



**PNEUMOCONIOSIS**

<b>Criteria</b>	<b>Sufficient evidence to establish a covered illness</b>	<b>Sufficient evidence to establish a possible illness requiring physician review.</b>
<b>DOE exposure criteria*</b>	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
<b>Latency*</b>	Years	Years
<b>Medical Evidence for illness and diagnostic testing criteria</b>	<p>1. Written evidence of <u>one</u> of the following two criteria</p> <p>a. A written diagnosis of pneumoconiosis made by a medical doctor; <u>or</u></p> <p>b. Results of breathing tests (PFTs or spirometry) showing a restrictive lung pattern FVC &lt; 80% predicted</p> <p><b>And</b></p> <p>2. Any <u>one</u> of the following three criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconiosis of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with asbestosis and/or findings of pleural plaques or rounded atelectasis; <u>or</u></p> <p>c. Lung biopsy findings consistent with pneumoconiosis</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p><b>Or</b></p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) of silicosis, possible asbestosis, restrictive lung disease, or pneumoconiosis</p> <p><b>Or</b></p> <p>Death certificate mention of silicosis, possible asbestosis, restrictive lung disease, or pneumoconiosis</p> <p><b>Or</b></p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconiosis of category 0/1</p> <p><b>Or</b></p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of pneumoconiosis.</p>
<b>Additional considerations for causation</b>	<b>None needed</b>	<b>None needed</b>

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

**DIABETES**

Criteria	Sufficient evidence to <u>establish a covered illness</u>	Sufficient evidence to <u>establish a possible illness requiring physician review</u>
DOE exposure criteria	There are no generally accepted toxic substances known to cause or accelerate diabetes.	However, diabetes can be a consequence of the treatment of some covered illnesses.
Latency	N/A	N/A
Medical Evidence for illness and diagnostic testing criteria	N/A	N/A
Additional considerations for causation	N/A	N/A

## CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

## COPD

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates <b>And</b>  Additional information is needed**
Latency*	Years	Months or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Any one of the following three criteria</p> <p>a. A written diagnosis of COPD or chronic bronchitis made by a medical doctor</p> <ul style="list-style-type: none"> <li>• Chronic bronchitis is defined as the presence of chronic productive cough for 3 months in each of two successive years and other causes of cough have been excluded</li> </ul> <p>b. Results of PFTs or spirometry showing an obstructive or mixed pattern</p> <ul style="list-style-type: none"> <li>• <math>FEV_1/FVC &lt; 70\%</math> and <math>FEV_1 &lt; 80\%</math> predicted.</li> </ul> <p>c. Results from a chest x-ray or other imaging technique that are consistent with COPD</p> <ul style="list-style-type: none"> <li>• Such as air trapping, flattening of diaphragms, enlarged lung fields.</li> </ul> <p><b>And</b></p> <p>2. The employee has a history of being a never smoker***</p> <p><b>And</b></p> <p>3. There is no other lung disease present that would account for the findings</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Emphysema is caused by only a small subset of the toxic substances associated with chronic bronchitis, however it may be aggravated by the others on this list.</p>
Additional considerations for causation	<b>There is currently no medical testing or means to distinguish COPD due to any of the above toxic substance exposures and COPD due to other causes. Physician review is required.</b>	<b>Physician review is required. Also, if all criteria are otherwise met, individuals with Alpha-1 Antitrypsin Deficiency (AAT Deficiency) may be considered to have a covered illness.</b>

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\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

\*\*\*ATS criterion for a never smoker, or non-smoker, is < 20 packs of cigarettes in a lifetime, but this piece of information may not be found in most medical records.

**MESOTHELIOMA**

<b>Criteria</b>	<b>Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended</b>	<b>Evidence that suggests a covered illness exists and that physician review is recommended</b>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	30-50 years	20-29 or > 50 years
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of mesothelioma made by a medical doctor  <b>And</b> 2. Pathology report consistent with mesothelioma from surgical or biopsy specimen	Some, but not all criteria to establish the illness are met**  <b>Or</b> Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) or death certificate mention of mesothelioma or pleural malignancy  <b>Or</b> Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of mesothelioma <ul style="list-style-type: none"> <li>• Such as large, unilateral pleural effusion, pleural mass, pleural rind, or diffuse pleural thickening</li> </ul>
Additional considerations for causation	<b>None needed</b>	<b>None needed</b>

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

\*\*\* References utilized include American Thoracic Society consensus statement.

**LUNG CANCER**

<b>Criteria</b>	<b>Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended</b>	<b>Evidence that suggests a covered illness exists and that physician review is recommended</b>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	10-20 years	>20 years
Medical Evidence for illness and diagnostic testing criteria	1. Any one of the following two criteria a. A written diagnosis of lung cancer (malignancy) made by a medical doctor; or b. <b>Pathology report consistent with lung cancer (small cell, oat cell, large cell, squamous cell, adenocarcinoma) from surgical or biopsy specimen</b>  <b>And</b> 2. The employee has a history of being a never smoker***	Some, but not all criteria to establish the illness are met**  <b>Or</b> Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) or death certificate mention of lung cancer (malignancy) <b>Or</b> Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of lung cancer  • Such as lung mass
Additional considerations for causation	<b>There is currently no medical testing or means to distinguish cancer due to any of the above toxic substance exposures and cancer due to other causes. Physician review is required.</b>	Physician review is required.

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

\*\*\*ATS criterion for a never smoker, or non-smoker, is < 20 packs of cigarettes in a lifetime, but this piece of information may not be found in most medical records.

**ASBESTOS RELATED DISORDERS**

<b>Criteria</b>	<b>Sufficient evidence to establish a covered illness</b>	<b>Sufficient evidence to establish a possible illness requiring physician review</b>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b>  Additional information is needed**
Latency*	Pleural plaques: 20 or more years Pleural effusions: 5-30 years	Pleural plaques: < 20 years Pleural effusions: <5 or > 30 years
Medical Evidence for illness and diagnostic testing criteria	Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with these disorders <ul style="list-style-type: none"> <li>• Pleural plaques</li> <li>• Pleural thickening, not associated with an area of prior surgery or trauma</li> <li>• Rounded atelectasis</li> <li>• Bilateral pleural effusions, also called benign asbestos related pleural effusion</li> </ul>	Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with these disorders <ul style="list-style-type: none"> <li>• Pleural thickening in an area of prior surgery or trauma</li> <li>• Pleural effusion, if the record does not indicate that there is another disease process that would otherwise account for the effusion, such as congestive heart failure (CHF), cancer, or other lung disease</li> </ul>
Additional considerations for causation	<b>None needed</b>	<b>None needed</b>

\* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

\*\*\* References utilized include American Thoracic Society consensus statement.

## ASBESTOSIS

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b>  Additional information is needed**
Latency*	20 or more years	< 20 years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Written evidence of <u>one</u> of the following two criteria</p> <p>a. A written diagnosis of asbestosis made by a medical doctor; <u>or</u></p> <p>b. Results of breathing tests (PFTs or spirometry) showing a restrictive lung pattern FVC &lt; 80% predicted</p> <p><b>And</b></p> <p>2. Any <u>one</u> of the following four criteria</p> <p>a. A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 1/0 or higher; <u>or</u></p> <p>b. Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are consistent with asbestosis and/or findings of pleural plaques or rounded atelectasis; <u>or</u></p> <p>c. Lung biopsy findings consistent with asbestosis, such as asbestos bodies identified</p> <p>or meeting grade II-IV asbestosis histologic criteria; or</p> <p>d. Bronchoalveolar lavage showing <math>\geq</math> 1 asbestos body per cc of fluid</p>	<p>Some, but not all criteria to establish the illness are met**</p> <p><b>Or</b></p> <p>Medical record (includes any provider report, results of imaging studies, surgical or pathology reports, or other acceptable record) of silicosis, possible asbestosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><b>Or</b></p> <p>Death certificate mention of silicosis, possible asbestosis, restrictive lung disease, fibrosis, or pneumoconiosis</p> <p><b>Or</b></p> <p>A chest radiograph, interpreted by NIOSH certified B reader classifying the existence of pneumoconioses of category 0/1</p> <p><b>Or</b></p> <p>Results from a chest x-ray or computer assisted tomography (CT) or other imaging technique that are suggestive of asbestosis</p> <p><b>Or</b></p> <p>Lung biopsy findings suggestive of asbestosis</p> <p><b>Or</b></p> <p>Bronchoalveolar lavage showing <math>\geq</math> 1 asbestos body per cc of fluid</p>
Additional considerations for causation	<b>None needed</b>	<b>None needed</b>

\* The actual latency period for the development of this disease is a function of the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

\*\*\* References utilized include American Thoracic Society consensus statement.

**ASTHMA, IRRITANT INDUCED**

<b>Criteria</b>	<b>Sufficient evidence to establish a covered illness</b>	<b>Sufficient evidence to establish a possible illness requiring physician review.</b>
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Days, months, or years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. The three following criteria: a. Onset of asthma occurring after first DOE exposure (except resolved asthma childhood)  <b>And</b> b. A written diagnosis of occupational asthma, irritant induced asthma, or asthma caused by toxic substance made by a medical doctor  <b>And</b>	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	1. An association between symptoms of asthma and work, including wheeze and/or shortness of breath are better on days away from work, especially on holiday or vacation.  <b>And</b> 2. One or more of the following criteria: a. work-related change in FEV <sub>1</sub> or PEF rate; or b. positive response to specific inhalation challenge test (note this is not recommended if not already performed); or c. Onset of asthma in clear association with a symptomatic exposure to an irritant agent in the workplace. This includes RADS, occurring after a single exposure to a substance with irritant	<b>None needed</b>

properties present in a very high concentration, if other disease processes have been ruled out.	
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\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

## ASTHMA, IRRITANT AGGRAVATED

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Days or months	Days or months
Medical Evidence for illness and diagnostic testing criteria	1. History of asthma as an adult prior to DOE exposure  <b>And</b>	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	1. The two following criteria a. An association between symptoms of asthma and work, including wheeze and/or shortness of breath are better on days away from work, especially on holiday or vacation.  <b>And</b> 2. The worker was symptomatic or required medication before and had increase in symptoms or medication requirement after beginning to work with the above substance.	<b>None needed</b>

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\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

## ASTHMA, OCCUPATIONAL

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Weeks, months, or years	Weeks, months, or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. The following three criteria:</p> <p>i. Onset of asthma occurring after first DOE exposure (except resolved asthma childhood)</p> <p><b>And</b></p> <p>ii. A written diagnosis of occupational asthma or asthma caused by toxic substance made by a medical doctor</p> <p><b>And</b></p> <p>iii. The diagnosis of asthma was made based on any one of the following criteria</p> <p>a. Methacholine challenge test results showing a <math>PC_{20} \leq 8</math> mg/ml; or</p> <p>b. Post-bronchodilator reversibility of <math>FEV_1 \geq 12\%</math> and 200 ml; or</p> <p>c. Post-bronchodilator reversibility of <math>FEV_1 \geq 12\%</math>, but &lt;20 ml, with subsequent improvement in <math>FEV_1 \geq 20\%</math> after steroid trial</p> <p><b>And</b></p>	<p>Some, but not all criteria to establish the illness are met**</p> <p>Occupational asthma via sensitization to a new agent in the workplace can occur in workers with pre-existing asthma.</p> <p>Additional testing that can be consistent with the diagnosis, but does not establish the diagnosis.</p> <p>1. Positive skin prick testing or serologic IgE (RAST) testing to the toxic substance</p>
Additional considerations for causation	<p>1. An association between symptoms of asthma and work, including wheeze and/or shortness of breath that are better on days away from work, especially on holiday or vacation.</p> <p><b>And</b></p> <p>2. One or more of the following criteria:</p> <p>a. work-related change in <math>FEV_1</math> or PEF rate; or</p>	None needed

b. work-related change in bronchial hyperresponsiveness; or c. positive response to specific inhalation challenge test (note this is not recommended if not already performed)
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\*\* Triggers request for additional information from the worker for exposure and/or diagnostic testing criteria. This request should also be made if there is insufficient information to establish exposure or illness.

## HEART ATTACK

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Weeks, months, or years	Weeks, months, or years
Medical Evidence for illness and diagnostic testing criteria	1. A written diagnosis of heart attack or sudden death due to heart disease by a medical doctor  <b>And</b> 2. The heart attack or sudden death occurred after being away from nitrate exposure for a couple of days following a number of days of regular nitrate exposure (classically on a Monday morning).	Some, but not all criteria to establish the illness are met**  This is strongly supported by a history of recurrent headaches following a similar pattern
Additional considerations for causation	Due to high prevalence of heart disease and heart attacks, physician review is recommended for determination of causation.	<b>Physician review recommended</b>

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

For nitrates only.

## KIDNEY DISEASE

Criteria	Sufficient evidence to establish a covered illness. If some but not all criteria are met, physician review recommended	Evidence that suggests a covered illness exists and that physician review is recommended
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Months or years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. Any one of the following two criteria</p> <p>a. A written diagnosis of kidney disease made by a medical doctor</p> <ul style="list-style-type: none"> <li>• Other terms are chronic renal disease, chronic renal failure, renal insufficiency</li> </ul> <p>b. The worker required dialysis</p> <p><b>And</b></p> <p>2. The worker does not have high blood pressure or diabetes</p> <p><b>And</b></p> <p>3. The type of kidney disease diagnosed is consistent with one known to be caused by the identified toxic substance.</p>	Some, but not all criteria to establish the illness are met**
Additional considerations for causation	<p>Additional testing may be required to help establish a causal link between a toxic substance and a specific kidney disease. This may include additional urine testing, such as <math>\beta_2</math>-microglobulin or retinol binding protein and/or biological tests to detect residual evidence of the toxic substance in the body. The need for this additional testing should be determined by the reviewing physician.</p> <p><b>Physician review is required.</b></p>	<b>Physician review is required.</b>

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as

the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.

## ENCEPHALOPATHY, CHRONIC TOXIC

Criteria	Sufficient evidence to establish a covered illness	Sufficient evidence to establish a possible illness requiring physician review.
DOE exposure criteria*	DOE Facilities Specific job titles/ processes Applicable dates	DOE Facilities Specific job titles/ processes Applicable dates  <b>And</b> Additional information is needed**
Latency*	Years	Days, months, or years
Medical Evidence for illness and diagnostic testing criteria	<p>1. A written diagnosis of chronic toxic encephalopathy (ICD9 code 349.82 or analogous conditions) made by a medical doctor</p> <p><b>And</b></p> <p>2. A formal neuropsychological assessment that included a battery of neurobehavioral tests is consistent with the diagnosis.</p> <p>3. Appropriate neuroimaging studies (e.g. brain MRI, head CT) have been performed to investigate findings consistent with the diagnosis, or suggestive of unrelated causes.</p>	
Additional considerations for causation	Some patterns on the history and neurobehavioral test profile may be more consistent with chronic toxic encephalopathy than with unrelated causes (e.g. greater decrements in performance vs. verbal IQ). <b>Physician review is required.</b>	<b>Physician review is required.</b>

\* The actual latency period for the development of this disease is a function of the specific causative toxic substance as well as the duration and intensity of exposure.

\*\* Triggers DOL request for additional information from the worker for exposure and/or diagnostic testing criteria elements. A request for additional information should also be made if there is insufficient information present to establish a possible exposure or illness.