Adopting a Management Systems Approach to Construction Environmental Management Plans – (Plan Do Check Act)

Introduction
Previous EIA Quality Mark articles have discussed the benefits and weaknesses of Construction Environmental Management Plans (CEMP), and have pointed to the lack of an accepted structure and scope and the need for specific, auditable measures. This article explores one approach that can aid the clarity and usefulness of a CEMP.

By simple definition, a CEMP should present the framework for the environmental management of the construction process of the proposed scheme.

The purpose of a CEMP is to outline how a construction project will avoid, minimise or mitigate effects on the environment and surrounding area.

In outlining the environmental management of the construction process a CEMP is required to detail the implementation of measures in accordance with environmental commitments outlined in:

- An Environmental Statement (through mitigation commitments)
- Appropriate Environmental Policy or Environmental Plan
- Requirements of Planning Conditions
- Section 106 Requirements
- Other legislative requirements or stakeholder agreements

A CEMP is a ‘live’ document which is reviewed and updated at regular intervals throughout the project life cycle.

By adopting management systems thinking to the production of a CEMP, we can not only demonstrate to the regulator an effective and robust approach to developing a CEMP framework but also provide the construction contractors with a well understood management structure.

Plan Do Check Act (PDCA) and CEMP
Management systems adopt the Plan-Do-Check-Act cycle of project control. The concept of PDCA can be simply defined as:

- Establishing the project objectives and then determining the most appropriate methods of reaching the set goals (PLAN);
- Implementing the plan (DO);
- Checking the effect of the implementation by comparing the actual results with the plan (CHECK); and
- Taking appropriate action if the check identifies a variance from the plan (ACT).

With respect to Construction Environmental Management plans, the PDCA cycle can be defined as following.

PLAN
The overall objective of the CEMP is to minimise as much as possible the potential construction impacts of the proposed scheme. Identifying the potential impacts or environmental aspects is done via a review of the environmental statement. Legal or other requirements must also be identified at this stage, this will not only include drawing up a schedule of appropriate legislation and good practice and producing a register of permissions and consents required, but also will need to clearly identify anticipated planning conditions, mitigation commitments and stakeholder agreements.
So having identified these project objectives the planning must include actions to achieve them through adopting various procedures, arrangements, plans, protocols etc. Each legal or other requirement identified will need to have an associated documented approach to achieve compliance.

DO
So what does a CEMP need to include around implementation of the plans for compliance? Firstly, there needs to be clear description of organisational structure and responsibility, included within that there needs to be a framework for ensuring the appropriate training, awareness and competence for each role. A communication plan is also fundamental for a proper CEMP as are appropriate procedures for documentation and document control.

Operational controls should also be outlined for the overall construction process itself (site operating times, delivery times, haul routes etc.) but also for anticipated construction activities (e.g. placement of acoustic barriers around piling locations).

A CEMP should also ensure it outlines appropriate emergency preparedness and response protocols.

CHECK
A CEMP also needs to demonstrate that the operational controls adopted are addressing the identified impacts. Protocols for monitoring and measurement need to be defined within a CEMP, and in addition an appropriate audit programme should be developed to identify non-compliance / non-conformance:

- Non conformance, corrective, preventative action
- Audit

ACT
Finally, a CEMP needs to include protocols for corrective or preventative action for when non-compliance or non-conformance has been identified. The protocols for corrective or preventative action need to include a mechanism for responding to complaints and communicating the corrective or preventative action undertaken.

Conclusion
A CEMP will help to ensure that the best environmental protection is achieved throughout the proposed development and that all sensitive environmental and human health receptors are protected as far as possible.

Management systems thinking provides the appropriate structure to a CEMP and can be particularly helpful when applied to large EIA projects with a significant construction programme where an outline CEMP may be submitted in support of an application.

Confidence in the format and structure of a CEMP can help to ensure confidence in stakeholders that the scheme can be delivered in compliance with anticipated planning conditions, mitigation commitments and stakeholder agreements.

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1 Ruth Jones, Construction Environment Management Plans - The child of Environmental Impact Assessments. The role of Construction Environmental Management Plans and a summary of their strengths, weaknesses and opportunities
2 Richard Page, The Benefit of Construction Environmental Management Plans as part of the Environmental Impact Assessment process

Dave Allen, EHS Team Leader, RSK Environment Ltd, September 2016.