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Title: Beyond Assessment: Managing EA Commitments During Project Implementation

The Issue

The rationale and benefits for conducting an environmental assessment (EA) early in project planning are well understood. Project proponents, regulators, stakeholders and EA professionals invest heavily during preparation of EA documents and the associated review processes. Effort is high and typically concentrated because EA is generally required for government approval, public acceptance, project financing and ultimately project sanction. Environmental risks are identified early in project planning, and mitigation strategies (including design modifications) are developed and commitments made. Stakeholders and Aboriginal communities are engaged and their issues and concerns noted and accommodated as required.

However, an over-developed focus on the EA phase of project planning can create risks including a false sense among project managers, regulators and the public that the job of environmental management is substantially complete once the EA is approved and attention can be turned to more pressing issues. Remaining environmental management details, even outstanding permits, are often delegated to implementation teams who may have limited knowledge, appreciation or resources to make sure the many commitments and requirements are effectively implemented. Without the continuity and consistent management of environmental specialists, the carefully formulated commitments and conditions of approval developed through the EA and review processes can "fall through the cracks" during the longer and lower profile implementation and operational phases. This can add regulatory and schedule risk as well as reputational risk as the project is developed.

This lack of environmental management can begin to manifest through the procurement process as poorly developed tender packages which are sometimes prepared lacking the key elements from the EA. Also, the project design and engineering sometimes becomes disconnected from the environmental planning process post EA and design changes can be made without consideration of the EA and permitting implications.

Adding to the lack of continuity during the post EA phase is the frequent changeover of project staff, consultants and government officials over the long course of project planning. It is not unusual for projects to take several years to move through initial planning and EA, often starting and stopping along the way. This planning cycle often exceeds the tenure of many participants. This creates challenges for the preservation of complex institutional knowledge with respect to project environmental management.

Other opportunities for post-EA discontinuity can arise through a change in ownership. Once the project receives EA approval and becomes more "bankable" the proponent, particularly start-up companies, may try to sell the project with the new owners struggling to understand and appreciate the long list of commitments developed through the EA process. In general terms, the effort and attention given to environmental management in the lifecycle of project development trails off substantially after EA approval (See Figure 1 below).

The observations presented in this paper are drawn from author's experience as an environmental consultant for over 20 years in Canada, although it is believed that the issues raised are widely applicable for environmental management planning.

Figure 1. Typical Environmental Management Life Cycle
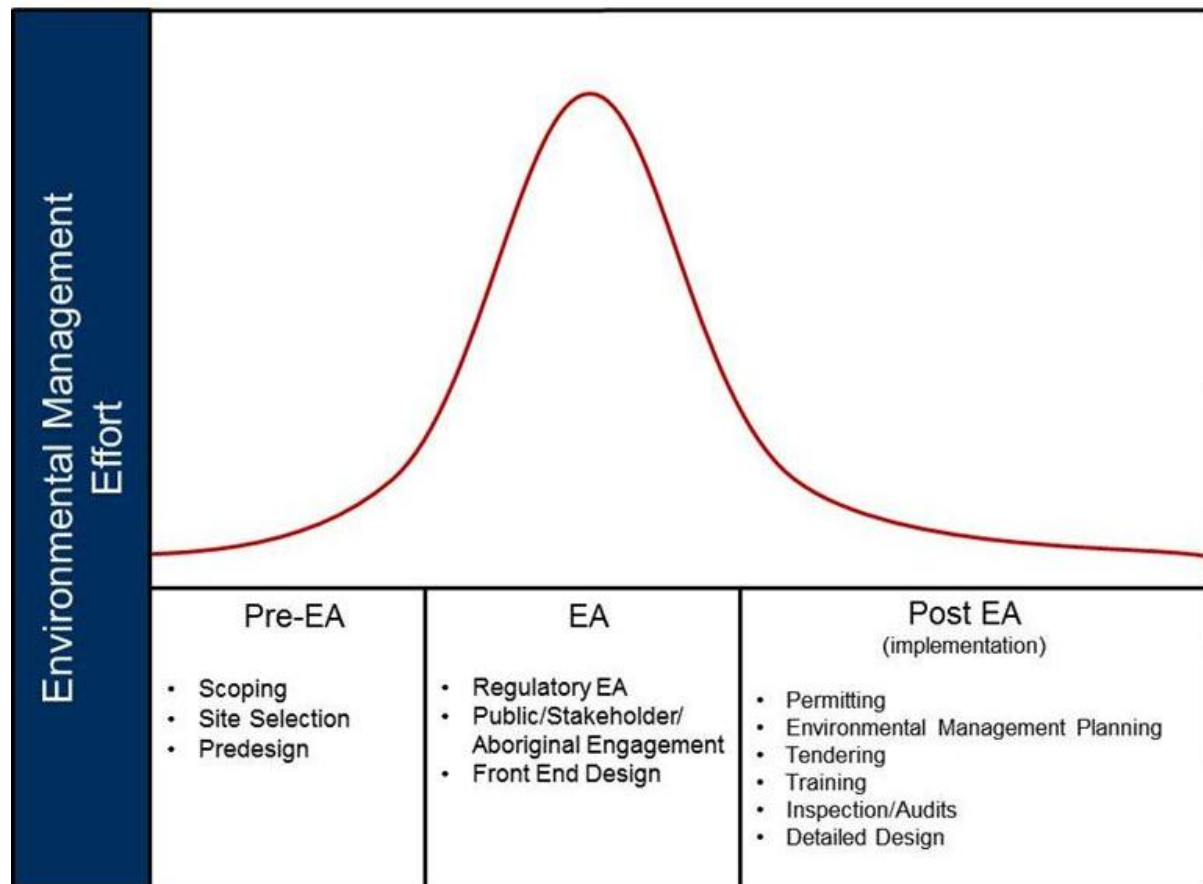
Tale of Two Projects

Imagine two companies with medium-to-large sized industrial projects in the planning and approvals phase of development. We will call one proponent The Great East Company and the other Dark Star Inc. Both projects require a regulatory EA and both companies hire leading environmental and engineering consultants and a legal team to prepare their EA filings. Over a two-year period both proponents conduct all the necessary field studies, modeling analyses and public engagement programs –spending a lot of person hours and money in the process. Both teams design carefully-crafted mitigation and monitoring strategies with a long list of commitments including design modifications, follow-up studies and management plans. Further undertakings are given by both proponents during responses to the government and public review of the EA documents. There is some public opposition to the proposals during the EA process but the public engagement team developed an impressive information and consultation program to address public concerns and ensure their issues were represented in the EA. The government approves both projects (with a long list of conditions) and Great East and Dark Star

EA teams and company management celebrate their success. Their hard work and investment of resources have paid off now that they have a bankable project that can proceed to final corporate sanction or sale of the project.

But this is where the tale of two projects starts to diverge as they head into post-EA project implementation and the focus on environmental management starts to fade; management attention becomes diverted to detailed design, marketing and procurement and/or company sale. Great East attempts to maintain continuity in its planning team by making sure key members of internal environmental and engineering staff are integrated into the implementation team, at least through a transition phase. The environmental manager who spent the past few years developing the EA strategy and supervising the EA consulting team, as well as establishing relationships with regulators and stakeholders, is retained and regularly consulted by the Great East project manager as the implementation planning gathers momentum. Some of the key regulatory officials have moved on to other jobs or other projects and their project-specific knowledge leaves with them. At the same time some important changes have been made to the project design due to changes in technology and customer requirements. But members of the Great East implementation team, including their environmental advisors, have retained enough knowledge of the project history to know when and if the changes will trigger new regulatory requirements or stakeholder concern and how to manage this change (typical for most projects) and the attendant risk. Early in the EA process Great East had the foresight to develop effective management plans to document and manage their regulatory requirements and other commitments over the life of project, knowing these documents are an essential part of project controls – even if members of the team and regulatory officials are transitory. These documents are also shared with regulatory officials, contractors and others as necessary to implement these commitments.

As soon as the celebrations ended over at Dark Star, however, management put their expensive EA on the shelf and started to focus on other issues including the sale of the project. They immediately turned the project over to separate development and marketing teams who were not involved in EA and had only a limited appreciation of some of the environmental issues and mitigation strategies carefully identified through the EA and public engagement process. To meet their demanding construction schedule, the procurement team began to develop tender packages without any specifications for the environmental controls committed to and required by the terms of approval. This only occurred to them after the contracts had been let and contractors were already requesting change orders to address the supplementary environmental requirements. In some cases, where the environmental management plans had not been developed, the contractors pleaded ignorance and proceeded without implementing the environmental and monitoring controls. Dark Star's environmental manager moved on to another job in the company and the consultants were given their leave. The engineering and marketing teams had been making changes to project design and additional permitting and public issues were not considered until it was too late to avoid major delays. In fact, the team was in disarray on a number of implementation fronts as company managers were actively considering offers of purchase. Dark Star's EA document and the good will it had generated was rapidly fading into obsolescence while risk to the company and risk to the environment was rising.

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This story is intended to illustrate the situation that once the glamour and intensity of the EA process is over, the critical, if longer term, task of implementation is required to fulfill the promise of the EA. After all, the EA is really only an elaborate planning tool and a commitment to take further action toward sustainable development over the life of the project. This takes management commitment and allocation of long-term resources.

The following sections briefly describe a selection of key post-EA Implementation Values and Implementation Tools for environmental planners and proponents.

Post-EA Implementation Values:

- Continuity between EA phase (planning) and project development (implementation) to fulfill environmental requirements and commitments.

- Integration of Environmental, Engineering and Procurement teams to manage the environmental and compliance risk associated with design changes, and to facilitate development of effective environmental mitigation as well as adaptive management strategies to address unintended impacts.

- Management Commitment to ensure that environmental management remains a top concern and is properly resourced post-EA.

- Training, Inspection and Auditing to facilitate environmental management and check effectiveness and compliance.

- Ongoing liaison with regulators and public to manage external relations and reduce unwanted "surprises".

Post-EA Implementation Tools:

- Dedicated Environmental Manager. The project implementation team must include an individual with clear and consistent responsibility for implementing the requirements and commitments of the EA and subsequent environmental permits. The environmental manager must either be technically qualified and fully briefed on the requirements and/or rely on consultants or other staff to maintain compliance as the project develops, and into project operation. This individual is responsible for the development and maintenance of key environmental management planning documents including emergency response and contingency plans. This individual should report through and be supported by senior project management. For smaller projects, the environmental manager may have other project responsibilities (*e.g.*, worker health and safety).

- Environmental Management Plans. Project-specific Environmental Management Plans (EMPs) or integrated Environment, Health and Safety (EHS) plans can include a variety of environmental planning documents such as environmental protection plans (EPPs) emergency response and contingency plans, waste management plans, *etc*. Preliminary

planning should begin during the EA phase but only completed after the EA is complete to include all commitments and conditions of approval. These are living documents that should be updated based on the results of post-EA permitting and any important design changes, adaptive management, *etc*. These documents should be aligned with existing, relevant company documents and should be controlled and audited. If properly maintained, these documents will provide continuity and management control as a project moves through implementation and into operation. Key aspects of the plans will also provide the basis for staff training and also critical input to the procurement process.

- Integrated Implementation Team. The relationship that is ideally developed between the pre-design engineering team supporting the environmental team during the EA process should continue with members of the environmental team (knowledgeable internal staff and/or consultants) in turn supporting the design engineers during implementation. This support is critical for transferring knowledge from the EA into the detailed project design, particularly where design changes are contemplated. The environmental team provides continuity and is in a position to inform the designers of key environmental and stakeholder sensitivities. This integration extends into the procurement process which must be undertaken with full knowledge of relevant commitments.

- Ongoing Regulatory and Public Engagement. Efforts to engage and inform government regulatory officials, stakeholders and the general public during the EA process should be modified but continued through the implementation phase to provide continuity and address any project changes or any issues (*e.g.*, complaints, employment opportunities) that may arise.

- Monitoring, Inspection, Auditing and Adaptive Management. The promise of the EA is not fully realized until the environmental predictions are proven to be correct and/or adaptive management is undertaken to correct unacceptable environmental or social effects. This "checking" of the EA plan is undertaken through monitoring of effects and the effectiveness of mitigation. Site inspections of facilities with potential to cause unacceptable effects should also be undertaken along with auditing of planning documents and environmental management procedures. Adaptive management and corrective action addresses problems and non-conformances as they arise.

Closure

Meaningful environmental management is a long-term endeavor that extends well beyond the project environmental assessment. Effort and attention are required to provide continuity from the completed EA through effective implementation of the many environmental management commitments and requirements. This continuity can be cultivated through a variety of means to reduce the risk to the company and environment associated with non-compliance and to maintain the promise of the EA throughout the life of project.