SUMMARY.

"All glory comes from daring to begin". Anonymous

This research reviewed the new ISO 9001:2000 Quality Management Systems (QMS) and examined its compatibility with ISO 14001:1996 Environmental Management Systems (EMS). After which, the opinion of Singapore's construction and engineering companies towards integration was sought.

Major changes in the revised ISO 9001:2000 standard are the increased focus on top management commitment and customer satisfaction, the emphasis on processes within the organization and continual improvement concepts. Attention is also placed on top management to make available necessary resources. Requirements for documentation have also been reduced with emphasis placed on the demonstration of effective operation. The standard's most significant change is its potential applicability to industries besides manufacturing.

ISO 14001:1996 is an environmental management standard against which an organization can be audited and it is voluntary. ISO 14001 is the standard that companies will implement and the standard to which they will either self-declare conformance or seek third-party certification. This standard is intended to provide organizations with the elements of an effective environmental management system, which can be integrated with other management requirements.
ISO 9000 and ISO 14000 standards are so intertwined that they almost require integration. When ISO 9001 is blended with ISO 14001, together they provide a reasonable framework to help an organization achieve functional clarity and reach its goals. Just as quality is everyone's responsibility, so is environmental compliance. It stands to reason that procedures that weave the two different systems together should be implemented. Using ISO 9001, modified with relevant ISO 14001 clauses, provides a comprehensive standard operating procedure. Previous research work undertaken on the old ISO 9000:1994 and ISO 14001:1996 standards have found common requirements that warrant their integration. A proposed form of integration includes a so-called “system of systems” approach. Despite these findings, the challenges of integration remain a concern to be addressed. The study then proceeded to examine the theoretical comparison of the new ISO 9001:2000 framework with ISO 14001:1996 and how the ISO 9001:2000 standard facilitates integration.

A survey was then carried out on 215 of the largest BCA (Building and Construction Authority) registered engineering and construction companies in Singapore. Of these, 98 companies responded and it was found that the current percentage of contractors certified to ISO 14001 is small. Nevertheless, there is strong interest among them. There is also evidence that a large proportion of companies are in favour of implementing an integrated system. Among the companies which are ISO 14001 certified or considering certification, feedback on the possibility and difficulty of integration of ISO 14001 with ISO 9001:2000 as well as the benefits and costs was obtained. The findings were then verified with expert opinions from the industry practitioners. Anticipation on the potential problems of an integrated system,
motivation for adopting ISO 14001 and the implementation challenges were also discussed.

Finally, the research suggests that the revised ISO 9001:2000 standard serves as an opportunity for Singapore contractors to consider certification to ISO 14001:1996 EMS and OHSAS 18001:1999 Occupational Health and Safety Management Systems by integrating these systems into their QMS.