**Attachment A**

**Fiscal Impact Calculations**

# DEQ Art Glass Permanent Rule

**Fiscal Impact Estimate for proposed rule- Bullseye Glass Company**

| **Bullseye - Tier 2** |  |
| --- | --- |
| Requirements summary | Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits |
|  | **Cost Estimate** |
| **low** | **high** |
| **Permitting costs** |  |
| NESHAP 6S applies? | Y |  |
| Needs Title V permit because of 6S | Y |
| Cost of Title V application (including DEQ fees + consultant to prepare) | $25,000 | $100,000 | If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals. |
| Annual DEQ Title V permit costs | $10,310 | $11,510 | If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals. |
| Incremental extra cost of Title V application due to art glass rule | $0 | $5,000 | Assume preparing the permit application would cost 0% to 5% more because of the incremental addition of the proposed rules. |
| Incremental extra cost of Title V annual permit fees due to art glass rule | $0 | $0 | The proposed rules would not increase the annual permit fees if the facility would have a Title V anyway. |
| **Number of Control Devices** |  |
| # of additional baghouses installed, over and above what would have been installed due to NESHAP 6S alone | 0 | 2 | This is uncertain because changes to comply with NESHAP 6S are happening at the same time as efforts to comply with this rule. |
| **Cost Per Control Device** |  |
| Install baghouse | $250,000 | $400,000 |  |
| Install baghouse leak detection system or HEPA after-filter | $10,000 | $30,000 |  |
| One-time ‘grain loading’ source test to demonstrate baghouse is working | $4,000 | $15,000 | Assume length of run depends on detection limits, does not have to be entire production run. |
| Annual operation | $15,000 | $70,000 | Electricity, bag replacement etc |
| Annual cost to monitor and report on baghouse to DEQ | $12,000 | $17,000 |  |
| Total one-time costs per baghouse | $264,000 | $445,000 |  |
| Total annual costs per baghouse | $27,000 | $87,000 |  |
| **Source Testing Costs** |  |
| One-time source test to measure Cr6 emissions when making products containing Cr3 or Cr6 | $60,000 | $65,000 | Assume 16 hr test runs. May be able to run concurrently with grain loading test, reducing cost. $10-15k if test can be done in 1-3 hr runs. If 16hr runs, $65k. If 4-day runs, $100k.  |
| **Modeling Costs** |  |
| One-time modeling to find max production rate that results in acceptable source impact level |  |
| AERSCREEN model only | $10,000 | - |  |
| AERSCREEN followed by AERMOD model | - | $30,000 |  |
| **Total Costs****If 0 additional baghouses installed** |  |
| One-time costs | $70,000 | $100,000 |  |
| Annual costs | $0 | $0 |  |
| **If 2 additional baghouses installed** |  |
| One-time costs | $598,000 | $990,000 |  |
| Annual costs | $54,000 | $174,000 |  |

# DEQ Art Glass Permanent Rule

**Fiscal Impact Estimate for proposed rule- Uroboros Glass Studios, Inc.**

| **Uroboros - Tier 2** |  |
| --- | --- |
| Requirements summary | Install control device on all furnaces using glassmaking HAPs. If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits |
|  | **Cost Estimate** |
| **low** | **high** |
| **Permitting costs** |  |
| NESHAP 6S applies? | Y |  |
| Needs Title V permit because of 6S? | Y |
| Cost of Title V application (including DEQ fees + consultant to prepare) | $15,000 | $55,000 | If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals. |
| Annual DEQ Title V permit costs | $8,500 | $8,500 | If a facility needs a Title V due to NESHAP 6S, that is independent of this art glass rule, so this cost isn't included in the totals. |
| Incremental extra cost of Title V application due to art glass rule | $0 | $3,000 | Assume preparing the permit application would cost 0% to 5% more because of the incremental addition of the proposed rules. (Rounded to the nearest thousand.) |
| Incremental extra cost of Title V annual permit fees due to art glass rule | $0 | $0 | The proposed rules would not increase the annual permit fees if the facility would have a Title V anyway. |
| **Number of Control Devices** |  |
| # of additional baghouses installed, over and above what would have been installed due to NESHAP 6S alone | 0 | 1 | This is uncertain because changes to comply with NESHAP 6S are happening at the same time as efforts to comply with this rule. |
| **Cost Per Control Device** |  |
| Install baghouse | $355,000 | $610,000 |  |
| Install baghouse leak detection system or HEPA after filter | $10,000 | $30,000 |  |
| One-time ‘grain loading’ source test to demonstrate baghouse is working | Included in source testing cost below | Assume length of run depends on detection limits, does not have to be entire production run. |
| Annual operation | $15,000 | $70,000 | Electricity, bag replacement etc |
| Annual cost to monitor and report on baghouse to DEQ | $12,000 | $17,000 |  |
| Total one-time costs per baghouse | $365,000 | $640,000 |  |
| Total annual costs per baghouse | $27,000 | $87,000 |  |
| **Source Testing Costs** |  |
| One-time source test to measure Cr6 emissions when making products containing Cr3 or Cr6 | $56,000 | $56,000 |  |
| **Modeling Costs** |  |
| One-time modeling to find max production rate that results in acceptable source impact level |  |
| AERSCREEN model only | $10,000 | - |  |
| AERSCREEN followed by AERMOD model | - | $30,000 |  |
| **Total Costs****If 0 additional baghouses installed** |  |
| One-time costs | $66,000 | $89,000 |  |
| Annual costs | $0 | $0 |  |
| **If 1 additional baghouse installed** |  |
| One-time costs | $431,000 | $729,000 |  |
| Annual costs | $27,000 | $87,000 |  |

**DEQ Art Glass Permanent Rule**

**Fiscal Impact Estimate for proposed rule- Tier 1 CAGM**

|  |
| --- |
| **Tier 1 (Northstar, Trautman and Glass Alchemy)** |
| Requirements summary | Do 1 of these at all furnaces: Install control device, OR source test & modeling to show impact below limits, OR request permit condition to not use metal HAPs |
|  | **Cost Estimate** |
| **If installing control device** | **If doing source test and modeling only** | **If taking permit condition to stop using metal HAPs** |
| low | high | low | high | low | high |
| **Permitting costs** |
| NESHAP 6S applies? | N | N | N |
| Rule would require facility to get new permit | Yes, ACDP | Yes, ACDP | Yes, ACDP |
| Application Fee | $7,200 | $7,200 | $7,200 | $7,200 | $7,200 | $7,200 |
| Consultant to prepare application | - | - | - | - | - | - |
| Annual Permit Fee (applies at time of application and each year after) | $4,608 | $4,608 | $4,608 | $4,608 | $4,608 | $4,608 |
| **Control Device Costs** |
| Install baghouse | $250,000 | $400,000 | - | - | - | - |
| Install baghouse leak detection system or HEPA after filter | Optional, can do this instead of grain loading test |  |  |  |  |
| Annual operation (electricity, bag replacement, etc) | $15,000 | $70,000 | - | - | - | - |
| **Reporting Costs** |
| Annual cost to monitor and report on baghouse to DEQ | $12,000 | $17,000 | - | - | - | - |
| **Source Testing Costs** |
| One-time source test to measure metal emissions including total Cr. (Total Cr can be used as a proxy for Cr6) | - | - | $15,000 | $25,000 | - | - |
| One-time source test to measure Cr6 emissions when making products containing Cr3 (optional) | If Tier 1 and using control device, don’t have to test for Cr6 | $0 | $65,000 | - | - |
| One-time ‘grain loading’ source test to demonstrate baghouse is working | $4,000 | $15,000 | - | - | - | - |
| **Modeling Costs** |
| One-time modeling to find max production rate that results in acceptable source impact level |
| AERSCREEN model only | - | - | $10,000 | - | - | - |
| AERSCREEN followed by AERMOD model | - | - | - | $30,000 | - | - |
| **Cost of reduced production** |
| Stopping production of materials containing Cr6 (required to take source test + modeling exemption) | - | - | unknown | unknown | About 1/2 of products contain metal HAPs. There may not be workable substitute formulations. Facilities may choose to phase out one or a few metal HAPs but are likely to choose source test & modeling or installation of a control device. |
| Reduced production if source testing shows it's needed to meet receptor conc limits | - | - | unknown | unknown |
| **Total Costs** |
| One-time costs | $261,200 | $422,200 | $32,200 | $127,200 | $7,200 | $7,200 |
| Annual costs | $31,608 | $91,608 | $4,608 | $4,608 | 50% of facility profit (?) |
| One-time costs (rounded) | $261,000 | $422,000 | $32,000 | $127,000 | $7,000 | $7,000 |
| Annual costs (rounded) | $32,000 | $92,000 | $5,000 | $5,000 | 50% of facility profit (?) |