our latest five-year accident history is as follows: We have had Enter number significant accidental release(s) in the five years prior to our submission of the last RMP, that meets the five-year accident history criteria. Enter a brief description (executive summary) of the five-year accident history and attach the details of the release(s) as an Appendix to this written Hazard Assessment Plan The details of the release(s) are attached as an Appendix to this written Hazard Assessment Plan.

The date of our last RMP submission/correction/update, including a five-year accident history report, was Enter date. RMPs must be updated at least once every five years. The tentative date of our next RMP update, which will include a five-year accident history, will be Enter date, unless we experience a:

* Qualifying accidental release that requires us to submit new data with respect to the accident within six months of the release or by the time the RMP is updated, whichever is earlier; or
* Change that requires us to revise, update, and submit the RMP (including a five-year accident history) prior to the above date in accordance with §§68.190 and 68.195.

It should be noted that Name/title investigates each incident which results in or could reasonably result in a catastrophic release of a regulated substance. A report is prepared at the conclusion of the investigation, a system to promptly address and resolve the incident report findings and recommendations is implemented, and resolutions and corrective actions are documented. See our RMP for details.

### Program 2 hazard review

We have conducted a review of Process 2 hazards associated with the regulated substances, processes, and procedures at our facility. The Program 2 hazard review, which involves identifying process hazards and safeguards, is key to understanding how to operate safely on a continuous basis. The hazard review helps our company determine whether we are meeting applicable codes and standards; identify, evaluate, and address potential failures; and focus our emergency response planning efforts.

### Major hazards

Our last hazard review, performed Enter date by Name/title, found the following major hazards associated with processes and regulated substances, as well as the following possible equipment failures or human errors that could cause an accidental release:

More Info – Process hazards might include a toxic release, fire, explosion, runaway reaction, polymerization, overpressurization, corrosion, overfilling, contamination, equipment failure, loss of cooling, loss of heating, loss of electricity, loss of pressure, earthquake, floods, tornadoes, hurricanes, etc. Check the safety data sheet to find hazardous properties of the regulated substances.

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| **Process name and hazards:** | **Possible equipment failures or human errors that could lead to a release:** | **Regulated substances of process:** | **Hazards of regulated substances:** |
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### Process controls, mitigation, and release monitoring/detection

Process controls are equipment and associated procedures used to prevent or limit releases. Mitigation systems control releases from a process or part of a process. Monitoring and detection systems or steps detect a release of a regulated substance from a process or part of a process.

Using Enter methodology, such as an industry standard; federal or state design rules; checklist; what-if methodology; or an appropriate equivalent methodology and the information listed in the Major Hazards table above, Name/title has determined that the following process controls, mitigation systems, and monitoring/detection systems and steps are necessary for each process:

More Info – Process controls include vents, relief valves, check valves, scrubbers, flares, manual shutoffs, automatic shutoffs, interlocks, alarms and procedures, keyed by-passes, emergency air supply, emergency power, backup pump, grounding equipment and bonding, inhibitor addition, rupture disks, excess flow device, quench system, purge system, etc. Mitigation systems include sprinkler systems, dikes, fire walls, blast walls, deluge systems, water curtains, enclosures, neutralization, etc. Monitoring and detection systems include process area detectors, perimeter monitors, etc. If you have none for a table category, state “none.”

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| **Process name:** | **Process controls:** | **Mitigation systems:** | **Release monitoring or detection systems:** |
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### Findings and recommendations

We have followed and will follow the procedure below to document all hazard review findings and recommendations and ensure recommendations are resolved in a timely manner:

1. Name/title documents all findings and recommendations and sends them to Name/title who provides employees and their authorized representatives access to all findings and recommendations.
2. Name/title assures that recommendations are resolved as soon as possible by: Enter method used to assure that recommendations are resolved as soon as possible, i.e., coming up with a list of actions to be taken, developing a schedule of when actions are to be completed, and assigning actions to employees or contractors that have the knowledge, skill, and time to complete them.
3. Name/title develops a written schedule of when actions are to be completed.
4. Name/title assigns recommendation-based actions and shares the written schedule with specific employees or contractors with the knowledge, skill, and time to complete them.
5. Name/title also communicates the list of the actions to be taken with operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.
6. Name/title documents all resolutions of recommendations, specific actions to be taken, and schedules of when actions are to be completed, as well as the date those actions are actually completed.
7. These documents are all dated or time-stamped and Enter location for the life of each process.

### Hazard review updates

Our hazard reviews are updated:

Enter frequency or circumstance, i.e., at least every five years; whenever a major change in a process occurs.

For changing processes, Name/title ensures that all issues identified in the review are resolved before startup of a changed process.

Any updated or revalidated hazard review is then dated and kept Enter location, i.e., attached to this plan or to your Risk Management Plan for the life of the process.

### Key hazard review dates

Below we provide the date of our last hazard review, hazard review update, or hazard review revalidation; an indication of any changes since the last hazard review or hazard review update; the expected or actual date of completion of all changes resulting from last hazard review or hazard review update; and the date of the next hazard review update and revalidation:

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| **Process name and date of last process hazard review, hazard review update, or hazard review revalidation:** | **Changes made since last hazard review or hazard review update:** | **Expected/Actual date of completion of changes resulting from last process hazard review update:** | **Date of next process hazard review update and revalidation:** |
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### Program 3 process hazard analyses (PHAs)

Our facility has developed a thorough, orderly, and systematic approach for identifying, evaluating, and controlling hazards of Program 3 processes covered by Part 68. Our Program 3 PHAs focus on equipment, instrumentation, utilities, human actions (routine and non-routine), and external factors that might impact our processes. These considerations assist in determining the hazards and potential failure points or failure modes in each process.

### PHA team

Before we actually perform our PHAs, we designate a team of Employees and/or contract employees with expertise in engineering and process operations, in accordance with §68.67(d). Our last PHA, dated Enter date consisted of the following team members:

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| **Role:** | **Team member name/title:** | **Qualifications:** |
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### PHA priority order

Because we have more than one process, the team performed a preliminary or gross hazard analysis by Enter method of performing analysis.

Then the team determined priority order (see the table below) for conducting the PHAs (which processes to analyze first and so on) based on Enter rationale, including such considerations as the extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process:

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| **Priority order:** | **Process name:** |
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### Methodologies and other factors

Once a priority was established, the team used the following methodologies to determine and evaluate process hazards:

More Info – Methodologies include: what-if; checklist; what-if/checklist, hazard and operability study (HAZOP); failure mode and effects analysis (FMEA), fault tree analysis; or an appropriate equivalent methodology as listed in §68.67(b). The analysis may involve the use of different methodologies for various parts of the process. Then conclusions can be integrated into one final study/evaluation.

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| **Process name:** | **Methodologies to determine/evaluate hazards:** |
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For each process, we have identified any previous incidents which had a likely potential for catastrophic consequences in the workplace, considered how stationary source siting affects or creates process hazards, and identified human factors that may play a role in affecting or creating process hazards:

More Info – Attach calculations, charts, and other documents that verify stationary source siting has been considered. Human factors may include a review of operator/process and operator/equipment interface, the number and frequency of operator tasks, work schedules, control displays, automatic versus manual procedures, operator feedback, signs, etc.

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| **Process name:** | **Previous incidents:** | **Stationary source siting considered (Y/N):** | **Human factors:** |
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We have attached documents to show that stationary source siting has been considered.

### Process hazards and controls

Using the methodologies and other information listed in the table above, we have determined the following hazards and engineering and administrative controls of each process:

More Info – The tables should address any necessary detection methodologies to provide early warning of releases; inventory reduction; substitution of less hazardous materials; protective systems such as deluges, monitors, or foams; increased separation distances; modification of the press temperature or pressure; redundancy in instrumentation; etc.

Process controls include vents, relief valves, check valves, scrubbers, flares, manual shutoffs, automatic shutoffs, interlocks, alarms and procedures, keyed by-pass, emergency air supply, emergency power, backup pump, grounding equipment and bonding, inhibitor addition, rupture disks, excess flow device, quench system, purge system, etc.

Mitigation systems include sprinkler systems, dikes, fire walls, blast walls, deluge systems, water curtains, enclosures, neutralization, etc.

Monitoring and detection systems include process area detectors, perimeter monitors, etc.

If you have none for a category, state “none.”

For the “range of possible safety/health effects if controls fail,” provide a qualitative evaluation of a range of the possible safety and health effects of failure of controls.

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| **Process name and hazards:** | **Control measures and interrelationships:** | **Consequences of failure of control measures:** | **Range of possible safety/health effects if controls fail:** |
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Using the methodologies and other information listed in the table above, we have determined the following mitigation systems and release monitoring or detection systems of each process:

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| --- | --- | --- | --- |
| **Process name and hazards:** | **Mitigation systems:** | **Release monitoring or detection systems:** | **Consequences (including range of possible safety/health effects) of failure of mitigation, monitoring, or detection systems:** |
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### Findings and recommendations

We have followed and will follow the procedure below to document all process hazard analysis findings and recommendations and ensure recommendations are resolved in a timely manner:

The PHA team documents all findings and recommendations and sends them to Name/title who provides employees and their authorized representatives access to all findings and recommendations of the team.

Name/title assures that recommendations are resolved as soon as possible by: Enter method used to assure that recommendations are resolved, i.e., coming up with a list of actions to be taken, developing a schedule of when actions are to be completed, and assigning actions to employees or contractors that have the knowledge, skill, and time to complete them.

Name/title develops a written schedule of when actions are to be completed.

Name/title assigns recommendation-based actions and shares the written schedule with specific employees or contractors that have the knowledge, skill, and time to complete them.

Name/title also communicates the list of the actions to be taken with operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.

Name/title documents all resolutions of recommendations, specific actions to be taken, and schedules of when actions are to be completed, as well as the date(s) those actions are actually completed.

These documents are all dated or time-stamped and kept Enter location, i.e., attached to this plan for the life of each process.

### PHA reviews and updates

Our PHAs are reviewed, updated, and revalidated by a team meeting the PHA team criteria in §68.67(d) to ensure the PHAs are consistent with the current processes:

Enter frequency or circumstance, i.e., at least every five years; whenever a major change in a process occurs.

For changing processes, Name/title ensures that all issues identified in the PHA review are resolved *before* startup of a changed process.

Any updated or revalidated PHA is then dated and kept Enter location, i.e., attached to this plan or our Risk Management Plan for the life of the process.

### Key PHA dates

Below we provide the date of our last PHA, PHA update, or PHA revalidation; an indication of any changes since the last PHA or PHA update; the expected or actual date of completion of all changes resulting from last PHA or PHA update; and the date of the next PHA update and revalidation:

More Info – Changes might include reduction in chemical inventory, increase in chemical inventory, change in process parameters (temperature, pressure, flow rates, etc.), installation of process controls, installation of process detection systems, installation of perimeter monitoring systems, installation of mitigation systems, none recommended by team, none are applicable, or other changes.

|  |  |  |  |
| --- | --- | --- | --- |
| **Process name and date of last PHA, PHA update, or PHA revalidation:** | **Changes made since last PHA or PHA update:** | **Expected/Actual date of completion of changes resulting from last PHA/PHA update:** | **Date of next PHA update and revalidation:** |
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**Enter name of the hazard assessment you want to add to this plan**

What information would you like to include about this additional hazard assessment conducted at your facility?

## Plan evaluation

It is inherent that problems may occasionally arise in this Hazard Assessment Plan. Although we may not be able to eliminate all problems, we try to eliminate as many as possible to improve employee and community protection. By having our Plan Administrator, Name/title, thoroughly evaluate and, as necessary, revise our Hazard Assessment Plan, we can eliminate problems effectively.

At this company, our plan evaluation, performed Enter frequency by our Plan Administrator, involves the following:

What does the plan involve?

More Info – Sample answer:

* Conducting evaluations of the workplace as necessary to ensure that the provisions of the current written plan are being effectively implemented and that it continues to be effective.
* Conducting evaluations of injury, illness, and process incident records to spot any trends or areas of concern that may derive in part from weaknesses in this written plan.
* Regularly consulting employees to assess their views on plan effectiveness and to identify any problems.

The Plan Administrator will ensure that any problems that are identified during this evaluation are investigated and corrected.

## Appendices

Our company has attached the following appendices to this Hazard Assessment Plan:

More Info – List attachments, i.e., any related regulations or industry standards, any records or documentation, findings, calculations, charts, facility maps, list of equipment or processes related to this plan, documents that verify facility siting, engineering plans and studies, forms and checklists, hazard assessment certification forms, off-site consequence analyses, five-year accident history, recommendations, resolutions of recommendations, action lists, updated or revalidated PHAs or hazard review, related written plans or procedures, implementation schedules, inspection checklist(s), procedures for implementing change, and/or other attachments.