

5 Years After RoHS: What's New, What's Ahead in Legislation

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During 2010 there were a number of legislative developments that will have impact on design engineers and the electronics industry the world over.

RoHS recast

The debate around the scope of the so called RoHS recast has had many twists and turns over the last year. A series of meetings, known as a triologue, involving the European Parliament, European Commission and Council of Ministers, took place in an attempt to agree on all of the key issues and smooth the way forward for a first reading approval. This was achieved and the RoHS recast will be added to the Official Journal (OJ) of the European Union in March or April 2011.

Among other things RoHS will be open scope eight years after the recast is published in the OJ. Category 11 will include all products not captured in Categories 1 to 10, unless specifically excluded.

Further restricted substances were also a possibility, with a list of 37 substances including brominated flame retardants, beryllium, PVC and many of the REACH Substances of Very High Concern (SVHC) considered for "priority assessment". Green groups were certainly in favor of such restrictions, but the proposal was dropped as part of the third and final triologue meeting in November, as it was felt these demands would not survive a vote of the full parliament. Plans to "ban" nanosilver and carbon nanotubes were also dropped.

RoHS will also be subject to CE mark requirements, which will generate many more

data and information requirements that will flow down through the supply chain. These would include retaining a copy of any declarations for ten years, and having them readily available on request of the enforcement authorities.

REACH

Information and safety data are also critical requirements of the REACH regulations. There will soon be over fifty Substances of Very High Concern (SVHC), with 46 in place by December 2010, and a further twelve are already on the registry of intentions, and likely to hit the Candidate List during 2011. European Chemical Agency (ECHA) sources suggest that as many as six or seven hundred SVHCs could be added to the Candidate List over time. Progress is slow, however, and the latest estimate from ECHA sources is one hundred thirty by the end of 2012.

REACH, unlike RoHS, is not simply a case of providing a certificate of compliance, but drives the flow of safety information down through the entire supply chain. This includes the automatic provision of a Material Safety Data Sheet (MSDS) both at the point of first order as well as when the SDS is revised by the manufacturer. This obligation places a significant financial burden on the industry.

Gathering the SVHC data has proved a challenge to the electronics, and other industries, with a shortage of information, and a generally slow response from manufacturers at the top of the supply chain.

We witnessed this with the RoHS Directive during 2005 and 2006, but the response to requests for REACH substance data has definitely been ponderous and there is still a lack of understanding in many areas. The electronics industry struggles to collect all the obligatory information on one batch before the next batch is published. This is a costly, resource-sapping exercise with little or no sympathy from the enforcement authorities. True, they didn't intend REACH to be a "paper chase" but that is exactly what has happened.

Selected substances then face approval for "authorization of use" and this (very) costly exercise must be completed within a specified period of time and before its "Sunset Date", once they are added to Annex XIV. Where approval is not granted, a substance cannot be used in manufacturing or be imported into the EU. Any downstream user can thereafter only procure the product from the source of the authorisation request, assuming it has been granted. New safety symbols will be introduced and added to data sheets, as part of the Classification, Labelling and Packaging of substances and mixtures requirements, and the phased migration to new global harmonized systems (GHS).

China RoHS

In October 2009 the Chinese Government published the first draft catalog of Electronic Information Products that will be subject to China RoHS restrictions. While the catalog will be updated periodically, the initial scope is limited to telephones and all types of printers that attach to a computer. All kinds of phones are covered including mobiles, landline telephones and networked handsets.

Six substance restrictions and maximum concentration limits are generally in alignment with EU RoHS. Ten of the EU exemptions are used for telephones and twelve for printers (although not identical wording to the EU).

Companies exporting products into China for sale within the country will be required to have their products tested and certified compliant by an approved Chinese test house. This may create a bottleneck as the obligations will enter into force just ten months after the legislation is adopted by the Chinese Government. At present no details of authorized test houses or standards have been published.

The second China catalog, once published, is likely to continue with the consumer product theme and include TV, VCR and DVD products. However, in a recent dramatic development, there are proposals around a so-called China RoHS2. Here the scope would be aligned to the original EU RoHS. The subject of CCC testing and accreditation is, interestingly, not mentioned in China RoHS2.

No products have been suggested, so this too could be an open scope in line with RoHS in the EU.

So the question is which one be adopted, the original draft catalog of September 2009 or China RoHS2?

Energy related Products

More Implementing Measures are expected to enter into force during the coming months on the Energy-related Products (formerly Energy using Products) Directive. These will focus on the energy efficiency of products, reduced standby and off-mode losses, as well as labelling and information on environmental performance. The requirements include the phasing out of linear in favor of switch-mode power supplies and specific information on packaging and data sheets for certain lamps.

Formaldehyde limits

The US Congress approved federal legislation (the Composite Wood Products Act) to limit allowable emissions of formaldehyde from composite wood products sold in the United States. The limits are based on levels already in effect in the California. Formaldehyde is a known carcinogen and manufacturers and importers of products containing wood composite materials (like wood speakers) will be affected. The new federal limits will not be implemented until 2013. The law reduces allowable formaldehyde levels, but does not eliminate them. Manufacturers and importers selling products in California are already required to use low-formaldehyde or formaldehyde-free wood. Both the California and coming federal limits will require wood containing products to be tested and certified as compliant.

Batteries

Manufacturers or importers of batteries into the EU must be aware of specific labelling requirements.

Many batteries, especially from the Far East, are failing compliance due to the size of the wheellie bin and / or the hazardous substance symbols on the battery.

Cadmium and mercury are now restricted, and while lead is permitted, it must be indicated on the battery if above a specified concentration.

In the near future batteries will have to be marked to indicate their capacity, which could lead to market share gains, or losses, for some manufacturers while clearly of benefit to users. Batteries supplied in equipment have the same restrictions and must be marked in the same way as batteries supplied separately. There are

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specific requirements for equipment which must be designed to enable users to “readily” remove and replace batteries other than where there is a safety, performance, medical or data integrity exemption

Conflict Minerals

Something that industry is going to hear a lot more about is the “Dodd-Frank Wall Street Reform and Consumer Protection Act” which was signed into law by President Obama in July 2010. During 2009, there was a bill in the US Senate known as the “Congo Conflict Minerals Act of 2009” which was similar. The section of the Act covering conflict minerals requires that companies, principally US listed, that are Securities and Exchange Commission (SEC) registered, annually disclose whether they have used relevant minerals from the Democratic Republic of the Congo or an “adjoining country”.

If a company did use conflict minerals from such countries, it will have to submit a report to the SEC describing how it exercised due diligence on the source and supply chain of such minerals, including an “independent private sector audit”, as well as a description of the products manufactured that contain such conflict minerals. The minerals covered are: columbite-tantalite (coltan), cassiterite, gold, wolframite or their derivatives or any other mineral determined by the Secretary of State. The electrical and electronics products industry has a major use for materials covered by this legislation and many of the components come from China, where one source of the raw materials is the Congo. We will be monitoring these developments closely.

In the next two years, we predict that there will be more substance restrictions under REACH and maybe RoHS, more products falling within scope of the regulations, more revised exemptions, more data requests up and down the supply chain (especially with ad-hoc regulations), a greater focus on the content and quality of data sheets, and probably more frustration, cost and resource issues for the industry. We will be monitoring developments in 2011 with California’s Green Chemistry initiative to see if it implements any REACH-like requirements.

To keep current on regulatory requirements, visit www.element14.com/legislation [1] for comprehensive and detailed information, including US/Canadian environmental laws. Use our “Ask the Expert” feature for complimentary advice.

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