

Marathon Petroleum Company	<b>SILICA EXPOSURE CONTROL PLAN TEMPLATE</b>		
Galveston Bay Refinery	Document No.: RSW-FORM-000027-GB.docx	Revision No.: 0	Effective Date: 07/30/2018

**Written Exposure Control Plan  
Respirable Crystalline Silica**

Company Name: \_\_\_\_\_  
 Person Completing the Plan, Title: \_\_\_\_\_  
 Designated Competent Person: \_\_\_\_\_  
 Type of Exposure Control Plan:  
 Annual for Nested Contractors  
 Project Specific  
 Project Name (if applicable): \_\_\_\_\_  
 Description of Task(s): \_\_\_\_\_

Competent Person Phone # \_\_\_\_\_  
 Date Review Due: \_\_\_\_\_  
 GBR Safety Approval \_\_\_\_\_  
 Date Approved: \_\_\_\_\_

SILICA EXPOSURE CONTROL PLAN TEMPLATE		Document No.: RSW-FORM-000027-GB.docx		Revision No.: 0		Effective Date: 07/30/2018			
Task	Source of Control Measures <sup>1,2</sup>	Air Monitoring Results AL = 25µm/m3 PEL = 50µm/m3	Engineering Contols <sup>3,4,5</sup>	Work Practices Controls	Environment (if specified)	Respiratory Protection <sup>6</sup>		Housekeeping Measures <sup>7,8</sup>	Access Restriction Methods <sup>9</sup>
						< 4 hours	> 4 hours		
Stationary masonry saws	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Handheld power saws (any blade diameter)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
					Indoors or in an enclosed area	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Outdoor use of handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use saw equipped with commercially available dust collection system.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		

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Task	Source of Control Measures <sup>1,2</sup>	Air Monitoring Results AL = 25µm/m3 PEL = 50µm/m3	Engineering Controls <sup>3,4,5</sup>	Work Practices Controls	Environment (if specified)	Respiratory Protection <sup>6</sup>		Housekeeping Measures <sup>7,8</sup>	Access Restriction Methods <sup>9</sup>
						< 4 hours	> 4 hours		
Walk-behind saws	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
					Indoors or in an enclosed area	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Outdoor use of Drivable saws	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use saw equipped with integrated water delivery system that continuously feeds water to the blade.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Rig-mounted core saws or drills	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use tool equipped with integrated water delivery system that continuously feeds water to the cutting surface.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Handheld and stand-mounted drills (including impact and rotary hammer drills)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use drill equipped with commercially available shroud or cowl with dust collection system.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
			Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	Use a HEPA-filtered vacuum when cleaning holes.					
Outdoor use of Dowel drilling rigs for concrete	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	Use a HEPA-filtered vacuum when cleaning holes.	Outdoors	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		

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Task	Source of Control Measures <sup>1,2</sup>	Air Monitoring Results AL = 25µm/m3 PEL = 50µm/m3	Engineering Controls <sup>3,4,5</sup>	Work Practices Controls	Environment (if specified)	Respiratory Protection <sup>6</sup>		Housekeeping Measures <sup>7,8</sup>	Access Restriction Methods <sup>9</sup>
						< 4 hours	> 4 hours		
Vehicle-mounted drilling rigs for rock and concrete	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector.			<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
						<b>or</b>			
			Operate from within an enclosed cab and use water for dust suppression on drill bit.			<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Jackhammers and handheld powered chipping tools	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact.		Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
					Indoors or in an enclosed area	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
					<b>or</b>				
					Use tool equipped with commercially available shroud and dust collection system.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50
Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	Indoors or in an enclosed area	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50						

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						< 4 hours	> 4 hours			
Handheld grinders for mortar removal (i.e., tuckpointing)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use grinder equipped with commercially available shroud and dust collection system. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input checked="" type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
Handheld grinders for uses other than mortar removal	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
				or						
			Use grinder equipped with commercially available shroud and dust collection system. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	Outdoors	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
				Indoors or in an enclosed area	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input checked="" type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50				

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						< 4 hours	> 4 hours			
Walk-behind milling machines and floor grinders	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
			<b>or</b>							
			Use machine equipped with dust collection system recommended by the manufacturer.	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
			Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.						
Small drivable milling machines (less than half-lane)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.	Operate and maintain machine to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
Large drivable milling machines (half-lane and larger)	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	<b>For cuts of any depth on asphalt only:</b>			<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
			<b>For cuts of four inches in depth or less on any substrate:</b>							
			Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.	Operate and maintain machine to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			
			<b>or</b>							
			Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.	Operate and maintain machine to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50			

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						< 4 hours	> 4 hours		
Crushing machines	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points).  Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions.		<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Heavy equipment and utility vehicles used to abrade or fracture silica containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Operate equipment from within an enclosed cab.  When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.			<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silicacontaining materials	<input checked="" type="checkbox"/> Table 1 <input type="checkbox"/> Air Monitoring	Not Necessary if Table 1 Controls are being followed.	Apply water and/or dust suppressants as necessary to minimize dust emissions.  <b>or</b> When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.			<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input checked="" type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Drywall finishing with silica-containing materials	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		


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						< 4 hours	> 4 hours		
Mixing cement	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Mixing /dumping refractory	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Refractory removal / chipping	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Gunned refractory tasks	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Removal / installation of silica containing insulation	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Loading / unloading silica containg catalyst	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Spraying ceramic coatings	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Sweeping with sweeping compound	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		

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						< 4 hours	> 4 hours		
Sweeping without sweeping compound	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Sweeping with HEPA Vac	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Mixing mortar or grout	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Abrasive blasting	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
Support crew for any of the above tasks (i.e. Fire Watch, CSE Attendant, etc.) that need to be in area of silica regulated areas	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		
	<input type="checkbox"/> Table 1 <input checked="" type="checkbox"/> Air Monitoring					<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50	<input type="checkbox"/> None <input type="checkbox"/> APF 10 <input type="checkbox"/> APF 25 <input type="checkbox"/> APF 50 <input type="checkbox"/> APF >50		



SILICA EXPOSURE CONTROL PLAN TEMPLATE			Document No.: RSW-FORM-000027-GB.docx	Revision No.: 0	Effective Date: 07/30/2018				
Task	Source of Control Measures <sup>1,2</sup>	Air Monitoring Results AL = 25µm/m3 PEL = 50µm/m3	Engineering Controls <sup>3,4,5</sup>	Work Practices Controls	Environment (if specified)	Respiratory Protection <sup>6</sup>		Housekeeping Measures <sup>7,8</sup>	Access Restriction Methods <sup>9</sup>
						< 4 hours	> 4 hours		

- NOTES:**
- 1.) **Any deviation from Table 1** Tasks require air monitoring to determine control measures and respiratory protection requirements.
  - 2.) Where an employee performs **more than one task on Table 1** during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.
  - 3.) Engineering and Work Practice Controls are required to be **used at all times** unless the employer can demonstrate that such controls are not feasible.
  - 4.) If engineering and work practice controls are inadequate to reduce exposures to below the PEL, they still need to be used to reduce employee exposure to the **lowest feasible level** and must be supplemented with the appropriate respiratory protection.
  - 5.) When implementing the control measures specified in Table 1, each employer shall:
    - (i) For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to **minimize the accumulation of visible airborne dust**;
    - (ii) For tasks performed using wet methods, **apply water at flow rates sufficient to minimize release of visible dust**;
    - (iii) For measures implemented that include an **enclosed cab or booth**, ensure that the enclosed cab or booth:
      - (A) Is maintained as free as practicable from settled dust;
      - (B) Has door seals and closing mechanisms that work properly;
      - (C) Has gaskets and seals that are in good condition and working properly;
      - (D) Is under positive pressure maintained through continuous delivery of fresh air;
      - (E) Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
      - (F) Has heating and cooling capabilities.
  - 6.) Respiratory Protection **APF Levels**:
    - APF 10 = Half Mask
    - APF 25 = Loose Fitting PAPR, Hood PAPR
    - APF 50 = Full Face
    - APF 1,000 = Full Face PAPR, Full Face Abrasive Blasting Hood, Full Face Supplied Air
    - APF 10,000 = Full Face SCBA
  - 6.) Housekeeping **may NOT include dry sweeping or dry brushing** where it could contribute to the employee exposure unless wet sweeping, HEPA-filtered vacuuming or other methods are not feasible.
  - 7.) **Compressed air may NEVER** be used to clean clothing or surfaces.
  - 8.) Regulated areas will be established wherever airborne concentrations of respirable crystalline silica are, or can reasonably be expected to be, in excess of the PEL and **must be barricaded and warning signs** must be clearly visible from all accesses to the work area stating the following:
 


  - 9.) Access must be limited to employees and/or contractors that are **required by work duties** to be present in the area, and are familiar with the requirements of this Exposure Control Plan.