Appendix A: ExxonMobil Major Modification (Proposed Installation of Single-Port Diffuser)

term	description	Ammonia ACUTE	Ammonia CHRONIC		Selenium ACUTE	Selenium CHRONIC	
Qs^1	critical stream flow (7Q10)	742.6		MGD	742.6		MGD
% Qs	% of Qs being provided (as decimal, e.g. - .10 for 10%)	3%	5%	%	1%	4%	%
Qs^2	resulting critical stream flow (Qs^1 * %Qs)	22	37	MGD	7	30	MGD
Cs	critical instream concentration (75%tile if n<=30, 95% UCL if n>30)	0.05		mg/L	1		µg/L
Qd	critical effluent flow (design flow, units must match Qs)	5.1	2.8	MGD	5.1	2.81	MGD
Cmax	maximum effluent concentration for POR (from application or DMR data)	12.3		mg/L	38		µg/L
n	number of samples in effluent data set	41			54		
CV	coefficient of variation for effluent data (if n<10, use 0.6)	0.4			0.285		
TSD	calculated TSD multiplier (should be close to Table 3-2 value) corrected Z to 1.645	1.07			1.01		
Cd	critical effluent concentration - 95%tile (max. effluent conc * TSD multiplier)	**13**		mg/L	**38**		µg/L
Qr	downstream flow (Qs + Qd)	27	40	MGD	13	33	MGD
D	dilution ratio (Qs^2/Qd, may be entered **instead of Qs and Qd)**						
WQS	**water quality standard (from DEQ-7 or rule)**	**2.6**	**1.2**	**mg/L**	**20.0**	**5.0**	**µg/L**
Cr	**resulting or downstream pollutant concentration (term to solve for)**	**2.5**	**1.0**	**mg/L**	**16.2**	**4.2**	**µg/L**
	RP?	**no**	**no**		**no**	**no**	