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China RoHS Is Serious Business: A Discussion of China RoHS and a Road Map for Compliance

by Anne Davidson, Joe Johnson, and Ken Rivlin

Editors' Summary: Moving beyond the command-and-control product regulation of the past, China is shifting focus to product management as an alternate means to address health and safety, waste management, and environmental contamination. China's restriction of the use of certain hazardous substances (RoHS), a new legal framework designed to govern product manufacture, use, and end-of-life issues, presents a new compliance challenge for industry all over the world and at all levels of the supply chain. In this Article, Anne Davidson, Joe Johnson, and Ken Rivlin summarize China RoHS and recent related regulatory developments, highlight some similarities and distinctions between China RoHS and a comparable system now in place in the European Union, and offer a road map outlining how industry might begin to understand this complicated new regime.

March 1, 2007, marked the implementation date of the first phase of China's new environmental regulatory framework known as China RoHS. It is so-named by the electronics industry after the preexisting European Union (EU) Directive, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment or EU RoHS. Officially named the China Ministry of Information Industry Order No. 39: Administrative Measures on the Control of Pollution Caused by Electronic Information Products, China RoHS will impose extensive new environmental regulations on designers, producers, manufacturers, importers, and sellers of electronic information products (EIPs). Compliance with China's new environmental protection regulations will result in lasting changes to the electronic industry that will cross supply chain and global boundaries.[1]

EU RoHS and China RoHS represent a new vanguard in environmental regulation. Traditional environmental laws have focused principally on command-and-control approaches that levy fines or penalties for violations of requirements governing, among other things, contamination, releases of hazardous substances into the environment, waste and materials management, environmental performance reporting, and health and safety issues. EU and China RoHS, like many other new environmental regulations, focus instead on product management: what we make, how we make it, and what happens to it when it comes to the end of its useful life. Many of these new rules impose limits on the use of particular substances. Companies selling their products in multiple markets around the world need to navigate through an increasingly complex and sometimes conflicting web of requirements like the EU and China RoHS regulations in order to ensure that their products can move smoothly from the design table to their customers. To succeed, global businesses need to understand the evolving requirements in each of the jurisdictions to which they ship products, establish interdisciplinary management systems that will ensure compliance all the way through the supply chain, and critically assess and manage the costs of compliance and the risks of noncompliance.

This Article provides a short summary of China RoHS and recent related regulatory developments, highlights some similarities and distinctions between EU and China RoHS, and offers some practical suggestions for a China RoHS road map to compliance. Impacted businesses should take special note that while March 1, 2007, opened Phase I of China RoHS, the relevant Chinese governing bodies and related working groups are actively evaluating the most effective implementation standards and strategy for China RoHS Phase II. This Article is based on currently published China RoHS legislation and standards, and businesses subject to China RoHS should consistently monitor for regulatory changes.

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1. This Article provides a basic summary and is provided for informational purposes only and does not constitute legal advice. For specific China RoHS questions, consult with legal counsel. The translations cited herein are also provided for informational purposes only and do not constitute legal advice. Where conflicts exist between the English translations and the Chinese originals, not that the Chinese versions are the only ones recognized by the Peoples Republic of China and are controlling. Interpretations and clarifications should be sought from the Ministry of Information Industry (MII), and legal counsel sought where appropriate.

I. EU RoHS and China RoHS: Similar, But Different

A. Similarities

EU RoHS and China RoHS are regulatory schemes from different countries and vastly different cultures, but the regulations share a common purpose—to control and reduce environmental pollution caused by the use of certain toxic and hazardous substances. To that end, both laws restrict the same toxic and hazardous substances: lead; mercury; cadmium; hexavalent chromium; polybrominated biphenyls; and polybrominated diphenyl ethers. The maximum concentration values (MCVs) permitted in those substances are also treated similarly (but with some differences) under both EU and China RoHS. However, while many electronic products are subject to both legal regimes, the process to determine which products fall within the scope of the regulations is different for each law.

Another parallel between the two laws is their clear impact on the electronics industry and how it does business. Compliance with EU RoHS required electronic companies worldwide to remove or reduce the amount of lead and other restricted hazardous substances from their products and supply chains, and to institute comprehensive compliance assurance systems to ensure that compliance goals were met. In contrast, the medical devices and measuring and test equipment sectors that are not within the scope of EU RoHS are nonetheless subject to China RoHS. Manufacturers that produce medical devices and measuring and test equipment have now joined the ranks of electronic companies that must conform to additional environmental mandates.

Environmental legislation in China and the EU is evidence of a growing global trend of increased state-mandated requirements for environmentally friendly design, hazardous substance reduction, and the control and recycling of electronic products. Companies are increasingly anticipating these changes and including design and manufacturing for the environment, as well as recycling provisions, in their business plans in order to ensure compliance, promote corporate social responsibility, and in some cases, achieve a perceived marketing advantage.

B. Differences

Companies with electronic products subject to EU RoHS must understand the distinctions between EU and China RoHS, or risk noncompliance when exporting into these markets. Some of the differences between the two laws are outlined in Table 1 below.

Table 1

	EU	China
Implementation Date and Method	• July 1, 2006—RoHS became effective in each of the EU Member countries	• Two phases implemented by relevant Chinese national and state authorities • Phase I implemented March 1, 2007, requiring labeling and reporting • Phase II to be implemented at later dates included in an official Catalogue
Product Scope	• Applies to electrical and electronic equipment (EEE) that is dependent on electric currents or electronic fields with a voltage reading not exceeding 1,000 volts for alternating current and 1,500 volts for direct current • Applies to eight broad categories of EEE including, i.e., large and small household appliances, consumer equipment, lighting equipment, electrical and electronic tools, etc.[2] • Not included are medical devices and monitoring and control equipment • Some products are excluded, i.e., military equipment, large-scale industrial tools, etc. • Some products may be declared exempt through administrative petition • EEE are finished products	• Applies to electronic information products (EIPs) included in an official classification list • The EIP list includes medical devices, monitoring and control equipment, large-scale industrial tools, semiconductor manufacturing equipment, batteries, blank CDs, etc. • Some EIPs will be included in a yet unpublished Catalogue specifying which products will be required to meet toxic and hazardous waste substance restrictions • EIPs and their components intended for manufacture in China and ultimate export are not within scope • Some EIPs are finished products, but the EIP list extends to materials, parts, and components
Proof of Compliance	• Self-proving—compliance assumed • Upon enforcement, a company should demonstrate proof of a strong compliance assurance system that ensures the design, operations, data management, auditing, testing, and other controls of EEE manufacturing will produce compliant EEE • No EU RoHS compliance labels required • Due diligence defense available in some countries (United Kingdom, Poland), otherwise strict compliance required	• March 1, 2007—Phase I deadline requires the following: (1) self-proving through identification of the presence of restricted hazardous substances in EIPs using specific marking and labeling; (2) the declaration of the environmentally protected period of safe use (EPUP); (3) packaging labeling to for recycling also required • In Phase II, EIPs included in the Catalogue will likely require testing in Chinese labs and certification of compliance

2. EU RoHS categories include the following: large household appliances; small household appliances; information technology and telecommunications equipment; consumer equipment; lighting equipment; electrical and electronic tools (with the exception of large-scale industrial tools); toys; leisure and sports equipment; and automatic dispensers. Various exclusions and exemptions apply, such as for medical devices and monitoring and control equipment, that are too lengthy to be included in this Article. *See* Council Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS), 2003 O.J. (L 037), and Council Directive 2002/96/EC, Annex 1A, Waste Electrical and Electronic Equipment (WEEE), 2003 O.J. (L 037).

Table 1 (cont'd)

	EU	China
"Put on the Market" (Standard to determine when the date of compliance liability is triggered)	• Dependent upon when a finished product has been transferred from the manufacturing stage with the intent to distribute for commercial sale • Applies to a product once it has become a finished product; not applicable to components for further assembly, research and development, testing or demonstration	• The date a product has completed the production stage is when it is put on the market • All EIPs that have completed the production stage for manufacturing on or after March 1, 2007, must meet Phase I requirements
Supply Chain Scope	• Applies to finished products, but compliance throughout supply chain necessary to meet standards • Not likely to apply to commercial sellers that are not also producers	• Legislation applies not only to manufactured products, but also to design, packaging, manufacturing processes, import and sale of products
Liability	• Imposed on the party who put the product on the market (though this analysis can differ between individual Member States) • Liable party is likely the producer/ manufacturer, but could also be the distributor or other party who "put the product on the market"	• Imposed on the product manufacturer • Imposed on supplier if component is noncompliant and sold separately on market • Importers and sellers can be held liable
Spare Parts/ Refurbished EEE or EIPs	• Pre-July 1, 2006, spare parts intended for the repair of pre-July 1, 2006, EEE are not within scope • The above exclusion does not necessarily apply to whole unit exchanges • Refurbished products are not within scope, unless sold as new	• Does not apply to spare parts or whole units used to extend the life of an EIP, unless the products are sold individually on the Chinese market • Does not apply to refurbished EIPs or second-hand products • Does not apply to products exported for repair or refurbishment, then imported back into China

II. Background: China RoHS Phases I and II; The Catalogue

China RoHS was jointly promulgated on February 28, 2006, by seven Chinese government agencies, including the Ministry of Information Industry (MII), the Ministry of Commerce, the General Administration of Customs, and the State Administration of Environmental Protection, among others.[3] Broader than its European counterpart, China RoHS impacts the entire electronic industry supply chain to control and reduce environmental pollution during the design, production, sale, and import of electronic information products (EIPs) into China. China RoHS applies to EIPs manufactured for sale within China. It does not, however, apply to the production of EIPs in China that are thereafter exported out of the country, or to the related raw materials, parts, and components imported for assembly and ultimate export.[4]

A. Phase I

March 1, 2007, initiated Phase I of China RoHS' two-pronged compliance approach, requiring, among other things, specific labeling and disclosures that indicate the following: (1) whether an EIP contains the toxic and hazardous substances regulated by China RoHS (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ethers in concentrations exceeding the MCVs); (2) if the contents exceed China's MCVs for those substances; (3) whether a product is recyclable; and (4) the environmentally protected use period (EPUP) (discussed in more detail later in this Article).[5] The labeling and marking requirements are applicable to all EIPs that are put on the market on or after March 1, 2007.[6] "Put on the market" in this respect is understood to be the production date of the product, or in other words, the date when the product comes off the production line.

The March 1 initiation did not trigger requirements to substitute or eliminate the amount of China RoHS toxic and hazardous substances. Those requirements will begin in Phase II.[7]

To facilitate compliance with the labeling and marking requirements, MII finalized standards governing the requirements for MCVs of the China RoHS regulated substances (SJ/T11363-2006), testing methods for those substances (SJ/T11365-2006), and the required marking and labeling (SJ/T11364-2006) formats necessary to meet the March 1, 2007, disclosure requirements. These standards were issued on November 6, 2006, and published on December 4, 2006.[8]

3. Administrative Measures on the Control of Pollution Caused by Electronic Information Products (jointly promulgated by the MII, the Ministry of Commerce, the General Administration of Customs, the State Administration of Environmental Protection, the National Development and Reform Commission, the General Administration of Industry and Commerce, and the General Administration of Quality Supervision, Inspection, and Quarantine, Feb. 28, 2006), Order No. 39 (American Electronics Association (AeA) unofficial translation) [hereinafter China RoHS].
4. *Id.* art. 2; Questions and Answers from October 26, 2006, AeA China RoHS Conference (including excerpts from China RoHS, implementing standards and the MII FAQ dated Dec. 2006), Jan. 2007, Q&A 1, http://www.aeanet.org/GovernmentAffairs/gamm_ChinaRoHS_WorkshopFAQs.asp.
5. Frequently Asked Questions on the MII Management Methods on Control of Pollution From Electronic Information Products (Regulations), Dec. 2006, Q&A 6, http://www.aeanet.org/GovernmentAffairs/gabl_ChinaRoHSpage0905.asp. (The AeA has issued several series of Q&A. Hereinafter they will be referred to as Frequently Asked Questions with the appropriate date identified.) (Note that other sources of information on China RoHS can be found at Grace Compliance Specialist, http://www.grasplc.com/China%20RoHS%20Q&A%20-%20Measure.php and Design Chain Associates at http://www.chinarohs.com/, as well as other organizations); Frequently Asked Questions, Q&A 5.
6. *Id.* Jan. 2007 (AeA unofficial translation), Q&A 26.
7. *Id.*
8. MII issued the following standards: (1) Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products; (2) Marking for Control of Pollution Caused by Electronic Information Products; and (3) Testing Methods for Hazardous Substances in Electronic Information Products. Nov. 6, 2006, P.R.C. (AeA unofficial translations); *see also* Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 72.

In Phase I, the China RoHS legislation also requires that the design and production processes incorporate innovative design and manufacturing methods to reduce or eliminate the restricted toxic and hazardous substances. China MII officials have since outlined two expectations: (1) the use of national or industrial standards of hazardous waste control for EIPs; and (2) the adoption of non-toxic or low-toxic substances to ensure greater safety, recycling capability, function, and performance. MII has clarified that the second of these requirements is advisory with no current compliance measures.[9]

Liability in Phase I or II for noncompliance can extend to the producer, seller, and importer of an EIP that does not comply.[10] A supplier can be held liable if a noncompliant component is sold separately on the market.[11]

B. Phase II—The Catalogue

In Phase II, all EIPs included in a yet unpublished Catalogue for Priority Prevention of Pollution From Electronic Information Products (Catalogue) must comply with the China RoHS toxic and hazardous waste substance restrictions.[12] Timelines for compliance will be provided by the Catalogue.[13] EIPs listed in the Catalogue that fail to comply with the hazardous substance restrictions by the assigned deadline risk being prohibited from import, sale, and distribution in China.[14]

Chinese MII officials are currently preparing the China RoHS Catalogue and are instituting a formal process for feedback from industry stakeholders, with the goal of issuing a Catalogue listing EIPs that are scientifically and technically capable of compliance.[15] No official timeline for the Catalogue's publication has been announced. Once Phase II has been implemented, it is expected that testing of the EIPs and certification of their compliance with China RoHS will be required.[16] Chinese authorities will conduct an annual review that may result in the restriction of more toxic and hazardous substances and the inclusion of additional EIPs in the Catalogue.[17]

III. To Which Products Does China RoHS Apply?

A. EIP Classification Note

An electronic product falls within the scope of China RoHS if it is included in MII's extensive list of EIPs, called the Electronic Information Products Classification and Explanation (EIP Classification Note). MII prepared the EIP Classification Note to reduce uncertainty and to further define the 10 major categories of EIPs identified in the China RoHS legislation. The EIP Classification Note includes all electronic products, parts, components, elements, and accessories that are considered EIPs. General categories from the EIP Classification Note are provided in Table 2 below. Manufacturers must consult the actual EIP Classification Note in order to determine which products are EIPs and therefore subject to China ROHS.[18]

Table 2

China RoHS EIPs	**(General Categories; Consult Complete EIP Classification List for Further Info)**
Radar Equipment and Products	Electronic Industry Dedicated Equipment and Products (semiconductor devices, integrated circuit dedicated equipment, etc.)
Communications Equipment and Products	Electronic Element Products (capacitors, connectors, pcbs, etc.)
Broadcast and Television Equipment Industry Parts	Electronic Device Industry (electron tubes, batteries, electronic wire and cables, integrated circuits, etc.)
Household Electronic Products, i.e., TV, VCR, DVD, etc.—but not white household products	Electronic Dedicated Material Products (electronic elements, semiconductor material, etc.)
Computer Industry Products	Electronic Application Products (game players, medical electronic instruments, etc.)
Electronic Measurement Instrument Products	

B. Differences Between EIP Classification Note and Catalogue

The EIP Classification Note is not the same as the China RoHS Catalogue previously discussed. In Phase II, Chinese authorities will identify products from the EIP Classification Note for inclusion in the Catalogue, which will ultimately require compliance with the China RoHS toxic and hazardous waste substance restrictions provided in the Catalogue. Products that are included in the EIP Classification Note, but not ultimately selected for inclusion in the Catalogue, remain subject to the China RoHS requirements that were implemented on March 1, 2007, i.e., labeling, but not to the catalogue's specific hazardous substance requirements that will be implemented in Phase II.[19]

C. The Scope of China RoHS

Numerous questions have arisen with respect to the scope of China RoHS. In response, the Chinese MII has provided guidance in a series of Frequently Asked Questions (FAQ) in order to respond to industry concerns (which FAQ are cited in this Article). Below are some examples of the China RoHS applications included in the FAQ.

First, MII dispelled any misunderstanding that China RoHS applies to products that are produced in China, but which are thereafter sold external to the Chinese market. Citing China RoHS, Article 2, MII confirmed that China RoHS does not apply to "products destined for export."[20]

9. Frequently Asked Questions, *supra* note 5, Dec. 2006, Q&A 9.
10. China RoHS, *supra* note 3, art. 22.
11. Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 41.
12. China RoHS, *supra* note 3, art. 18.
13. *Id.* art. 21.
14. *Id.* art. 20.
15. Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 51.
16. China RoHS, *supra* note 3, art. 19; Frequently Asked Questions, *supra* note 5, Q&A 62.
17. China RoHS, *supra* note 3, art. 18.
18. *Id.* art. 3; Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 6.
19. China RoHS, *supra* note 3, art. 18; Frequently Asked Questions, *supra* note 5, Dec. 2006, Q&A 5.
20. China RoHS, *supra* note 3, art. 2; Frequently Asked Questions, *supra* note 5, Q&A 1.

MII also clarified that products which are NOT included in the EIP Classification Note are NOT within the scope of China RoHS.[21] Instead, only EIPs listed in the EIP Classification Note are subject to China RoHS regulation provisions.

MII applied similar logic to the treatment of components and raw materials under China RoHS. MII affirmed that China RoHS does NOT apply to the sale of parts and raw materials on the Chinese market that are intended for inclusion in EIPs that are thereafter sold outside of China. In that circumstance, suppliers of components, parts, and raw materials should provide the China RoHS labeling information to the downstream producer, which should in turn label the product pursuant to China RoHS requirements (labeling standards are discussed in more detail later in this Article). In contrast, China RoHS would apply to parts and components that are listed in the EIP Classification Note that are sold for distribution in China.[22]

Questions have also been raised regarding the application of China RoHS to spare parts and whole unit exchanges that are imported for the repair, recycling, or upgrade of an EIP. Under MII guidance, parts used for maintenance or upgrades for after-sales service are not included under China RoHS. However, if such products are sold individually and are included in the EIP Classification Note, they are covered by China RoHS.[23] Similarly, if a pre-March 1, 2007, EIP is exported out of China for repair and is returned after March 1, 2007, China RoHS does not apply to that EIP.[24]

MII has likewise clarified that China RoHS does not apply to an internal transfer of equipment from a parent company to a Chinese company for the purpose of internal manufacturing in China, so long as the non-Chinese company and the Chinese company share the same legal entity.[25] Such a transaction would be considered an internal transfer of assets and would not constitute placing a product on the market.[26]

IV. Labeling, Marking, and Other Phase I Requirements

A. Labeling Requirements and the EPUP

The China RoHS final standard for marking requirements (Marking Standard) requires manufacturers to provide consumers standard information about the hazardous substances contained in EIPs.[27] The Marking Standard provides precise instructions for the design, color, and size of labels that will need to be placed on EIPs, or if the EIP size or shape will not permit, in the product manual.[28] Examples of the labels are below (not to scale). Logo 1 applies to EIPs that contain no regulated toxic and hazardous substances, and Logo 2 applies to EIPs that do.[29] A green color for Logo 1 and an orange color for Logo 2 are recommended, and the logos must be readily apparent to consumers and users.[30]

Figure 1

21. Frequently Asked Questions, *supra* note 5, Q&A 6.
22. *Id.* at Q&A 6.
23. *Id.* Jan. 2007, Q&A 30.
24. *Id.* Jan. 2007, Q&A 23.
25. *Id.* Jan. 2007, Q&A 3.
26. *Id.*
27. Marking for the Control of Pollution Caused by Electronic Information Products, People's Republic of China, SJ-T11364—2006, Nov. 6, 2006 (AeA unofficial translation) [hereinafter Marking Standard].
28. *Id.* §§5.4 to 6.1.
29. *Id.*
30. Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 21.

The replaceable number inside Logo 2 stands for the EPUP, and is defined as the time period during which the toxic and hazardous substances contained in the EIP will not leak or mutate under normal usage and therefore can be used safely.[31] The concept of an EPUP is original to China and has not appeared in environmental legislation in other countries. The circular arrows for the symbols are intended to demonstrate that the product can be recycled after its EPUP has expired.[32] Correspondingly, while the Marking Standard does not specifically include a requirement that the date of product manufacture be included with the marking, MII guidance provides that it must be printed on the EIP in accordance with Chinese national standards requiring a year, month, and day format. The date of manufacture is the beginning date for the EPUP.[33]

To provide direction on how to determine the correct EPUP, MII has issued draft General Guidelines of Environmentally Protected Use Periods for Electronic Information Products. Also sometimes referred to as the "Environmentally Friendly Use Period," or the "safe use period," the EPUP introduces an environmental use time frame intended to place a "limit of use time" on EIPs that contain toxic and hazardous substances or elements.[34] The draft EPUP guidelines are still being developed by the MII Standards Working Group, which is expected to publish further guidance.[35]

The draft EPUP guidelines offer a method flow chart to assist EIP producers and importers to determine the appropriate EPUP. Pursuant to this guidance, an EIP producer or importer must first give consideration to identifying the technical EPUP through practical or experimental methods. These methods include actual product experience, or in the alternative, internationally recognized experimental technologies. If practical or experimental methods are not a viable option, the following conceptual methods are acceptable, in no order of priority: (1) safe use period; (2) technical life (as determined by the formula—"EPUP = technical life + balance"—where technical life is defined in the product design, and the balance refers to the period of time consumed by, i.e., pre-sale transportation, storage, added life from repairs or part changes); (3) comparison method (new EIPs may rely on comparisons with the EPUP of similar products); and (4) table method (Appendix A in the draft EPUP guidance document includes a list of commonly seen EPUPs derived by a committee of industry experts).[36]

In addition to the product marking standards described above, the China RoHS Marking Standard also requires that manufacturers follow the Chinese packaging standard, GB 18455-2001 with respect to the outside packaging of an EIP.[37] This packaging standard was implemented in 2001 and provides precise symbols, codes, and labels to identify package content, i.e., cardboard, plastic, etc., and other recycling information.[38] Pursuant to GB 18455-2001, companies need only provide one packaging label on the outermost layer of the packaging materials.[39] However, China's MII encourages the labeling of all internal packaging to facilitate sorting and recycling of packaging materials.[40]

B. Supplier Labeling and Reporting Responsibilities

Suppliers of components, raw materials, and other EIPs that are purchased for manufacturing need not affix the marking themselves, so long as they provide the manufacturer with all necessary information for marking. The manufacturer must then include that information within the scope of its marking responsibilities for the final manufactured product.[41] In its guidance, MII recommends that suppliers have an agreement with downstream manufacturers with respect to labeling responsibilities.[42] This type of agreement can also demonstrate to Chinese customs authorities the reason that labeling is not required upon import into China for unfinished components or raw materials.

C. Table Format for Names and Contents of Regulated Substances

Together with the labeling instructions, the China RoHS Marking Standard specifies a table format for the disclosure of the presence of the regulated toxic and hazardous substances above the hazardous waste restricted levels, or MCVs.

Table 3 is straightforward (see below). If an EIP includes toxic and hazardous substances equal to or greater than the China RoHS MCV, then the EIP name (or part) should be listed in the left column and an X should be indicated in the column with the corresponding substance. Similarly, if the presence of the regulated hazardous substances is less than the MCV, the EIP should be listed in the left column, and an O inserted in the same column as the corresponding substance. Other than the Xs and Os, Table 3 itself, including the explanation of O and X, must be in Chinese.[43] However, an English table may be provided in addition to the Chinese table.[44]

31. Marking Standard, *supra* note 27, §3.5.
32. *Id.* app. B.
33. Frequently Asked Questions, *supra* note 4, Jan. 2007, Q&A 31.
34. *Id*.
35. *Id.*
36. General Guidelines of Environmental Protection Use Period of Electronic Information Products, Feb. 2007 draft, P.R.C., §§4-7 & app. A (AeA unofficial translation).
37. Marking Standard, *supra* note 27, §9.
38. Packaging Recycling Marks (promulgated by the State Bureau for Quality Supervision, Inspection, and Quarantine, Sept. 18, 2001, effective Jan. 1, 2002) GB 18455-2001 (P.R.C.), http://www.Aeanet.org/governmentaffairs/gajl_Packaging_GB18455_2001ENG.asp.
39. *Id.* §6.2.
40. Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 27.
41. *Id.* Jan. 2007, Q&A 41.
42. *Id.* Jan. 2007, Q&A 5.
43. Marking Standard, *supra* note 27, §6; Frequently Asked Questions, *supra* note 4, Jan. 2007, Q&A 36 & 37.
44. Frequently Asked Questions, *supra* note 5, Jan. 2007, Q&A 37.

Table 3. Marking Styles for Names and Contents of Toxic or Hazardous Substances or Elements

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006. X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006. (Enterprises may further provide in this box technical explanation for marking "X" based on their actual conditions.)						

Table 3 should be included in the product instructions, but if a paper manual is not provided, the table may be included in product instructions in compact disc form. Providing the information on a website is acceptable only as a secondary means of information, unless the EIP will be distributed only to locations with Internet access. In that case, producers must provide consumers with the website address and ensure that the information is accessible. In disputes where consumers are unable to obtain relevant information made available only on the Internet, producers must bear full legal responsibility.[45]

V. MCVs

The China RoHS MCVs are identified in the final standard for concentration limits, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products, SG/T11363-2006 (MCV Standard). The MCV restrictions establish the basis for compliance with the marking and labeling requirements effective on March 1, 2007. Testing against the MCVs using methods in the SJ/T 11365-2006 testing standard could in theory be used to assess product compliance with application of Logo 1 or the information presented in the hazardous substances table. This approach will be used in Phase II to determine compliance for EIPs listed in the Catalogue that will be subject to mandatory testing.[46]

As stated in the EU/China RoHS comparison, the MCVs are similar, but not identical, to those of the EU RoHS. The concentration limits for lead, mercury, hexavalent chromium, polybrominated biphenyls, and polybrominated diphenyl ether shall not exceed 0.1%, and the content of cadmium shall not exceed 0.01%.[47] The content analysis involves the classification of EIP parts into test units of three different categories: A (homogenous material); B (metallic coating of each part); or C (small components or materials that cannot be further disassembled—products that are equal to or less than 4 cubic millimeters).[48] In Phase II, the content of EIPs listed in the China RoHS Catalogue will need to comply with these MCVs as provided therein.

VI. Testing Standards and General Enforcement

China MII has also issued the final standard for testing, Testing Methods for Hazardous Substances in Electronic Information Products, SJ/T 11365-2006 (Final[49] Testing Standard).[50] The Final Testing Standard includes a flow chart describing standard testing procedures, as well as uniform testing methods, to apply to EIPs for compliance with China RoHS.[51] In Phase I, MII guidance provides that if a manufacturer has a clear understanding of toxic and hazardous substances in a product, the marking and labeling information can be provided without a test. If that is not the case, then a test is needed.[52] In Phase I, testing by a non-Chinese certified lab is acceptable, but the same will not be true in Phase II for EIPs included in the Catalogue.[53]

During Phase I, Chinese authorities have stated that they will enforce China RoHS during by spot checks (routine inspections) upon import or once inside China.[54] These spot inspections, dependent on whether they occur at the ports of entry or in the Chinese market, will likely be conducted by local counterparts of the national Administration for Quality Supervision, Inspection, and Quarantine, or the State Administration for Industry and Commerce.[55]

In Phase II, it is expected that products included in the Catalogue will require a China Compulsory Certification

45. *Id.* Jan. 2007, Q&A 38.

46. Marking Standard, *supra* note 27, §§6.1 to 6.2.

47. Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products (promulgated by the MII, Nov. 6, 2006) SJ/T 11363-2006, §4, tbls. 1 & 2, P.R.C.

48. *Id.* §4, tbl. 1 & §§5 to 6. (Note that for Classification B the substances lead, mercury, cadmium, and hexavalent chromium shall not be added intentionally, per limit requirements.)

49. Frequently Asked Questions, *supra* note 4, Jan. 2007, Q&A 65.

50. Testing Methods for Hazardous Substances in Electronic Information Products (promulgated by the MII, Nov. 6, 2006) SJ/T 11365-2006, §1, P.R.C.

51. *Id.* The Final Testing Standard is extensive, and this Article does not include a comprehensive review of its contents. For information regarding China RoHS testing standards, the Final Testing Standard should be consulted directly in concert with legal counsel.

52. Frequently Asked Questions, *supra* note 5, Dec. 2006, Q&A 41.

53. *Id.* Jan. 2007, Q&A 65.

54. *Id.* Jan. 2007, Q&A 47.

55. *Id.*

(CCC) from a certified Chinese test lab certifying that either toxic and hazardous substances have been replaced, or the MCVs for those restricted substances have been met. However, it is important to be aware that testing and certification requirements are currently being developed and could change depending on the methodologies chosen by the relevant Chinese governing bodies, i.e., MII, and as required by China RoHS, Article 19, the National Certification and Accreditation Administration (CNCA).[56] While the standards for certification have not been developed, it is expected that the Final Testing Standard will serve as a foundation.[57]

MII acknowledges that mutually recognized agreements (MRAs) that would enable cross-border acceptance of international test lab results are possible, but that MRAs will require bilateral agreements between governments once Phase II has been finalized.[58]

VII. China Compliance Road Map

As demonstrated above, China RoHS is a complex law that takes a radically different approach to the control and prevention of toxic and hazardous substances in electronic products than its counterpart, EU RoHS. For companies that sell EIPs in the Chinese market, compliance will involve an internal readiness analysis, gap analysis, and corresponding compliance strategy—both internally and among external supply chain partners. It requires a focused effort to meet the labeling and marking requirements, and in the long term, to meet the hazardous substance restrictions ultimately triggered with Phase II. The following is a compliance road map intended to provide fundamental steps to assist with that process:

Compliance Road Map

- Know the law
- Anticipate impacts/risks to your business
- Identify internal compliance/performance requirements
- Conduct compliance gap analysis
- Develop and implement compliance strategy
- Confirm supply chain readiness
- Monitor regulatory developments for new requirements
- Regularly reassess compliance strategy

Critical to the process is management commitment to achieving compliance, a strong environmental compliance team, and the effective incorporation of the compliance strategy into the standard operations of the company and its supply chain. It is likewise essential to utilize existing operations, resources, tools, and business processes to build on knowledge, facilitate integration of the compliance strategy, and approach compliance in a cost-effective, efficient manner.

A. Know the Law, Anticipate the Risks

A necessary step to any compliance effort is to understand the law and the impact it will have on the business. What must be done to comply? Is the business ready? Are suppliers in compliance? How does the new law impact contractual obligations? What are the risks and related costs of noncompliance? How much will compliance cost, and how long will it take?

China RoHS requires specific labels and a reporting table for EIPs within its scope. For EIP producers that sell products in China, as well as related importers and sellers, this means that failure to include the labels is evident upon inspection. Business risks that companies face for noncompliance are real and could include the following:

- Products prohibited from import or confiscated
- Lost sales
- Required redesign of product or replacement of parts
- Delayed time to market
- Lost revenues and profits
- Reputation damage and relationship costs
- Lost market share
- Excess inventory
- Breach of contract
- Regulatory penalties (China, EU, United States, i.e., Sarbanes-Oxley)

Noncompliance could be serious to the bottom line, but a strong compliance program can minimize these risks. In fact, a strong compliance plan may serve as a market advantage and strengthen or expand business opportunities.

B. Identify Internal Compliance Performance Requirements and Conduct a Gap Analysis

Compliance with the China RoHS labeling and marking requirements, and ultimately the restrictions on hazardous substances, may necessitate changes in the entire production cycle:

- Engineering/design
- Operations
- Quality control
- Information, technology
- Procurement, materials, and shipping
- Account management/sales
- Knowledge of workforce
- Marketing and internal communcations

Each of these functions should do an internal readiness check to determine the standards China RoHS requires and the corresponding readiness to comply. From this exercise, compliance gaps can be determined and a timeline for a compliance strategy established. Important to the process will be the leveraging of existing policies, processes, and internal resources, and identifying, where necessary, what additional resources are needed.

The internal readiness check and gap analysis may reveal which compliance issues need to be addressed. They may indicate, for instance, that the engineering team must redesign products to include non-toxic substances, or that the manufacturing operations must use a RoHS-compliant solder. Such analyses might also reveal the need for a more sophisticated data management system to track the purchase and use of materials and components in the manufacturing

56. *Id.* Jan. 2007, Q&A 65; China RoHS, *supra* note 3, art. 19.

57. *Id.* Jan. 2007, Q&A 67.

58. *Id.* Jan. 2007, Q&A 62.

process. The ability to gather and access accurate information on the concentration levels of restricted substances in EIPs will be critical to meet the labeling and reporting mandates, as well as customer requirements for that information. Additionally, an internal readiness check could indicate the need for additional quality controls, such as audits or testing. Almost certainly it will demonstrate a need to communicate the China RoHS requirements across the organization and to impacted customers and suppliers. Any of these items may be systemic issues that a company must address.

C. Develop a Compliance Strategy: The Environmental Compliance Team

Leadership and cooperation across corporate functions is critical to developing and implementing an effective China RoHS compliance strategy. Without question, leadership from the top of the company is very important to the success of any compliance strategy. Company leaders must understand the impact of China RoHS, be committed to a sound compliance policy—including enforcement of internal compliance policies—and communicate this commitment to all levels within the organization and to supply chain partners. Otherwise, compliance efforts may not be considered meaningful by employees or business partners.

Leadership is also essential from the bottom up. To orchestrate a compliance strategy, many companies form a cross-functional environmental compliance team (ECT). The ECT develops and leads the design, communication, and implementation of the compliance strategy, interfaces with company leadership, and plans for the integration of the compliance strategy into standard company operations. The ECT is often led by the legal or engineering departments, and ordinarily includes representatives from the following functions: engineering; legal; operations; quality; information technology; procurement; account management; shipping; account management/sales; and sometimes, communications. The ECT will often lead the internal readiness checks and gap analysis efforts discussed above.

D. Confirm Supply Chain Readiness

One of the functions of the ECT may be to lead or work with the account management and procurement teams to ensure that suppliers and customers understand the compliance requirements of China RoHS. Companies must be able to confirm that suppliers will be able to supply accurate information about MCVs, and that this information is provided efficiently to the manufacturer for inclusion in the China RoHS and labeling requirements. Shipping and packaging companies must be able to meet the China RoHS required packaging standards. To minimize potential liability, manufacturers may want to confirm suppliers' China RoHS performance requirements in writing with certificates of compliance or through the language in materials declarations.

Suppliers of components that are identified as EIPs have their own responsibility under China RoHS to either meet the China RoHS marking requirements—whether the EIP contains hazardous substances above the China RoHS MCVs—or to provide the relevant information downstream to the manufacturer for inclusion in final product marking. Suppliers who choose to supply the data downstream should obtain written confirmation from the manufacturer that the final marking will include the supplier's EIP information.

Cooperation among suppliers, manufacturers, and other partners in the supply chain will facilitate compliance. Business supply chain partners that cannot meet the performance requirements should be identified, and either brought up-to-speed or potentially released from the business relationship. As with internal compliance, failure to maintain external compliance may lead to liability.

E. Monitor Regulatory Developments and Internal Compliance Performance

China RoHS is one of the latest environmental protection laws with an impact across country borders and along supply chain borders. More environmental legislation has passed or is expected in the EU, Korea, and Australia. The Chinese MII is likewise expected to issue additional regulations for China RoHS, including the Catalogue and accompanying CCC standards. In short, environmental legislation that requires design for environment, manufacturing for environment, recycling plans, and other similar mandates remains a high priority in many key electronics markets. At the same time, public attention and opinion are driving companies to provide innovative, progressive responses to curb environmental waste. Accordingly, environmental compliance has become a mandatory business requirement for manufacturers, suppliers, importers, and other business organizations around the world.

In this regulatory climate, companies must continually monitor and adjust their environmental compliance strategies to ensure their compliance with these evolving requirements. Continued management support should be evident, and compliance itself should be integrated into the ordinary course of business. Regular performance assessments should be conducted, and where weaknesses are identified, they should be corrected. Supply chain partners should likewise be evaluated regularly and their commitment to compliance confirmed. Given the legislative environment, legal and regulatory developments will need to be monitored so that changes may be incorporated into business practice and reflected in business contracts so that unnecessary liability may be avoided.