



Engineering Sciences Section – 2011

C2 Overbilling of Governmental Contracts on Engineering Services of Construction – Case of Black-Box Operation 2009: Brazilian Federal Police

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The goal of this presentation is to demonstrate to attendees how Brazilian expert engineers are using techniques of cost engineering to assist police investigations of fraud in government contracts for engineering services for construction.

This presentation will impact the forensic science community by demonstrating how successful investigations by the Brazilian Federal Police are leading to requests to use forensic engineering cost analysis in other types of criminal probes, including undercover operations, court-ordered electronic surveillance, and use of informants. Police investigations of fraud in contracts for airport infrastructure work confirmed that it is possible to identify fraudulent overbilling using forensic engineering cost analysis techniques to study public works budgets. Overpricing and shorting of services actually delivered are identified as a form of corruption in the procurement process.

Authorities responsible for investigating possible corruption in public works projects are the primary users of civil engineering forensic specialties provided by the Brazilian Federal Police. One such investigation, code-named Black Box, looked at twelve airport infrastructure projects, estimated fraud, and other misuse of public funds to total about US \$500,000,000, a huge sum equivalent to about 57.8% of the total projected costs of the projects. Various overbilling schemes were involved. It is estimated that billions of dollars are siphoned from government contracts for construction engineering services each year. In cases of suspected overbilling, forensic engineers must estimate how much public money has been diverted elsewhere. Cost analyses are complex and time-consuming. Over the past ten years, technical standards for use by forensic engineers studying public works fraud cases were written up by the Unit for Forensic Engineering Examinations within SEPEMA, part of the National Institute for Criminalistics (INC). This institute is in reality the central unit of forensic science for the Federal Police. These standards include methodologies for locating different kinds of financial fraud, define nomenclature, and provide ways to link activities to specific criminal organizations. There are multiple forms of overbilling and shorting of services and these must be analyzed with specific techniques. Once identified, this fraud must be linked back to individuals and their criminal schemes.

Overbilling and shorting of services were found to take various forms, identified below:

- a. Billing for materials and services that were not actually provided at the level listed on the invoice.
- b. billing at rates that represented major over-pricing relative to market or to negotiated rates.
- c. Substituting lower quality materials, or providing poor and shoddy services, while invoicing for high quality products and services.
- d. Padding contracts by changing product, quantities, and level of services mid-stream to create substantial overruns.
- e. Manipulation of time schedules, pricing, and contract terms to increase overall contract cost.
- f. Deliberate over-estimation of project cost for materials, equipment, and services at the point of inception, above and beyond cost standards and market rates.

Successful techniques to identify, investigate, and prosecute criminal overbilling and shorting are described within the Brazilian Federal Police experience. This information may be useful to other nations and jurisdictions coping with the same problems and the same huge misuse of scarce resources.

Engineering, Overbilling, Corruption