

# Auditing Construction Megaprojects: Challenges Facing Internal Auditors

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## *How do we define Megaprojects?*

Megaprojects are large-scale, transformational, complex ventures that cost \$ 1 billion or more, take years to develop and build, involve multiple public and private stakeholders and partnerships that impact millions of people. As such, megaprojects require large amounts of capital and financing for their development and maturity, along with long-term commitments. Some of the largest construction megaprojects are usually in aerospace or energy, including hydroelectric dams and facilities, while others include bridges, tunnels, highways, railways and mass transit systems, etc.

## *Challenges Facing Internal Auditors*

Internal Auditors face challenges auditing construction megaprojects both from the developer's, and the contractor's perspectives. Adopting suitable and effective audit strategies can assist auditors in overcoming the challenges which may emerge in different shapes and forms throughout the audit cycle:

- Since Megaprojects are capital intensive, they require independent and separate investment and financing decisions. They require large project funding from lenders, and their consortiums, or through public funds in the public sector. Executive, line management, and all related stakeholders must roll up their sleeves and accept the challenge of successful and timely development and maturity of a

megaproject. The respective stakeholders should understand the importance of project management controls and processes, and their overall continuing governance role in the megaproject development.

Operational management at various levels must be aware of problems in their areas of expertise and jurisdiction and rely on independent assurance and audit recommendations brought by internal auditors. The Head of Internal Audit should work closely with executive management, and the Board of Director's Audit Committee members, to understand their expectations in terms of final deliverables for megaproject audits. The Internal Audit Department has the mandate to lead and execute the audit program for the business entity and should perform up to the expectations both executive management, and the Audit Committee to discharge their governance responsibilities effectively.

- The Head of Internal Audit needs to work closely with operational management to design and visualize the conceptual framework for conducting audits of megaprojects. Without an effective conceptual framework, the auditee may not be convinced or perceive the value of the benefits and rationale for conducting the audit of a megaproject.
- Developing effective audit methodologies is key to providing assurance to all stakeholders, consistent with their expectations. Stakeholders expect to receive value-added audit recommendations on project management controls, processes

and procedures to improve the overall control environment and governance.

- The Head of Internal Audit needs to make a professional judgement on the types of audits required for megaprojects. These audits effectively use the approved conceptual framework as terms of reference and criteria for performing meaningful analysis and objective evaluations to arrive at reasonable conclusions for areas under review. The suggested audit tests could include high-level governance health checkups and comprehensive audits, including a combination of operational, financial and technical audits. This may require the services of subject matter experts, along with regulatory compliance and internal corporate procedural compliance audits. Audit procedures should be effectively designed to achieve the audit objectives.
- Large data is available for audit review due to various reporting layers involved. Data could include progress reports, construction reports and updates, financial reports, management reports and executive updates. A risk-based audit approach can only be applied if these large data sets are reviewed properly to capture the risky areas on a real time basis.
- Another relevant challenge is to identify the number of key players and groups working together as a team to build the megaproject. Internal auditors should hold meetings with all involved groups during each stage of the audit process including planning and fieldworks. Significant time will be spent on coordination with all these groups including holding exit meetings to discuss the audit recommendations, obtaining their

management responses, and action plans. These working groups can be identified on the face of the project's organizational structure. Other participating supporting departments may include personnel from the following departments:

- o Construction managers
  - o Project managers
  - o Commercial managers and quantity surveyors
  - o Architects
  - o Project accountants
  - o Safety engineers
  - o Risk management group
  - o Project procurement
- Megaprojects require multiple years for their design, development and maturity. Internal auditors should be conscious of the timing of audits, since construction activities are fast paced in nature and every day the ground situation and site conditions may change with the progress of the construction work. The audits should be planned carefully to cover those years or multiple years wherein substantial and major construction activity is planned. This effective part of strategy will allow auditors to provide assurance on the major segments of the megaproject under construction.
  - Megaprojects are often characterized by multiple remote locations and sites under construction and off-site facilities. Internal auditors should ensure that the major working sites and off-site facilities are covered for audit purposes where construction activity is in progress at the time of audit review.
  - A team of auditors should be assembled and assigned to perform audits in line with the approved audit scope. The team should be proficient and composed of experts to achieve audit objectives. These may

include professional auditors, accountants, professional engineers and safety experts, etc. The internal auditor should research additional best practices for construction auditing to provide advice on varied alternatives to improve risk management and control.

- Adequate time budgets should be allocated for performing the audits effectively. Travelling to multiple locations at various times is time consuming. Yet, a proper balance is essential in allocating for the time budget between the strategic planning stage, field work, and audit reporting, to maintain consistency and deliver value.
- The internal auditors should be knowledgeable of applicable legislation and statutory regulations for safety in the geographical location of the megaproject. Maintaining a safe work environment at the project should remain a main consideration for management and highlighted as part of their corporate strategy. In-depth knowledge of safety practices and legislation will enable auditors to determine the degree of compliance with safety regulations, and laws, and identify opportunities for improvement through process benchmarking.
- Value-added auditing principles require the auditors to identify opportunities for cost savings and cost avoidance for the megaproject under construction. A review of the following areas could uncover opportunities for potential cost savings and make a difference at the bottom line:
  - o Procurement of steel and permanent materials
  - o Change orders
  - o Progress billing and payment applications and reconciliations
  - o Progress reporting of work
  - o Equipment rentals

- o External hiring of specialized and skilled labor through manpower companies
- o Insurances and bonding
- o Consulting agreements

Challenges faced by internal auditors in auditing construction megaprojects provide an opportunity for continuous learning and can assist with increasing specialized knowledge and practice. Therefore, these challenges should be seized upon and transformed into opportunities to deliver value. ♦

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