Regression Analysis

Approach

This report used a linear regression to project expected assessable emissions for FY16 – FY19. The relationship between time and assessable emissions may not be not linear. However, the projection is short term and is derived from the immediately preceding years, so linear regression provides a reasonable estimate.

This report based the linear regression on FY11 – FY15 data. This report did not use FY10 or earlier data because that data was already considered in the 2010 Report. Table 16 below

Fiscal Year	TV Tonnage	TI Tonnage	TV regression	TI Regression
11	99693	103500	101224	105125
12	100574	106028	98588	103027
13	94706	98885	95952	100929
14	95974	100416	93316	98830
15	88812	95814	90679	96732

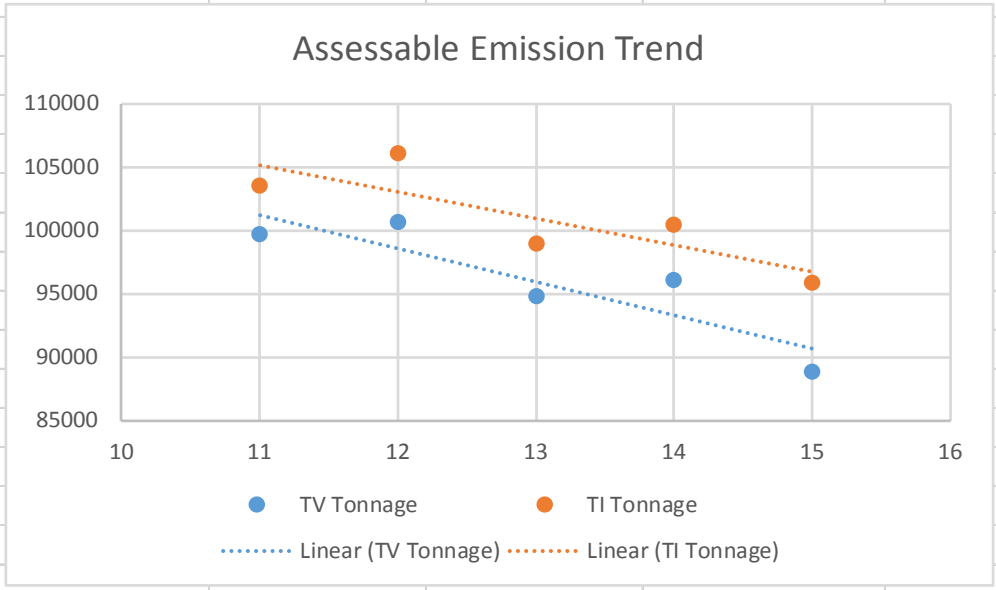

Table 1 - Recent Assessable Emission Trend.

Presuming the trend continues for the next 4 years, the Department estimates the assessable emissions for those years as shown in Table 17 below. The average assessable emissions projected for the next four years is 84,089 tons for Title V and 91,486 tons for Title I.

Fiscal Year	TV Tonnage	TI Tonnage	TV regression	TI Regression
11	99693	103500	101224	105125
12	100574	106028	98588	103027
13	94706	98885	95952	100929
14	95974	100416	93316	98830
15	88812	95814	90679	96732
16			88043	94633
17			85407	92535
18			82771	90437
19			80135	88338

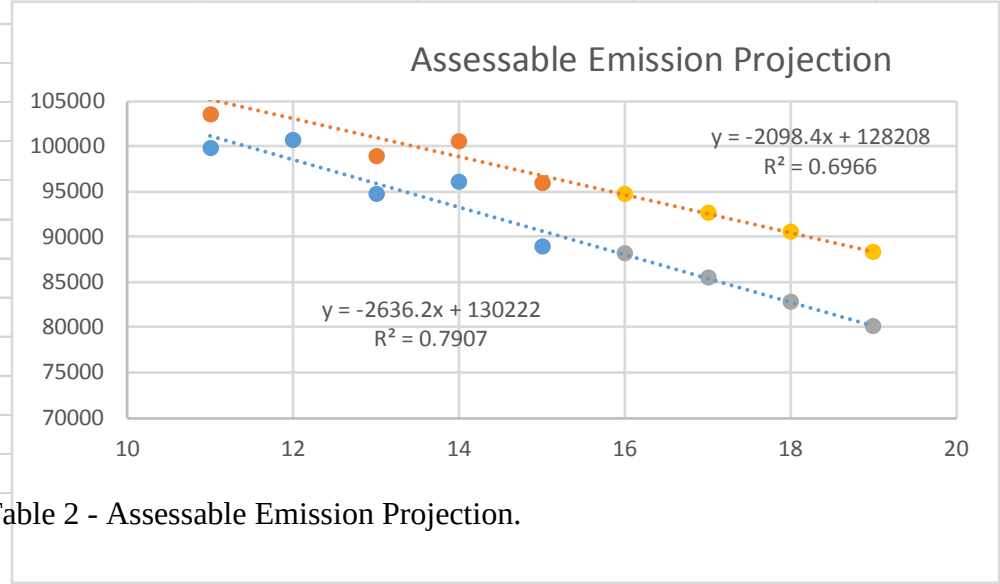

Table 2 - Assessable Emission Projection.

Recommendation

The Department recommends using the average emissions projected for the next four years when setting the emission fee rate. The projections should be based on the tonnage of actual emissions for which fees were collected since the last fee study.

The average predicted emissions are approximately 5% lower than the actual FY15 billed emissions and 12% lower than the average billed emissions for the last 6 years. This is consistent with the Department's experience following the last fee study.