

## Environmental Compliance Reporting – Mastering a Moving Target

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### Abstract:

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Companies that have initiated internal resources to obtain compliance data have realized that collecting, and more importantly, *maintaining* the currency of that data requires more resources than available. For a case in point, one such company utilized 3 component engineers over 3 years to collect compliance data on ~5000 parts only to find out that all the data collected was now out of date. Why was it out of date? Among several reasons: the EU changed the method for reporting exemptions, REACH SVHC's were added (several times) and manufacturers were forced to change and republish their declaration documents to meet these new requirements. Additionally, in North America Conflict Minerals declaration has been introduced demanding yet more documentation collection and maintenance. And, there will be more change.

Compounding the resource need is a lack of standardized data. All manufacturers publish in pdf, Excel, Word docs, etc, where there is no normalized standard. The data needs to be “lifted” from these documents and transferred to a parsed database. Quality and accuracy is at risk both from the supplier (~40% of supplier declaration documents are currently being returned to the manufacturer for correction) and the manual transfer process itself. Additional resources are needed in QA personnel with a specialized expertise in Environmental Compliance.

A centralized, publicly available database would be ideal if there were a method of ensuring quality of data served, however getting the industry to adopt a standard has not been possible. There are opt-in web services that require the manufacturer to normalize and upload data to a portal; however there is no quality control and no guarantee that all suppliers will participate leaving the need, once again for dedicated internal resources to provide specialized QA/CE collection and maintenance personnel.

A study was conducted to determine what internal resources would be needed to accurately collect, QA maintain and produce product level compliance reports on ~5000 components and material. Here is a list of the findings:

- 3-5 technicians to find and manually transfer the data from manufacturers published documents
- 2 component engineers to review and QA the physical characteristics of the data collected
- 2 Environmental compliance engineers to review, QA and manage the correction phase
- Database software
- IT implementation resources

Most companies do not have or can't afford this reality. Since the manufacturers are not likely to adopt a standard method for publishing in the near term, and more change is inevitable, the only solution available today is a 3<sup>rd</sup> party data provider; one that *does* have the resources to collect, QA, maintain and deliver. Our study found that the fees for these 3<sup>rd</sup> party services are typically less than the cost to implement the necessary resources internally. Other IPC members can attest to this and their success.

## **Environmental Compliance Reporting – Mastering a Moving Target**

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### **Introduction:**

Environmental Compliance reporting, today, for electronic design and manufacturing companies is nothing short of frustrating. There are several reasons, most of which will be covered in this paper and the associated presentation however, they can be summarized in one simple word; CHANGE.

Fortunately there is a way to overcome this frustration and there is resolve to reporting environmental compliance for you products. To get there you will need to understand the current landscape of what exists, what is possible and what should be avoided. There are companies that have lost up to 3-5 years of time and money attempting to manage environmental compliance only to find out that the approach they had selected is inadequate.

The goal of this paper is to illuminate current conditions and to relay, realistic and successful methods of environmental compliance management and reporting.

### **Mastering a Moving Target – Current Conditions:**

#### Change is a constant.

In 2006 it was believed by some that if their company collected Certificates of Compliance for their parts and components, and if they were all RoHS compliant, then the job was done. Since then there has been nothing but change in:

- New standards being added; REACH, China RoHS, Conflict Minerals..etc.
- Updated requirements for compliance reporting, i.e. RoHS II-recast, REACH-new SVHC's added bi-yearly, etc.
- Suppliers republishing data as products change and as standards change
- IPC updating 1752 requiring suppliers to republish existing outdated declarations
- Vietnam RoHS, India, RoHS....and many more.

#### **Change is a constant: The standards are a moving target.**

RoHS II, or the RoHS recast of mid-2011 made changes to the existing exemption number system rendering all existing published declaration documents obsolete. This was not insignificant. More than 35% of electronic components purchased today take advantage of these exemptions. This means that all companies that take exemptions would need to re-evaluate and republish their exemptions against the new numbering system. And, of course there is the trickle down affect. If your company has any parts or materials that include exemptions your company now no longer has a valid compliance declaration. Manufacturers need to republish, your company needs to recollect and republish. Compound this with that fact that all of your suppliers will not recognize and republish at the same time and what do you have? You need someone to continually monitor and make sure your data is current.

The arrival of REACH introduced what are called Substances of Very High Concern, or in lay terms substances that the EU wanted identified and eventually removed from the products being shipped into Europe.

It started with 15 SVHC's. New substances are added to the list twice per year (so far). What does this mean? CHANGE. Every time there is a new SVHC added your company will have to reevaluate whether you are affected and recollect and republish.

Now, some will say, "If you have Full Material Disclosure (all the weights and measures of the materials in the part or component) then you will not need to recollect and republish because you already know what's in there and you can check to see if the new SVHC(s) is present". Not so. A good portion of companies publish with proprietary

materials, or in other words, they won't tell you everything that is in there. This means you have to get a statement such as, "We don't have any of those in there". Which means you have to recollect every time SVHC's are added, which means, you need someone to continually monitor and make sure your data is current.

For those manufacturers that adopted IPC-1752-1.1-2 documents for publishing declarations will also have to republish to cover the new exemptions. The original 1752 document had an embedded XML and PDF writer. There have been no updates to this document since 2008. If your company is using these declarations to support your declaration then you have been obsolete since 2008! IPC has a new 1752-A (also known as 175X) that does a much better job of supporting the current exemptions and REACH requirements (also, likely upcoming Conflict Mineral requirements) but does not have the embedded PDF writer. There are free tools available but they have only been available for the latter part of 2011.

Then, there is Conflict Minerals. Currently, conflict mineral statements need to be collected for all of your parts, like Certificates of Compliance, however, soon you will need to declare what materials you have and at which "approved" smelter they were produced? You will need to establish a new collection and reporting method as the requirements change, which means again, you need someone to continually monitor and make sure your data is current.

China RoHS is finally evolving as noted in a report from Oct. 2011. It will likely mirror requirements for RoHS II and REACH, but no one is definitively sure until the list of "electronic products" is released, likely in Q1 2012. You will need to monitor this and add collection and reporting as it changes which means, well you get the idea.

What else? Vietnam announces the need for "technical records" to "demonstrate compliance". Will the exemptions be the same? India too has announced the need for reporting for May 2012 with "certain listed" exemptions?

Another example of the standards are a moving target.

### **Change is a constant: Supplier Declarations**

What would it take for you to find Full Material Disclosure documents for all of your parts from all of your suppliers? What would it take for you to manually "lift" that data from those documents into a central database?

Consider this. There is no standard format; they could be Excel spreadsheets, Word docs, PDF docs, etc. There is no standard to the data presented. You cannot use software tools. It has to be manually transcribed. Some of the information is listed with 14 digits of precision!!! How are you going to do that without making mistakes? How will you assure quality of the data!

The job listed above is far too often taken for granted!

Many companies have tried to do this in house. They inform their management of the compliance requirement with the response, "You are not too busy. Go do it yourself?" Eventually what happens is that after 3 years of trying to collect the data along with their "day job" they throw up their hands and state, finally that it is not possible with the resources available.

Another example are the several software manufacturers that give promise that the software is complete with a tool to "poll" your suppliers to respond with the appropriate data. This is a naïve and dangerous assumption. It assumes that the supplier is willing to respond to your request. In some cases it assumes that the supplier will type in the information to the "portal page". Suppliers are being bombarded with requests like these. How can you be sure that they will enter the data accurately, if they do it at all? Often they will simply point you to a page where the data exists and again, it's up to you to transcribe.

There is another dangerous assumption that has been propagated over the last few years by software vendors. They will relay the idea that you can simply mandate your suppliers to provide the data to you as you request. After all, you are buying their parts and therefore why wouldn't they? Surely they wouldn't want to lose your business. If you are a Fortune 500 company, you may have this kind of pull, but do you? Ask yourself if your company has this kind of pull for every single part and material from every supplier. Right down to the bags, screws, washers, ink...everything. Nothing can be left out for compliance declaration. And, suppliers come and go. What is the process to manage this?

The reality is you cannot rely on your suppliers. You own the requirement. It's up to you to ensure that it happens which goes back to the need for someone to continually monitor and make sure your data is current. Dedicated resources, not someone who is already doing something else.

### **Change is a constant: Where are you going to put it?**

There is software available with excellent functionality, once you have a method for collecting and maintaining the data. However, these systems can be cost prohibitive! They can also take up to a year or longer to implement. Ask yourself; are *our* customers asking for compliance declaration on our products now? Is it a risk to sales, or will they delay buying if we don't give them a report?

If the answer is yes, then you can't wait, or perhaps afford a software system as mentioned. Perhaps you need a more tactical service that is focused on ensuring your compliance data is collected, maintained and ready for reporting.

There are companies that can provide this type of service. If nothing else, to buy time in setting up the more expensive enterprise level system. The data can always be ported over at a later date once it has been normalized.

There are also opt-in web services that act as a central repository for compliance data. They require the manufacturer to upload their data into the portal, voluntarily and as mentioned earlier this puts you at risk of not having ALL parts loaded (what if 20%, more or less refuse to load data. You can't declare!). But, more concerning with these systems is quality control. How do you know the data is accurate, current and up to date? Ultimately, you will be back to having to collect and QA the data yourself so these systems are not much more than a web spreadsheet.

Current condition awareness must also be given to the fact that there is no such thing as 100% Full Material Disclosure data. There is also no such thing as perfect data declarations. There can be several anomalies. You need to know this from 2 perspectives:

- 1) Some suppliers maintain "proprietary" substances in the makeup of their products. They don't want their competition to know what this particular element is. They will tell you what it isn't. This also results in a blank CAS (Chemical Abstracts Service) number field, meaning there is no numerical representation of the material (needed for rollup and declaration).
- 2) Some declaration data is offered with duplicate substance names for the same element. This works fine in a table, on paper, divided by table lines, however, if it is in the same column, i.e. copper and 2 rows down copper again, software has no way to delineate.

The importance in understanding this is that you will need to put the data into some database for rollup and reporting. The database you choose has to have the flexibility to manage these anomalies. In our review of several software vendors, we found that they were unaware of this need until they were advised and modified the existing import protocol.

However, there are services available that provision unique substance ID numbers where no CAS number exists to manage proprietary records and where duplicate substance names exist. This is better than what some do, which is to enter 99999 as a "dummy" CAS number.

Awareness to these current conditions will allow you not to lose time and money later.

### **Current Conditions: If it's a requirement, why isn't everybody doing it?**

In a study of companies that have implemented a process for declaring environmental compliance to the current standards, we found an interesting statistic. They did not take on the process because it is a requirement. In some cases they would ask what the risk was of doing nothing and the justification did not outweigh the risk.

In almost all cases where a process for declaration was implemented, the reason for implementation was not a need to meet the compliance regulation but rather because it was a risk to sales. A customer was asking for the data and the report and a potential loss in revenue was at stake.

If we were to look at the trend in which market verticals adopted a compliance declaration process, you will find that the early adopters are the ones that make products that are added into another product and then sold. For example, most power supply companies have a program in place. Why, because their customer demanded it to be part of the deliverable.

If you are being asked to justify the need for a data service, and/or software, ask your VP of Sales. Ask them if any of your customers are asking for Environmental Compliance Declaration. If yes, there is a high probability that your request will be accepted.

### **Mastering a Moving Target – How are you going to do it?**

A study was conducted to determine what internal resources would be needed to accurately collect, QA, maintain and produce product level compliance reports on ~5000 components. Here is a list of the findings:

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- Database software
- IT implementation resources
- Management

**You will need a minimum of 7 dedicated people to manage 5000 parts!! Or, you will need to outsource to a dedicated service with solid quality control.**

To some companies, this is a harsh reality. It shouldn't be. It is unrealistic to think that existing staff of a component engineer, or a couple of component engineers, or the hire of ONE environmental compliance engineer will have the ability to collect and more importantly maintain the data that is needed for today's environmental compliance reporting.

In addition, most quality data services provide collection and maintenance at a price that is less than a 1/4 or sometimes 1/5<sup>th</sup> of what the required dedicated staff would cost.

### **Summary**

You own the need to report compliance to avoid the risk to sales. You own the need for quality and accuracy.

If, the hardest part is collecting and maintaining the data, why not build a process for reporting to your customer, but find a dedicated resources for getting and maintaining the data. Have them make sure it's current and accurate so all you have to do is report.

It will be the most effective way, the least expensive, *AND*, your management will thank you for it!

### **Conclusion**

There are several companies that have successfully implemented Environmental Compliance Reporting. Companies like IBM, Emerson, National Instruments, and many more.

These companies realize that managing and maintaining the data is not for them. Managing the process is.

Call them and ask. They'll tell you.