October 28 2011

The Honorable Mary L. Schapiro
Chairman
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Claigan Environmental Inc. was asked by Congress and others to comment on the potential costs of implementation of the final rules for Section 1502 of the Dodd-Frank act.

Claigan Environmental is an environmental consultancy focusing on global environmental regulations for electronics and related industries. Claigan Environmental and its staff have extensive experience in data gathering, software, cost analysis, and disclosure for restricted materials legislation.

Cost estimates of regulations are a difficult thing and can vary heavily from company to company. Cost estimates also do not normally have the benefit of hindsight, nor can they easily take into account cost savings and efficiencies produced by innovation, outsourcing, and aggressive cost control policies.

Our cost model focuses on costs for the average affected company and reflects numbers typically provided in current quotations to companies requiring compliance with conflict minerals legislation. These costs reflect the more commonly affected issuers and do not necessarily reflect the efforts of companies who have the most direct sources of information and whose costs of reporting are quite limited--the smaller number of companies leading the work closer to the source of the minerals or electronics manufacturers whose core business is related to 3TGs (such as Tin solder or tantalum capacitor manufacturers).

Claigan's Estimate of Typical costs for a $1B per annum company)[1]:

Corporate:

a. Organizational, consultants, conflict minerals report writing - $60K

b. 1/2 full time senior program manager for a year - $75K

[1] All dollar amounts in this report are in U.S. Dollars

c. 3rd party audit - $30K

SubTotal - $165K

Data gathering:

a. Data gathering from suppliers - $100 per supplier. Usually only required for 1/2 of suppliers for electronics companies. Average of one thousand (1,000) affected suppliers per mid-cap issuer.

SubTotal - $100K

Software system:

a. Software package or upgrade to contain data - $30K to $150K . Averaging ~ $40K

b. IT support. 1/4 person for four months. $10K

SubTotal - $50K

Total = $315K for a $1B per annum revenue company

This equates to roughly 0.03% of revenue for a mid-cap company. It can be argued that companies may spend twice as much on 3rd party audit fees and consultants. It can also be argued that many companies will not purchase or significantly upgrade software. By taking these variations into account we see a cost range of 0.02% to 0.05% of annual revenue.

There is opportunity for some mid-cap companies to have a larger number of affected suppliers, but it is not expected to escalate significantly once it is taken into account some suppliers are actually multiple branches of the same company, distributors, service providers, or suppliers not using 3TG materials.

The numbers above would also change drastically if the final rules issued by the SEC created motivation to dispose of current inventory containing 3TGs of indeterminate origin, or brings 3TGs in recycled material (such as steel) into scope of section 1502. The expected cost of initial compliance would likely rise to closer to 0.5% of revenue primarily due to the cost of disposal of inventory of ‘indeterminate origin.

There is a benchmark that can be applied to review our numbers. In 2002, the European Parliament implemented the directive for the restriction of hazardous substances in electronics (RoHS). This directive required electronics manufacturers to gather data on the material composition of every component in their products, replace /

dispose of non compliant components, and re-design and re-qualify products. Separately, the EU[2] and the Consumer Electronics Association (CEA)[3] (Economic Impact of the European Union RoHS Directive on the Electronics Industry. 21 Jan 2008) published comprehensive retrospective studies on the costs incurred by industry in implementation of RoHS compliance.

The average cost of initial compliance with RoHS for a $1B per annum company was close to 0.8% of revenue. However, the data gathering and software sections of the costs summed roughly to 10% of the RoHS initial compliance cost or closer to 0.08% of revenue for a $1B per annum company. This number is the same order of magnitude as our cost projections for conflict minerals compliance and provides a reasonable sanity check. Our cost projections being slightly lower is reflective of less expensive software packages for conflict minerals (versus RoHS compliance) and not having to spend effort to change parts. A large data gathering cost driver for RoHS was the need to gather data for every part and the need to create new part numbers for compliant parts. There is no expectation of significant part replacement for conflict minerals and no expectation of data gathering being required for every part - resulting in a lower expected data gathering cost.

The initial compliance cost is expected to increase by a factor of 2.5 for a company having ten times the annual revenue (ie. $10B per annum) and reduce by a factor of 2.5 for a company with 10% of the revenue (ie. 100M per annum company). This is consistent with the actual RoHS costs presented by the CEA which showed an increase in RoHS compliance costs by a factor of 2.5 for $10B per annum in revenue and a ~60% reduction in RoHS compliance costs for a company with $100M in annual revenue (compared to a company with $1B in annual revenue).

Examples (initial compliance only) -

$1B per annum affected issuer ~0.03% of annual revenue

$100M per annum affected issuer ~0.12% of annual revenue

$10B per annum affected issuer ~0.0075% of annual revenue

The numbers presented above are estimates and can vary under different situations. The estimates are based heavily on current service quotations in the industry and past costs for RoHS compliance, and do not necessarily reflect the opportunity for cost

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[2] **Study on RoHS and WEEE Directives N° 30-CE-0095296/00-09**. March 2008

[3] **Economic Impact of the European Union RoHS Directive on the Electronics Industry**. 21 January 2008

containment, leveraging of pre-existing and related infrastructure, and economic benefits from compliance.

The Consumer Electronics Association 2008 report on the Economic Impact of the European Union RoHS Directive on the Electronics Industry indicated that 49% of respondents reported an economic benefit from RoHS compliance. Potential benefits and cost advantages are not included in the numbers above.

Comments on costing numbers provided by NAM and Tulane University

In analyzing the costs of compliance, Claigan chose to analyze the submissions by the National Association of Manufacturers and Tulane University as well as supplying our own numbers. To reduce the opportunity for controversy and disagreement, we have decided to retain the fundamental costing models provided by NAM and Tulane, and only correct specific values with information from citable or otherwise reasonable sources.

One general concern with both cost projections is that neither cost projection contains references to previous cost studies for similar environmental/natural resource legislation such as EU RoHS and REACH. These cost studies, in particular for RoHS, are public information and readily available. Since RoHS was cited by stakeholders a number of times during the recent SEC roundtable discussion on conflict minerals on October 18th, it is very concerning that public costing information from RoHS was not including in either the NAM or Tulane cost models as either a reference or benchmark. These studies should have been either referenced or, at least rebutted, in any reasonable cost estimate for conflict minerals.

NAM Costing

Total Figure for industry compliance as submitted to the SEC on March 2, 2011 - Roughly $8B

Of the $8B , the costs primarily come from:

1) Modification of Legal Responsibilities - $1.2B
2) IT Systems - $6.0B
3) 3rd Party Audits - $0.45B

The modification of legal responsibilities section assumes that every supplier for every affected issuer would have to modify their legal obligation. This conclusion is based

heavily on assumptions that are problematic. All standard contracts with suppliers of public companies contain standard provisions requiring suppliers to comply with relevant laws. For example, when a country is added to the United States' terrorism watch list, every supplier contract in force with an SEC-regulated company does not have to be amended. It is unlikely that many contracts would need to be changed or updated to enable compliance at the contractual level. It is likely that a general notice of intent to comply would be sent, but these are short and standard.

The NAM legal estimate also assumes that every supplier supplies components or products containing 3TGs to an issuer. That would seem very unlikely. As a starting point, most non-electrical components are fairly unlikely to contain 3TG materials under scope (based on the current tenet that tin (Sn) in recycled materials such as steel is out of scope.) A reasonable estimate of the number of suppliers affected and requiring modification of their legal obligations would be closer to 50% of suppliers. This number can likely be further reduced if duplications related to separate arms of the same company, separate regional divisions of the same company, distributors, and other non manufacturers are removed from the list of suppliers. But for conservative purposes, it seems fair to reduce this number by at least 50%.

The cost of IT systems does not seem based in any concrete fact. The average cost of IT systems reported by the CEA study on actual RoHS costs was reported to be $120K per company. There is no reasonable basis for the cost of software for conflict minerals to be more expensive. In reality, it will likely be less expensive as many companies are expected to update current software or do without. As a double check, we contacted Assent Compliance (a provider of conflict minerals compliance software) regarding software costs for conflict minerals compliance. Their most expensive conflict minerals software was $40K for the first year (and most of their conflict minerals software packages are less expensive.) Furthermore, the costs for software packages quoted in the NAM study were for multi-functional packages that included compliance capability for other regulations (such as REACH and RoHS) and should not have their cost solely associated with conflict minerals. In absence of other citable data, the published average software costs for RoHS seem like a reasonable placeholder (and are likely higher than expected actual costs.)

The NAM cost for 3rd party audits was listed at close to $100K per company. As a reference point, the 3rd party audit cost listed on an SEC DEF 14A submission to the SEC averages close to 0.2 to 0.25% of annual revenue. This is the cost for the entire audit of all of the corporate reporting requirements for all of the divisions in an entire global company. A cost of $100K for a conflict minerals audit would represent 5% of the entire annual cost of 3rd party auditing of a $1B per annum company. This seems

fairly unreasonable. An increase of total auditing expenses by 1 to 2% would likely be more reasonable, if not still too high.

As an added comment, NAM indicated that 5,994 issuers are anticipated to be required to file a conflict minerals report in the first year under scope, compared to the SEC's estimate of 20% of 5,994. The number of 5,994 represents all of the 10K, 40F, and 20F issuers. It is reasonable to assume, due to the expected presence of materials and products of indeterminate origin, most issuers under scope will likely have to file some sort of conflict minerals report during their first year under scope. However of the 5,994 total US issuers, not all are expected to be under scope. If you use the breakdown by sector of the S&P 500 and assume:

a) The majority of Energy sector, finance, and utilities will not have to create a conflict minerals report

b) No more than half of the consumer discretionary, consumer staples, and materials sectors is expected to have to file conflict minerals reports.

The percent of affected companies, even considering the expected issue with 'indeterminate origin', would be closer to 50% of issuers. This would reduce the number of issuers for NAM costing purposes to ~2,997.

By making these reasonable corrections to the numbers, NAMs numbers change as follows:

1) Modification of Legal Responsibilities - $0.3B

2) IT Systems - $0.35B

3) 3rd Party Audits - $0.1B

For a total cost closer to $0.75B for initial compliance.

Tulane Costing

Again, as with the NAM costing model, we have kept the costing model intact and only modified specific costing lines based on citable or otherwise reasonable data.

Total Figure for industry compliance with conflict minerals as expressed in the Tulane Report - Roughly $7.93B .

Of the $7.93B , the costs primarily come from:

1) Strengthening of internal management systems - $5.17B

2) IT Systems - $2.56B

3) 3rd Party Audits - $0.2B

The Tulane 'strengthening of internal management systems' cost assumes 860,066 first-tier suppliers. The 2008 CEA report on RoHS identifies - from global census data - 90,000 total electronic OEM, components suppliers, and EMS. Of which, 38,000 are below 1M in annual revenue. An argument can be put forward that 3TG reporting will be required by more than just the electronics industry supply chain. But the total number of affected first-tier suppliers being over 100,000 seems unrealistic based on this more substantiated information. In many cases, these suppliers will also not be supplying products or components containing 3TG materials "in scope," or products containing 3TGs may only represent a small fraction of their business.

The IT system costs in the Tulane report were based heavily on NAMs numbers and again do not reflect actual costs as presented in the CEA Report of $120K per company. It is reasonable to expect that the IT costs will be even lower than $120K per company listed in the CEA report on RoHS compliance costs.

Tulane used the NAM counts for number of affected issuers. Due to unaffected and less affected industries, it seems reasonable to make the same reduction of affected issuers for the Tulane model to ~2,997 from 5,994.

Updated costing using the Tulane model and corrected inputs:

1) Strengthening of internal management systems - $0.6B

2) IT Systems - $0.36B

3) 3rd Party Audits - $0.1B

For a total cost closer to $1.06B for initial compliance - similar to the number produced by NAM's model with corrected data. Tulane's number is likely slightly higher due to its larger focus on the number of 1st tier suppliers.

Further Adjustments

The use of more citable numbers and assumptions reduces the NAM and Tulane model estimated initial compliance costs from approximately $8B to $0.75B and $1.06B respectively. Furthermore, it is not unreasonable to assume that affected companies will use effective cost containment and innovation to further reduce these costs during implementation. In each successive year costs will drop. The legal notices that go out

in year one will not need to be sent in successive years. Competition for software will lower the annual costs substantially and training will be less necessary or not necessary at all. Competition in the Audits field will also lower costs in the following years. The reports from affected companies will become more standardized also – so the writing and auditing time will diminish. So, the $0.75B to $1.06B estimates likely represent higher end projections of cost for the first year and the annual costs after the first year will likely drop substantially.

Additional Note

The estimated costs to which we adjusted NAM and Tulane's estimates are higher than those originally projected by the SEC. This difference is primarily related to an over-estimation by the SEC of issuers' knowledge of the origin of materials in their products. Most of the cost in compliance with the conflict minerals legislation involves issuers identifying where their materials are sourced. Years of outsourcing and offshoring have eroded companies' knowledge of their own products.

As a suggestion to the SEC, they need to take into account:

a) A larger percentage of initially affected issuers

b) Higher internal effort due to the need to communicate requirements to branches and divisions - usually in the form of project manager or part of a project manager's role

c) Recognize that some companies will expend funds on software infrastructure

d) Recognize that many companies will work to a higher standard (and spend higher effort) than what is required for compliance due to the public's sensitivity on the conflict free issue. This will be reflected in both increased internal effort and more expansive conflict minerals reports.