ASSESSING METHODOLOGIES FOR IDENTIFICATION OF SIGNIFICANT IMPACTS IN THE ISO 14001 EMS (ENVIRONMENTAL MANAGEMENT SYSTEMS)

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ABSTRACT

ISO 14001 is a voluntary environmental management system specification standard in the ISO 14000 series. It contains those elements that must be satisfied by an organisation seeking registration or certification to the standard. Identification of significant environmental impacts is one of the requirements as stated in clause 4.3.1 of MS ISO 14001 EMS – specification with guidance for use, and is an important step in the implementation of ISO 14001 standard. A study on the methodologies for identification of significant environmental impacts in the ISO 14001 EMS (Environmental Management Systems) was carried out.

Three methods that have been developed are applied in this study, and an electrical/ electronic industry has been chosen as the subject of the study. Method A is a qualitative method, which shows the significance of impacts as 'top', 'high', 'medium' or 'low'. Method B and Method C are both quantitative assessment, which involve numerical scoring system to enable prioritisation of each significant impact. Method C further categorised the significance level into three ranges, namely, 'very significant', 'significant' and 'non-significant'. Generally, each of the three methods has its strengths and weaknesses.

The results obtained by each method is not consistently the same, yet, do not differ much. Method B is deemed to be most suitable for assessing the significant impacts in the selected case study, as the description and usage of the key criteria are more applicable to its activities, products and services. However, these three methods are still incomprehensive, but can be incorporated to set up a more thorough method. Therefore in setting up a method of analysis that is more comprehensive some criteria would have to be included in a method for identifying significance. It is important that the scope of descriptions should also be specific to each issues of concern. Qualitative and quantitative assessments are therefore recommended and have to be integrated in the method of analysis so as to provide a thorough view of its significant aspects and impacts. This would enable a company to assess and act accordingly to the requirements whether legal or other wise. Hence any method incorporated by a company for identification of significant impacts must be thorough, yet flexible and practical to be used.

PENILAIAN KAEDAH-KAEDAH BAGI MENGENALPASTI KESIGNIFIKAN IMPAK-IMPAK ALAM SEKITAR DALAM ISO 14001 (SISTEM PENGURUSAN ALAM SEKITAR)

ABSTRAK

ISO 14001 merupakan suatu piawaian spesifikasi sistem pengurusan alam sekitar yang terdapat dalam siri ISO 14000. Piawaian ini mengandungi elemen-elemen yang perlu dicapai oleh sesebuah organisasi yang ingin mendapatkan pendaftaran atau pensijilan kepada piawai tersebut. Pengenalpastian kesignifikan impak-impak alam sekitar adalah salah satu kehendak yang dinyatakan dalam klaus 4.3.1 MS ISO 14001 EMS – spesifikasi dengan panduan kegunaan, dan merupakan langkah yang amat penting dalam pelaksanaan piawaian ISO 14001. Penilaian kaedah-kaedah bagi pengenalpastian kesignifikan impak-impak dalam ISO 14001 telah dijalankan.

Tiga kaedah yang telah direka digunakan dalam kajian ini, dan suatu industri elektronik/ elektrikal telah dipilih sebagai subjek kajian ini. Kaedah A adalah kaedah penilaian kesignifikan impak secara kualitatif, iaitu mengelaskan kesignifikan impak dalam kategori 'sangat tinggi', 'tinggi', 'sederhana' atau 'rendah'. Kaedah B dan Kaedah C pula merupakan penilaian secara kuantitatif, di mana melibatkan sistem skoran berangka untuk menentukan tahap kesignifikan impak. Di samping itu, Kaedah C mengelaskan kesignifikan impak kepada tiga kategori, iaitu, 'sangat signifikan', 'signifikan' dan 'tidak signifikan'. Secara am, ketiga-tiga kaedah yang telah dinilai mempunyai kebaikan dan keburukan masing-masing dalam penilaian kesignifikan impak.

Keputusan yang diperolehi daripada ketiga-tiga kaedah adalah tidak konsisten, tetapi tidak jauh berbeza. Kaedah B didapati lebih sesuai untuk penilaian kesignifikan impak bagi kes kajian ini, memandangkan deskripsi dan kegunaan kriteria-kriteria dalam kaedah ini lebih bersesuaian dengan aktiviti-aktiviti, produk-produk dan perkhidmatannya. Walaubagaimanapun, ketiga-tiga kaedah ini masih tidak lengkap, tetapi boleh digabungkan untuk menghasilkan kaedah yang lebih baik. Beberapa kriteria yang telah dinilai sekurang-kurangnya patut diambilkira semasa penilaian impak signifikan. Skop dan deskripsi kriteria perlu spesifik kepada isu-isu tertentu. Penilaian secara kualitatif dan kuantitatif patut digabungkan dalam satu kaedah. Secara keseluruhannya, kaedah yang direka untuk mengenalpasti kesignifikan impak perlu lengkap, praktik dan fleksibel untuk diguna.

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LIST OF ABBREVIATIONS

APS	Activities, Products and Services
CERES	Coalition of Environmentally Responsible Economics
CIMAH	Control of Industrial Major Accident Hazards
EMS	Environmental Management Systems
GATT	General Agreement on Tariffs and Trade
ICC	International Chamber of Commerce
ISO	International Organisation for Standardisation
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment