

42. **Opinion 4: Section 112(f) Control Projects will impose significant capital and operating costs on the Facility and will require approvals and authorizations prior to initiating.**

43. Section 112(f) Control Projects impose significant capital and operating costs that pose further challenges for obtaining necessary approvals to install. As part of DPE's review of the Proposed Rule, including with the input of outside consultants, DPE developed cost estimates for implementing the required control projects. Because the requirements in the Final Rule are substantially similar to those in the Proposed Rule, I believe that cost estimates previously developed remain accurate for the emission reduction projects necessary under the Final Rule. DPE is still developing cost estimates for the required steam stripper equipment (which also must be routed to a TO) which will provide additional cost challenges to the approvals process.

44. As further described in DPE's Comments on the Proposed Rule, the following are cost estimates for various required ERPs:

- Direct-fired thermal oxidizer (+ recuperative heat exchanger + scrubber)²⁷ estimated to have total installed cost ($\pm$ 50%) of \$39 million;
- Complying with maintenance cap estimated to cost \$500,000 to \$1.5 million per day during cleaning process for the 2mm1b tank alone;
- New DFTO capable of complying with dioxins and furans limit estimated to cost up to \$58.5 million;
- Conservative estimate to install required number of IO points exceeds \$4.6 million and does not account for the costs to implement magnetic sensors or motion detectors;
- Installation of new flare equipment has estimated cost ($\pm$ 50%) of \$2.06 million;

²⁷ DPE consultants developed cost estimates to implement a direct-fired thermal oxidizer based on the proposed requirement to achieve 99.9% DRE in the Proposed Rule.