DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR EMISSIONS AGREEMENT

 RECITALS:……………..Pb, Mn, Co can be dropped from this agreement

1. Bullseye Glass Co. (Bullseye) owns and operates a glass manufacturing facility located at 3722 SE 21st Avenue, Portland, Oregon, 97202 (the Facility).
2. The Facility commenced operations in 1974.
	1. The Facility currently employs approximately 128 people.
	2. The Facility currently has an Air Contaminant Discharge Permit and DEQ has no knowledge of any violations of this permit.
	3. Typically, the Facility used the following elements in the production of glass: arsenic, cadmium, chromium III, chromium VI, lead, manganese, and nickel.
	4. DEQ’s air monitoring results detected elevated levels of some of these metals in the vicinity of the Facility.
	5. Following a request by DEQ, Bullseye voluntarily suspended the use of arsenic and cadmium.
	6. On February 11, 2016, DEQ requested that Bullseye suspend use of chromium as a raw material in its production of glass at the Facility.
	7. On February 12, 2016, Bullseye agreed to suspend use of chromium at its Facility.
	8. Bullseye has continued to operate without the use of arsenic, cadmium and chromium as of the date of this executed agreement.
3. DEQ and Bullseye enter into this agreement during an interim period prior to the development of new air toxics regulations.

NOW THEREFORE, it is stipulated and agreed that:

1. The recitals described above are incorporated into this agreement.
2. For the purpose of this agreement, the following terms will have the given meanings:
	1. “Chromium III” means chromium in the +3 oxidation state, also known as trivalent chromium;
	2. “Chromium VI” means chromium in the +6 oxidation state, also known as hexavalent chromium;
	3. “Chromium”, without a following roman numeral, means chromium in any oxidation state;
	4. “Cullet” means recycled glass that is mixed with raw materials and charged to glass melting furnace to produce glass. Cullet is not considered to be a raw material for the purposes of this agreement;
	5. “Raw material” means minerals, such as silica sand, limestone, and dolomite; inorganic chemical compounds, such as soda ash (sodium carbonate), salt cake (sodium sulfate), and potash (potassium carbonate); metal oxides and other metal-based compounds, such as lead oxide, chromium oxide, and sodium antimonate; metal ores, such as chromite and pyrolusite; and other substances that are intentionally added to a glass manufacturing batch and melted in glass melting furnace to produce glass. Metals that are naturally-occurring trace constituents or contaminants of other substances are not considered to be raw materials. Cullet and material that is recovered from a furnace control device for recycling into the glass formulation are not considered to be raw materials for the purposes of this agreement; and
	6. “Week” means Sunday through Saturday.
3. Bullseye must not use chromium III in uncontrolled glass-making furnaces until DEQ establishes a maximum allowable chromium III usage rate. For the purpose of establishing a maximum allowable chromium III usage rate, the following are required:
4. A source test must be performed for chromium and chromium VI as specified below:
	* + 1. Test using DEQ approved protocols and methods for hexavalent and total chromium and submit a source test plan detailing the approach to DEQ for approval;
			2. Test while making a glass that contains trivalent chromium, and under operational conditions that are agreed to by DEQ as representing conditions most likely to result in the conversion of trivalent chromium to hexavalent chromium;
			3. Keep records of the amount of chromium III used in the batches that are produced during the source test runs, as well as other operational parameters identified in the source test plan; and
			4. Prior to the source test, clean the furnace stack in a manner that has been approved by DEQ and complies with applicable OSHA standards or replace the furnace stack to be tested.
5. Dispersion modeling must be performed as specified below to determine the ambient concentrations of Bullseye’s air emissions at nearby and adjacent receptors as follows:

Submit a modeling protocol for approval by DEQ;

Use the maximum chromium VI emission rate;

Determine the impact at receptors approved by DEQ; and

Establish a maximum chromium III usage so as not to exceed the reduce use level in the agreement.

1. Bullseye must not use chromium VI in controlled glass-making furnaces until DEQ establishes a maximum allowable chromium VI usage rate. Thereafter, Bullseye must comply with the maximum allowable chromium VI usage rate established by DEQ.
2. For the purpose of establishing a maximum allowable chromium VI usage rate, the results from the source test required by paragraph 6 will be used.
3. DEQ will assume the following in establishing a maximum allowable chromium VI usage rate:
4. That 100 percent of chromium emitted from the use of chromium VI is emitted as chromium VI, unless Bullseye performs a source test approved by DEQ which demonstrates a lower percentage.
5. That the pre-control emission rate of chromium VI per pound of chromium VI used is equal to the precontrol emission rate of total chromium per pound of chromium III used, as determined by the source test required by paragraph 6.
6. Bullseye must keep daily records of all batches produced and provide to DEQ, each week, the daily amount of cadmium, chromium III, and nickel used.
7. No later than September 1, 2016:
	1. Bullseye must install one or more emission control devices to control any furnaceall glass-making furnaces that usesuse Raw material containing any of the following metals: arsenic, cadmium,  chromium , nickel, manganese, or leador Chromium VI; and
	2. Each emission control device must comply withmeet either of the following requirements: 99.0% for particulate matter as measured by DEQ Method 5, or 0.2 lbs of particulate matter per ton of glass produced as measured by EPA Method 5.
8. Bullseye must not use arsenic, cadmium or chromium VI in raw materials in any glass-making furnace that is not controlled by an emission control device approved by DEQ. If approved by DEQ, Bullseye may install an emission control device on one or more furnaces and use Raw material containing arsenic, cadmium or Chromium VI prior to September 1, 2016 to evaluate whether the emission control device meets the minimum removal efficiency described in Paragraph 6 b.
9. Bullseye must limit the use of the metals listed in Table 1 in raw materials as follows:
	1. This limitation applies to all glass-making furnaces that are not controlled by an emission control device approved by DEQ;
	2. In any week, Bullseye must use no more than the listed Maximum Weekly Usage for that metal in raw materials;
		* 1. This limitation applies to the total usage of that metal in raw materials in all glass-making furnaces that are not controlled by an emission control device approved by DEQ; and
			2. This limitation applies to the weight of the metal itself in raw materials, not the weight of the compounds that contain the metal.
	3. Bullseye must reduce or cease use of metals in raw materials as provided in paragraph 10.

Table 1

|  | **Action Levels \*** |  | **80%** | **60%** | **40%** |
| --- | --- | --- | --- | --- | --- |
| **Metal** | **Reduce Use****Level****(ng/m3)** | **Stop Use****Level****(ng/m3)** | **Maximum Weekly Usage, pounds per week** | **Reduction Step 1, pounds per week** | **Reduction Step 2, pounds per week** | **Reduction Step 3, pounds per week** |
| Chromium III as related to levels of Chromium VI in air 1 | 0.8 a | 1.6 a | 36 | 28.8 | 21.6 | 14.4 |
| Nickel 2 | 40 | 80 | 20 | 16 | 12 | 8 |
| Cobalt 3 | 50 | 100 |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

1 = The Stop Use Level for chromium VI is 20 times the DEQ Ambient Benchmark Concentration (ABC), The ABC is based on a cancer risk of one potential occurrence of cancer in a population of 1 million people (1 x 10-6). Twenty times the ABC results in a concentration based on a cancer risk of 20 potential occurrences of cancer in a population of one million people (2 x 10-5). The Reduce Use Level is set at half of the Stop Use Level, with a related cancer risk of 10 potential occurrences of cancer in a population of one million people (1 x 10-5).

a = If chromium VI levels in air are found to exceed either Action Level for chromium VI, then the Facility will reduce or stop use of chromium III in their operations. Chromium III is limited because chromium III may form hexavalent chromium under certain circumstances.

2 = The ABC of 4 ng/m3 for nickel refinery dust is based on a cancer risk of one potential occurrence of cancer in a population of 1 million people (1 x 10-6). The Stop Use Level for nickel is 20 times the ABC, which is related to a cancer risk of 20 potential occurrences of cancer in a population of 1 million people (2 x 10-5). The Reduce Use Level is 10 times the ABC, which is related to 10 potential occurrences of cancer in a population of 1 million people (1 x 10-5).

 The Stop Use Level for cobalt is set at the ABC for cobalt. The ABC for cobalt is based on the non-cancer limit of a Hazard Quotient of 1. This is the level above which adverse non-cancer health effects are expected to occur. The Reduce Use Level is based on half the Stop Use Level.

The ranges listed in Table 1 have been reviewed by and are acceptable to the Oregon Health Authority as protective.

1. Bullseye must not use more than the amount of chromium III specified under Reduction Step 1 in Table 1 in raw materials. Bullseye may increase the use of chromium III in raw materials to the mMaximum wWeekly uUsage of chromium III listed in Table 1 upon notification that they may do so by DEQ.
	1. DEQ will notify Bullseye that they may increase usage if ambient monitoring data of chromium VI for the first two weeks following the full execution of this agreement is 10 percent or more below the Reduce Use Level listed in Table 1.
	2. If the ambient monitoring of chromium VI is at or above the Reduce Use Level in Table 1, DEQ will notify Bullseye to reduce usage of chromium III to Reduction Step 2. Thereafter, the mMaximum wWeekly uUsage of chromium III will be as specified in paragraph 10.
2. Notwithstanding Paragraph 9, prior to installation of all emission control devices required in Paragraph 6, in the event that rolling bi-weekly averages of ambient monitoring data exceed an Action Level listed in Table 1, Bullseye must reduce or stop usage of each metal for which an Action Level was exceeded as specified below:
3. For the purpose of this paragraph, the following apply:
	* 1. The term “mMonitored lLevel” means the rolling bi-weekly average of the ambient monitoring data of the metals listed in Table 1 from monitors located within 0.4 mile radius of the Facility;
		2. The rolling bi-weekly average will be based on the most recent two weeks of monitoring;
		3. The minimum data set required to calculate a rolling bi-weekly average must have at least five daily values for each week; and
		4. The mMonitored lLevel of cChromium VI will apply to the usage of chromium III.
4. The requirements in this paragraphParagraph 10 apply to each metal listed in Table 1 on an individual metal basis. A requirement to reduce or stop usage of one metal does not apply to the other metals; however, the requirement to reduce or stop usage may apply individually to multiple metals.
	* 1. If the mMonitored lLevel of any of the metals in Table 1 exceeds the Reduce Use Level, Bullseye must reduce the use of the identified metal in raw materials in uncontrolled glass-making furnaces to Reduction Step 1 upon being notified to do so by DEQ. The requirement to reduce usage applies to the week following the week in which notification was given.
		2. If a second consecutive mMonitored lLevel of any of the metals in Table 1 exceeds the Reduce Use Level, Bullseye must reduce the use of the identified metal in raw materials in uncontrolled glass-making furnaces to Reduction Step 2 upon being notified to do so by DEQ. The requirement to reduce usage applies to the week following the week in which notification was given.
		3. If a third consecutive mMonitored lLevel of any of the metals in Table 1 exceeds the Reduce Use Level, Bullseye must reduce the use of the identified metal in raw materials in uncontrolled glass-making furnaces to Reduction Step 3 upon being notified to do so by DEQ. The requirement to reduce usage applies to the week following the week in which notification was given and all following weeks until DEQ provides notification that the mMonitored lLevel is again below the Reduce Use Level in Table 1.
		4. If the mMonitored lLevel of any of the metals in Table 1 exceeds the Stop Use Level, Bullseye must stop using the identified metal in raw materials in uncontrolled glass-making furnaces upon being notified to do so by DEQ. The requirement to stop usage applies to the week following the week in which notification was given and all following weeks until DEQ provides notification that the mMonitored lLevel is again below the Reduce Use Level in Table 1. In the event that DEQ requires Bullseye to stop using a metal in raw materials three times pursuant to this subparagraph, Bullseye must stop using the metal in raw materials in uncontrolled glass-making furnaces.
		5. Following any requirement to reduce or stop usage of a metal in rRaw materials, Bullseye may resume usage of that metal in raw materials at the Maximum Weekly Usage level of that metal after DEQ provides notification that the mMonitored lLevel of that metal is again below the Reduce Use Level. Bullseye may resume usage in the week following the week in which notification is given and all following weeks until Bullseye is required to reduce or stop usage again.
		6. DEQ notifications will be provided no later than 12 PM on Friday and will affect the following week. Notification will be by email or facsimile and DEQ will attempt to confirm receipt by phone. With the notification, DEQ will provide all of the monitoring data, DEQ’s calculated rolling bi-weekly averages, the location(s) of the monitoring station(s) where the data was collected together with any other relevant information collected by DEQ. If DEQ does not collect the minimum number of samples or does not timely provide the notification, Bullseye will not be required to reduce or stop usage of a metal in the following Week.
5. On and after September 1, 2016 and provided DEQ does not notify Bullseye at least three times to stop using the metal in Raw materials as described under Paragraph 10, Bullseye may continue to use Chromium III, nickel, lead and manganese in uncontrolled glass-making furnaces as follows:
	1. For any metal that DEQ did not notify Bullseye to reduce or stop using, Bullseye must use no more than the listed Maximum Weekly Usage for that metal in Raw materials without prior authorization from DEQ.
	2. For any metal that DEQ notified Bullseye to stop or reduce using, Bullseye will reduce the weekly usage of the identified metal in Raw materials in uncontrolled glass-making furnaces to the appropriate Reduction Step in Table 1 as are in effect as of September 1, 2016 (if any) and Bullseye cannot increase the weekly usage of that metal without prior authorization from DEQ.
6. 11. Emission control device requirements:
	1. The design of all emission control devices must be approved by DEQ before installation.
	2. Bullseye must submit a Notice of Intent to Construct in accordance with OAR 340-210-0205 through 340-210-0250 no later than 15 days prior to the date installation begins. If DEQ does not deny or approve the Notice of Intent to Construct within 10 days of receipt of the Notice, the Notice will be deemed to be approved.
	3. Emission control devices may control emissions from more than one furnace.
	4. Each emission control device must be equipped with the monitoring device or devices specified by DEQ in DEQ’s approval of the Notice of Intent to Construct required in subparagraph b.
	5. Each emission control device must be equipped with inlet ducting that provides the following:
		* 1. Sufficient cooling of exhaust gases to no more than the maximum design inlet temperature under worst-case conditions; and
			2. Provision for inlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.
	6. Each emission control device must be equipped with outlet ducting that provides for outlet emissions testing, including sufficient duct diameter, sample ports, undisturbed flow conditions, and access for testing.
	7. After commencing operation of any emission control device, Bullseye must observe and record the parameters specified by DEQ in DEQ’s approval of the Notice of Intent to Construct, required in subparagraph b.
	8. Bullseye must perform the following source testing on at least one controlled furnace approved by DEQ to demonstrate compliance with either requirement in Paragraph 9;
7. Within 60 days of commencing operation of the emission control devices, test control device outlet for chromium VI using a DEQ approved test method while making a glass that represents a maximum usage of chromium;
8. Within 60 days of commencing operation of the emission control devices, test control device inlet and outlet for particulate matter using DEQ Method 5 or comparable method;
9. A source test plan must be submitted at least 30 days before conducting the source test; and
10. The source test plan must be approved by DEQ before conducting the source test.
11. 12. There areThis agreement imposes no restrictions on the raw materials that may be used in a glass-making furnaces that isare controlled by an emission control device approved by DEQ, except that the use of chromium III and chromium VI will be subject to the maximum usage rates determined by DEQ under paragraph 66,421.
12. 13. Notwithstanding this agreement, Bullseye will be subject to any rules adopted by the Environmental Quality Commission.
13. 14. In the event that Bullseye breaches this agreement, the parties agree that the impact on the public health or the environment would be diffuse, difficult to determine, and that an alternative remedy would be infeasible. The parties agree that the following stipulated damages are a reasonable approximation of the anticipated or actual impact of each breach. Upon receipt of a written DEQ finding that Bullseye has breached a provision of this agreement, Bullseye agrees to pay the following stipulated damages:
14. $1,600 for each day that Bullseye breaches any compliance requirement detailed in Paragraphs 6 and 7 of this agreement; and
15. $800 for each breach of any of the maximum weekly usage levels or reduction or stop levels in Table 1.
16. 15. If any event occurs that is beyond Bullseye’s reasonable control that causes or may cause a delay or deviation in performance of the requirements of this agreement, Bullseye must promptly notify DEQ verbally of the cause of delay or deviation and its anticipated duration, the measures that have been or will be taken to prevent or minimize the delay or deviation, and the timetable by which Bullseye proposes to carry out such measures. Bullseye must confirm in writing this information within five (5) working days of the onset of the event. It is Bullseye’s responsibility in the written notification to demonstrate to DEQ’s satisfaction that the delay or deviation has been or will be caused by circumstances beyond the reasonable control and despite due diligence of Bullseye. If Bullseye so demonstrates, DEQ will extend times of performance of related activities under this agreement as appropriate. Circumstances or events beyond Bullseye’s control include, but are not limited to, acts of nature, unforeseen strikes, work stoppages, fires, explosion, riot, sabotage, or war. Increased cost of performance or consultant’s failure to provide timely reports will not be considered circumstances beyond Bullseye’s reasonable control. However, delay in DEQ approval of documents due to no act or omission of Bullseye’s will be considered circumstances beyond Bullseye’s control.
17. 16. DEQEach party reserves the right to enforce this agreement through appropriate administrative and judicial proceedings.
18. 17. DEQ and Bullseye may amend the terms of this agreement only by mutual written agreement.
19. 18. Bullseye agrees that this agreement shall be binding on Bullseye and its respective successors, agents, and assigns. The undersigned representative of Bullseye certifies that he or she is fully authorized to execute and bind Bullseye to this agreement. No change in ownership or corporate or partnership status relating to the Facility will, in any way, alter Bullseye’s obligation under this agreement, unless otherwise approved in writing by DEQ.
20. 19. All reports, notices and other communications required under or relating to this agreement should be sent to: Air Quality Section, DEQ Northwest Region Office, 700 NE Multnomah St., Suite 600, Portland, OR 97232. The contact person for Bullseye is: Eric Durrin, 3722 SE 21st Avenue, Portland, Oregon 97202 and Jeff Hunter, Perkins Coie, LLP, 1120 NW Couch Street, 10th Floor, Portland, OR 97209-4128.
21. 20. Bullseye acknowledges that it has actual notice of the contents and requirements of this agreement and that failure to fulfill any of the requirements hereof will constitute a violation of this agreement and will subject Bullseye to payment of stipulated damages.
22. 21. Any stipulated damages imposed pursuant to Paragraph 18 are due upon written demand. Stipulated damages must be paid by check or money order made payable to the "State Treasurer, State of Oregon" and sent to: Business Office, Department of Environmental Quality, 811 SW Sixth Avenue, Portland, Oregon 97204.
23. 22. This agreement will terminate in 5 years of the date this agreement is fully executed, or upon issuance of a permit that incorporates the provisions of new air toxics regulations adopted by the Environmental Quality Commission, or at the mutual agreement of the parties, whichever is sooner, and on condition that Bullseye has paid all stipulated damages required by Paragraph 18.
24. 23. Provided that Bullseye complies with the provisions of this agreement, DEQ agrees not to take enforcement action at this time related to Bullseye’s emissions of metals in Table 1. Bullseye expressly denies that it is in violation of its air permit or any emission standard.
25. 24. This agreement is not intended to limit, in any way, DEQ's right to proceed against Bullseye in any forum for any past or future violations not expressly addressed herein., or any rights or defenses that Bullseye may raise in any such proceeding.

 BULLSEYE GLASS CO.

Date Signature

 Name (print)

 Title (print)

DEPARTMENT OF ENVIRONMENTAL QUALITY

Date Leah K. Feldon, Manager

 Office of Compliance and Enforcement

on behalf of DEQ