|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Exposure Pathway ID:\_\_\_\_\_\_\_\_\_\_\_ **Exposure Pathway Form** | | | | | | | | | | | |
| Applicable OEHSA Section | Category (select one) | | Circle the corresponding Exposure Pathway. (select one) \*\*\* | | | | | | | | |
| *Site Description/ Nearby Industrial Facilities* | | Yes No | | | | | | | | |
| *Site Infrastructure* | | Onsite Industrial Operations Descriptions of Structures Description of Roads/Hardstand Description of Power Generation | | | | | | | | |
| *Hazardous Materials* | | Petroleum Distribution Points Hazardous Materials Storage/Unidentified Substances | | | | | | | | |
| *Waste Management* | | Solid Waste Landfills Incinerators/Burn Pits Waste Water | | | | | | | | |
| *Entomology* | | Vectors Present Pests Present | | | | | | | | |
| *Physical Hazards* | | Non-Ionizing Radiation Sources Ionizing Radiation Sources Environmental Noise Sources | | | | | | | | |
| *Air Quality* | | Ambient (Outside) Air Quality Indoor Air Quality (IAQ) | | | | | | | | |
| *Water* | | Natural Water Sources Municipal Water Sources Bottled Water Sources Water Treatment Systems | | | | | | | | |
| *Other Environmental Health Concerns* | | Yes No | | | | | | | | |
| Name (Unique Name Descriptor) | | |  | | | | | | | | |
| Source | | |  | | | | | | | | |
| Environmental  Media (select one) | | | ⭘ Air ⭘ Water ⭘ Soil ⭘ Other | | | | | | | | |
| Health Threat | | |  | | | | | | | | |
| Route of Exposure (multiple routes will require multiple entries in DOEHRS) | | | 🞎 Ingestion 🞎 Inhalation 🞎 Other 🞎 Physical 🞎 Skin Absorption 🞎 Skin Contact | | | | | | | | |
| Description of  Affected Population | | | Fill out a separate roster of all affected personnel, if known | | | | | Number of Affected Personnel: (enter 1 if classified) | | | |
|  | | | | |  | | | |
| Existing Controls | | |  | | | | | | | | |
| Assessment | | |  | | | | | | | | |
| Exposure Duration (Fill out time and select increment) | | | \_\_\_\_\_\_\_\_ Minute Hour Day Week Month Year Other \_\_\_\_\_\_\_\_ | | | | | | | | |
| Exposure Frequency (Fill out time and select increment) | | | \_\_\_\_\_\_\_\_ *(times per)* Day Week Month Quarter Half Year Year Other\_\_\_\_\_\_\_\_ | | | | | | | | |
| Start Date (yyyy/mm/dd)  [This is automatically populated in DOEHRS] | | | |  | | Stop Date (yyyy/mm/dd) [Use a stop date when the hazard no longer exists] | | |  | | |
| **Priority/Risk Matrix**  **(Circle the appropriate risk)** | | | | **Hazard Probability** | | | | | | | |
| **Frequent** | **Likely** | | **Occasional** | | | **Seldom** | **Unlikely** |
| **Hazard Severity** | | **Catastrophic** | | Extremely High | Extremely High | | High | | | High | Moderate |
| **Critical** | | Extremely High | High | | High | | | Moderate | Low |
| **Moderate** | | High | Moderate | | Moderate | | | Low | Low |
| **Negligible** | | Moderate | Low | | Low | | | Low | Low |
| Notes | |  | | | | | | | | | |

**EXPOSURE PATHWAY FORM INSTRUCTIONS**

*Purpose: The purpose of the Exposure Pathway (EP) Form is to characterize a health threat and how it could affect personnel. Exposure pathways are described in OEHSAs and are also the basis for development of sampling plans to assess the health threat.*

**Definition of an Exposure Pathway**: The exposure pathway is a description of the course a chemical, physical, or biological agent takes from its point of generation to exposed individuals.

**EXPOSURE PATHWAY: SOURCE ► MEDIA ► ROUTE ► POPULATION**

|  |  |
| --- | --- |
| **Field** | **Instructions** |
| Name | Create a unique name for the exposure pathway (EP) that describes the EP adequately to distinguish it from other EPs. For example: “*Ingestion of organic contaminants in drinking water from main water point.*” |
| Applicable OEHSA Section  (select one) | EPs are to be associated with Occupational and Environmental Health Site Assessment (OEHSA) Sections and Subsections in DOEHRS. Select the most appropriate OEHSA Section, even if an OEHSA has not been completed. |
| Source | Describe the source or cause of the potential hazard. For example: “*Tigris River water” ,“nearby industrial facilities”, “general ambient air”, “blowing dust and vehicle emissions from convoy staging”, “diesel-fired generators”, “vehicle traffic”, “Brand A bottled water”, “ROWPU 123 treated water.”* |
| Environmental Media (select one) | Identify the media that will contact personnel. If “Other” describe in the “Comments” field. |
| Health Threat | Describe the health threat as specifically as possible. For example: “*inhalation of fuel vapors”, “transmission of malaria from mosquito bite”, “ingestion of organic chemicals from drinking water.”* |
| Route of Exposure (select one) | Identify the route of exposure for the health threat identified. If multiple routes are possible, you must define additional EPs. Examples may include insect bites, injection etc. |
| Description of Affected Population | Describe the population affected by the health threat. For example: *“waste management facility security personnel” or “all personnel living in the LSA.”* |
| Number of Affected Personnel | The approximate number of personnel affected by the health threat. If this information is classified, enter “1”. If the actual population is known by name, complete the “Affected Roster” and attach it to the EP form. |
| Existing Controls | Describe the current controls used to manage the health threat. For example: *“sound barriers”, “limited access”, “burning during daylight hours only”, “active dust suppression measures in place”, “all personnel vaccinated.”* |
| Assessment | It is *critical* to thoroughly address this field. A well done Assessment incorporates *all* aspects of this form in a detailed written summary. It includes supporting details to the source, health threat, controls, temporal variance, and risk. It is a holistic professional judgment of the exposure pathway (i.e. source to population). |
| Exposure Duration (Fill out time and select increment) | Enter the total length of time per exposure personnel are/may be exposed to the potential hazard(s). For example: “*30 minutes*”, “*24 hours*”. If duration cannot be described in this manner, select “Other” and describe the duration as necessary. |
| Exposure Frequency (Fill out time and select increment) | Enter the number of times during a time period the exposure occurs. For example:“*1 time/day*”, “*4 times/month*”, “*1-2 times/week*”. If frequency cannot be described in this manner, select “Other” and describe frequency as necessary. For example: *“2 liters of water per day.”* |
| Start Date (yyyy/mm/dd)\* | Enter estimated/actual date when the health threat began to affect personnel. |
| Stop Date (yyyy/mm/dd) | Enter estimated/actual date when the health threat stopped affecting personnel. If the health threat is still present, this field should be left blank. |
| Severity | Rank the health threat in terms of the degree of disease/illness/injury it could cause within the exposed population or effect on the mission. |
| Probability | What is the probability that the health threat will occur or disease/illness/injury will occur within the exposed population? Select “occasional” in the absence of any other information. |
| Priority | EPs at a location are prioritized for surveillance and risk management. The priority level is auto-generated in DOEHRS based on the selected Severity and Probability levels. |
| Comments | Use as needed. For example, describe why an exposure pathway was redefined – population changes etc. |

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| Exposure Pathway ID:\_\_\_\_\_\_\_\_\_\_\_ **Exposure Pathway Form EXAMPLE** | | | | | | | | | | | |
| Applicable OEHSA Section | Category (select one) | | Circle the corresponding Exposure Pathway. (select one) \*\*\* | | | | | | | | |
| *Site Description/ Nearby Industrial Facilities* | | Yes No | | | | | | | | |
| *Site Infrastructure* | | Onsite Industrial Operations Descriptions of Structures Description of Roads/Hardstand Description of Power Generation | | | | | | | | |
| *Hazardous Materials* | | Petroleum Distribution Points Hazardous Materials Storage/Unidentified Substances | | | | | | | | |
| *Waste Management* | | Solid Waste Landfills Incinerators/Burn Pits Waste Water | | | | | | | | |
| *Entomology* | | Vectors Present Pests Present | | | | | | | | |
| *Physical Hazards* | | Non-Ionizing Radiation Sources Ionizing Radiation Sources Environmental Noise Sources | | | | | | | | |
| *Air Quality* | | Ambient (Outside) Air Quality Indoor Air Quality (IAQ) | | | | | | | | |
| *Water* | | Natural Water Sources Municipal Water Sources Bottled Water Sources Water Treatment Systems | | | | | | | | |
| *Other Environmental Health Concerns* | | Yes No | | | | | | | | |
| Name (Unique Name Descriptor) | | | **Inhalation of ambient air impacted by emissions from the solid waste incinerator located on FOB Lucky.** | | | | | | | | |
| Source | | | **FOB Lucky solid waste incinerator.** | | | | | | | | |
| Environmental  Media (select one) | | | ⭘ Air ⭘ Water ⭘ Soil ⭘ Other | | | | | | | | |
| Health Threat | | | **Inhalation of particulate matter and uncharacterized emissions.** | | | | | | | | |
| Route of Exposure (multiple routes will require multiple entries in DOEHRS) | | | 🞎 Ingestion 🞎 Inhalation 🞎 Other 🞎 Physical 🞎 Skin Absorption 🞎 Skin Contact | | | | | | | | |
| Description of  Affected Population | | | Fill out a separate roster of all affected personnel, if known | | | | | Number of Affected Personnel: (enter 1 if classified) | | | |
| **All personnel on FOB Lucky.** | | | | | **3,000** | | | |
| Existing Controls | | | **There are no existing controls in place.** | | | | | | | | |
| Assessment | | | **The solid waste incinerator is located within the FOB Lucky boundary at the north side of the camp, less than 100 meters from the housing areas and DFAC. The incinerator is operational once a day for 8 hours, five days a week. The incinerator produces visible smoke from the combustion of solid wastes. The contents of the incinerator are unknown but may include solid wastes, garbage, tires, paints, or solvents. POL products, plastics, and batteries are removed prior to incineration and recycled. Wind carries the smoke from the incinerator towards the FOB while it is operational.** | | | | | | | | |
| Exposure Duration (Fill out time and select increment) | | | \_\_\_\_**8**\_\_\_\_ Minute Hour Day Week Month Year Other \_\_\_\_\_\_\_\_ | | | | | | | | |
| Exposure Frequency (Fill out time and select increment) | | | **5**\_\_\_ *(times per)* Day Week Month Quarter Half Year Year Other\_\_\_\_\_\_\_\_ | | | | | | | | |
| Start Date (yyyy/mm/dd)  [This is automatically populated in DOEHRS] | | | | **2013/10/16** | | Stop Date (yyyy/mm/dd) [Use a stop date when the hazard no longer exists] | | |  | | |
| **Priority/Risk Matrix**  **(Circle the appropriate risk)** | | | | **Hazard Probability** | | | | | | | |
| **Frequent** | **Likely** | | **Occasional** | | | **Seldom** | **Unlikely** |
| **Hazard Severity** | | **Catastrophic** | | Extremely High | Extremely High | | High | | | High | Moderate |
| **Critical** | | Extremely High | High | | High | | | Moderate | Low |
| **Marginal** | | High | Moderate | | Moderate | | | Low | Low |
| **Negligible** | | Moderate | Low | | Low | | | Low | Low |
| Notes | |  | | | | | | | | | |