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 metal 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	
One-time source test to demonstrate 99% PM control efficiency	$4,000	$15,000	Assume length of run depends on detection limits, does not have to be entire production run to show capture efficiency.
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	$254,000	$415,000	
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 99% control efficiency test, reducing cost.
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	

Bullseye - Tier 2		
Requirements summary	Install control device on all furnaces using metal HAPs If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits	
	Cost Estimate	
	low	**high**

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	$578,000	$930,000
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 metal 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	
One-time source test to demonstrate 99% PM control efficiency	Included in source testing cost below		Assume length of run depends on detection limits, does not have to be entire production run to show capture efficiency.
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	$355,000	$610,000	
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	

Uroboros - Tier 2		
Requirements summary	Install control device on all furnaces using metal HAPs If using chrome: source test & modeling to develop daily & annual max usage Then follow the max usage limits	
	Cost Estimate	
	low	**high**

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	$421,000	$699,000
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	-	-	-	-
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 source test to demonstrate 99% PM control efficiency	$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	$4,608	$4,608	$31,608	$86,608	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 (?)	