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QUARTERLY E-MAGAZINE OCTOBER-DECEMBER 2023

ISSUE NO. 6

**Building the Future with
Unyielding Integrity:
NH's Debut Project in Antigua**

**Disparities in the Allocation
of Risk in State
Construction Contracts**

**Assessing Team
Performance and Feedback in
Caribbean Construction**

**Public Sector Payment
Impact On Project Performance**

**Asphalt Batching Plants:
Best Management Practices**

**Unlocking Contractor Success:
A Guide to Cause Analysis**





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President's Message



Glenn Mahabirsingh - TTCA President

The construction industry plays a vital role in the economic development of Trinidad and Tobago. It provides employment opportunities and contributes to infrastructure development, building and housing stocks, and thereby stimulates economic growth. However, like any other industry, the construction sector has its own set of cyclical challenges. In developing countries, the government plays a critical role within the construction industry by providing a consistent pipeline of shovel ready projects, as such the TTCA is looking forward to the respective state entities publishing their respective procurement plans within the stipulated timeline after the presentation of the national budget, these plans will allow contractors to effectively plan for the possible utilization of their resources.

Generating and maintaining employment within the construction sector has a positive effect on any country's economy. To foster this mutually beneficial relationship, the respective state entities must ensure a timely and efficient rollout of shovel ready projects in this upcoming fiscal year.

A wide range of projects that cater to contractors working at different levels and capacities is a crucial aspect. This assortment of project types and size will ensure that both established contractors and smaller firms have access to projects that suit their expertise and base resources. By providing opportunities for contractors of all sizes, the government can foster a healthy and competitive construction industry.

Contractors, on the other hand, need to be mindful when bidding for projects, taking into consideration material pricing volatility and availability. Recent global events affect our supply chain, causing significant fluctuations in material costs and availability. Considering these possible factors during the bidding process will help contractors make more appropriate cost estimations and thereby ensure project delivery.

With the April 2023 implementation of procurement legislation has also led to increased participation in tender processes. With more contractors vying for similar projects as such the industry has becomes more competitive. This competitiveness drives efficiency and innovation, ultimately benefiting not only the contractors but also the overall quality and completion time of the projects.

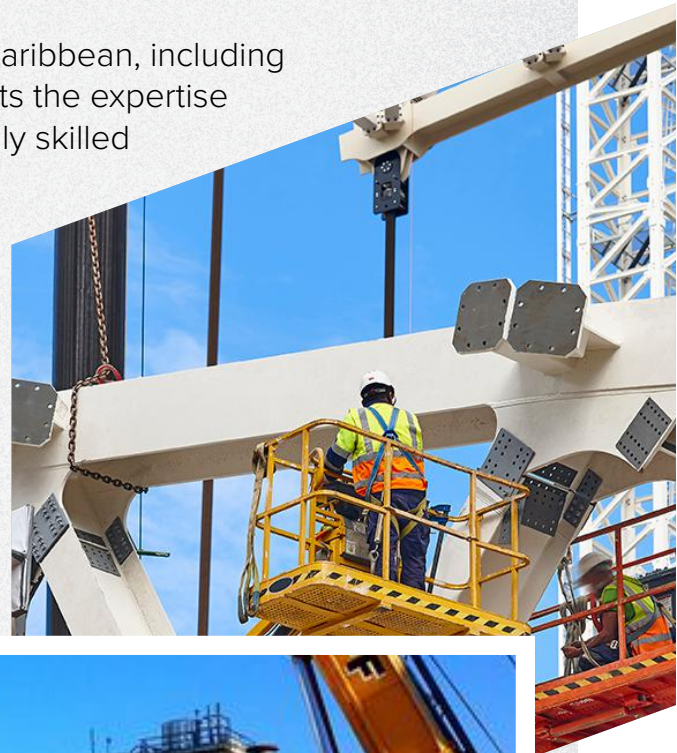
The government plays a crucial role in infrastructure development, as it is responsible for approving and initiating projects. However, delays in project approvals and statutory bureaucracy can hinder both the commencement and rate of progress of construction projects, leading to increased costs and delays. We note the government is making progress to streamline the approval process by implementing efficient online systems and procedures. Additionally, providing clearer guidelines and regulations for project approvals can expedite the construction process and reduce unnecessary delays.

One of the major issues faced by contractors is delayed payments. It is not uncommon for contractors to face delays in receiving payments for their work. This can cause significant financial strain, impacting their ability to sustain their business operations and invest in future projects. The respective state agencies can play a crucial role in resolving this issue by implementing stricter regulations and policies that ensure timely payment. Establishing a transparent payment process and enforcing it rigorously would provide much-needed relief.

The construction industry requires a workforce with diverse skills, ranging from carpentry to engineering. TTCA would like to encourage the respective state arms of the government to continue to collaborate with us to develop specialized training programs that equip individuals with the necessary skills for the construction industry.

Within TTCA, members have projects throughout the Caribbean, including Guyana, St. Lucia, and St. Kitts. This expansion highlights the expertise and skill of TTCA members, who provide the most highly skilled workforce available in the Caribbean. TTCA members contribute to the growth and development of both Trinidad and Tobago and neighboring countries.

At our Annual Dinner and Awards on November 25th, we will be recognizing and honoring the achievements of our members in five different categories. These categories include Building Construction, Civil Engineering, Specialty Construction, Small Construction (Building & Civil), and Export Construction Project. It is a celebration of the hard work and dedication put forth by our members in these areas of expertise. As tickets are limited, we recommend securing your spot early. To reserve your tickets, please visit our website. Stay tuned for more information and updates by following us on LinkedIn and Facebook.





In the rapidly developing Caribbean islands, the construction industry plays a crucial role in contributing to the region's infrastructure and economic growth. Within this context, the responsibility to assess team performance and offer constructive feedback should not be taken lightly. This process is not solely about evaluating quality but is also critical to fostering growth, ensuring safety, and achieving unparalleled efficiency in the project.

by **Mikey Thackoor**
NH International Caribbean Ltd

Assessing Team Performance and Feedback in Caribbean Construction

Working in the dynamic and geographically expansive environment of Caribbean construction operations is both challenging and rewarding. Project success is intrinsically linked to team success, and within this context, the diversity of projects spanning various islands necessitates having a well-coordinated and efficient team. In essence, the construction environment of the Caribbean, where projects can span multiple islands with varying terrains and cultures, necessitates that both effective team evaluation and critical feedback are essential for success.

With construction teams often working in remote or challenging sites, understanding their performance becomes a crucial factor in ensuring project success. In my experience, I have recognized the paramount importance of regularly evaluating team performance and providing constructive feedback. However, tailoring this process to the unique Caribbean construction landscape presents a challenge. I have learned that evaluating a team's performance is not solely about measuring outputs; it is about understanding processes, fostering communication, and building a culture of continuous improvement. In this article, I will explore and suggest key strategies for evaluating your team's performance and providing constructive feedback.

1. Set Clear Expectations/Objectives:

To evaluate any team's performance, first and foremost, expectations must be unmistakably clear. In the Caribbean construction sector, this means defining the scope of projects, delineating roles and responsibilities, and setting benchmarks for completion. Given the myriad of cultures, construction methodologies, and regulatory landscapes across the Caribbean islands, clarity in expectations becomes paramount. It's akin to setting a compass; every team member should know the direction and destination. These objectives should be:

- Specific: Clearly defined so there's no ambiguity.
- Measurable: Quantifiable or qualifiable.
- Achievable: Realistic, given the team's resources.
- Relevant: Aligned with the company's broader goals.
- Time-bound: Have a clear deadline.

Before you can effectively evaluate your team, it's crucial to have well-defined objectives. Every project, whether it's a seaside resort in Barbados or a high-rise in Antigua, should have clear KPIs (Key Performance Indicators). These could range from adhering to timelines and maintaining safety standards to meeting budgetary constraints.



2. Continuous Monitoring:

Relying solely on periodic evaluations might result in missed opportunities to correct issues in real time. Implementing continuous monitoring processes to keep a pulse on your team's performance is critical. Daily and/or weekly reports, regular site visits, and digital tools are essential to monitor project progress.

- Quarterly Evaluations: Implementing a quarterly review process ensures that you are not waiting until year-end to provide feedback. This frequency allows for course corrections if specific goals aren't being met. The evaluation frequency depends on the project and is tailored to meet your particular requirements.
- On-the-Spot Feedback: Waiting can sometimes exacerbate issues in the construction industry. If you observe something worth addressing, whether good or bad, address it then and there. The cost of failure increases exponentially with time.

With projects scattered across various islands, each with its topographical and logistical peculiarities, it's crucial to have a continuous monitoring system. This is not about micromanagement but tracking progress, understanding bottlenecks, and appropriately allocating resources. This real-time pulse check allows for mid-course corrections, ensuring your teams are not veering off the prescribed path.



3. Regular Feedback Sessions:

In the construction industry, waiting until the end of a project to give feedback might be too late. Organize regular feedback sessions - both formal and informal. These sessions provide a platform for:

- Recognition: Celebrate the small victories and acknowledge team members' hard work.
- Constructive Feedback: Address any challenges or areas of concern.
- Collaboration: Engage in problem-solving discussions and brainstorm solutions. Remember, feedback isn't just about giving; it's also about receiving.
- Open Communication Channels: Cultivate an environment where team members feel comfortable sharing their insights, concerns, or suggestions.
- Structured Feedback Sessions: Regularly scheduled sessions where team members can share their views without reservations.

When delivering feedback information, which can present as constructive criticism, consider using the feedback sandwich approach:

1. Start with positive feedback.
2. Provide constructive criticism.
3. End with more positive feedback.

This method ensures that feedback is balanced and emphasizes positive reinforcement. When providing feedback, be as specific as possible. Instead of saying, "You need to manage your time better," you might say, "I noticed the last three reports were submitted after the deadline. Let's discuss how we can improve time management."

4. Utilize Technology:

Today's construction projects, especially in expansive areas like the Caribbean, benefit from tech tools such as disruptive technologies, project management software, and drones. Such tools offer real-time insights into the project's status, team member contributions, and potential bottlenecks. Embrace technological solutions that allow you to monitor project progress remotely. Construction operations can be both efficient and cutting-edge by embracing tools that offer real-time insights, remote monitoring capabilities, and innovative solutions. You can only measure what you can manage.



Harnessing the Digital Revolution: The contemporary construction landscape is amid a digital transformation. With its distinct challenges of diverse terrains and dispersed islands, the Caribbean stands to gain immensely from this revolution. Technology streamlines operations and democratizes access to information, ensuring that every team member, regardless of location, is on the same page. Moreover, data analytics derived from these tools can predict trends, analyze risks, and optimize resources, ensuring that projects are completed on time and within budget. Leveraging these digital assets, construction leaders can make informed decisions, anticipate challenges, and strategize effectively. In an era where data is king, the adage “You can only measure what you can manage” takes on a new meaning, emphasizing technology’s pivotal role in modern construction endeavors.

5. Encourage Peer Evaluations:

Peers often have a keen insight into the day-to-day operations and can offer unique perspectives on team performance. Create an environment where team members feel safe to evaluate and provide feedback to one another. This promotes accountability and fosters a culture of mutual respect and collaboration.

The Power of Perspective: Incorporating peer evaluations introduces multiple vantage points to the assessment process, thereby enriching the overall understanding of team dynamics. Those working alongside each other on a daily basis can capture nuances that might be missed at a managerial level. Moreover, this system encourages team members to be more conscious of their roles, responsibilities, and contributions, knowing that their peers also observe and provide feedback. However, it's essential that this exercise is approached with the right spirit – one of growth, understanding, and support. When done correctly, peer evaluations can bridge gaps, foster a more profound sense of camaraderie, and drive collective growth, ensuring the entire team thrives in a collaborative ecosystem.

6. Personal Development and Training:

A team's performance is often tied to the skills and competencies of its members. Offer personal development and training opportunities, ensuring the team stays updated with the latest construction techniques, safety protocols, and technologies.

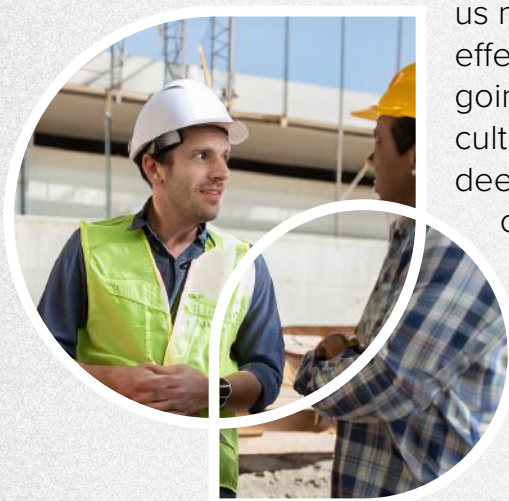
Beyond merely providing training opportunities, fostering a culture that values personal development is crucial. When employees recognize that their growth is a priority for the company, it boosts their morale and their commitment to the organization's objectives. One practical approach is implementing mentorship programs where experienced professionals guide newer team members, ensuring knowledge transfer and cultivating a culture of mutual learning. Further, encouraging team members to attend workshops, webinars, and conferences can also expand their horizons, allowing them to bring fresh perspectives and insights.

It is essential to be conscious of the fact that Personal and Professional development and training in the construction sector are not mere add-ons; they are critical to a project's success. By investing in team members' continuous growth, construction companies ensure project excellence and position themselves as forward-thinking leaders in the industry. After all is said, the foundation of every successful construction endeavor is a well-equipped and knowledgeable team.

Monitoring your team's appetite for development and training speaks volumes about the culture of any company.

7. Create A Culture of Open Communication:

Foster an environment where team members feel comfortable sharing their concerns, challenges, and suggestions. Encouraging open dialogue ensures that issues are addressed promptly, reducing potential roadblocks. Appreciate and understand different cultures and recognize the synergies. This diversity makes us more robust and more adaptive. Here, the importance of effective communication can't be overemphasized. However, going beyond mere 'effective communication,' creating a culture of open communication becomes pivotal. Let's delve deeper into what this entails and why it's indispensable for construction teams.



Open communication isn't just about exchanging information; it's about fostering an environment where team members feel empowered to speak their minds without fear of retribution. It means transparency in decision-making, a willingness to accept feedback, and an environment where questions, concerns, and ideas are welcomed and valued. This type of open communication also influences immediate project outcomes. It shapes the company's reputation. Subcontractors, partners, and clients always prefer collaborating with organizations known for transparency and open dialogue. Over time, this culture becomes a unique selling point, positioning the company as a preferred choice in a competitive market.

The foundation of every successful construction project is not just bricks, mortar, and steel but the intricate web of communication that binds the team together. By fostering a culture of open communication, construction companies pave the way for enhanced efficiency, team cohesion, and long-term success.

8. Reflect and Adapt:

The Caribbean construction landscape is dynamic. After every project, thoroughly review what went well and what could have been better. Use these insights to refine your evaluation and feedback processes, adapting to the unique challenges of each island and project. The insights gained can lead to more realistic project planning for future endeavors. Conduct regular After-Action Reviews.

Learning from Every Endeavor: The essence of progression in any industry lies in its capacity to introspect and evolve. The significance of such retrospection is amplified in the Caribbean construction realm, where diverse cultures, geographies, and methodologies intertwine. When teams come together post-project to share their experiences and learnings, it fosters a culture of continuous improvement. These reflections aren't just about pinpointing errors but celebrating successes, understanding their root causes, and replicating them in future endeavors. Furthermore, these shared moments of reflection create a collective memory, enhancing team cohesion and ensuring that the hard-won lessons of one project become the guiding principles of the next. This commitment to growth and adaptation ensures the sector remains resilient, innovative, and forward-moving.

Conclusion: Evaluating team performance and providing feedback in the Caribbean construction sector requires a combination of clear expectations, continuous monitoring, and open communication. With its unique challenges and opportunities, the Caribbean construction sector necessitates a meticulous and empathetic approach to team evaluation. With teams spread across various islands, each with its unique challenges, adopting a flexible and proactive approach to evaluation ensures that projects are completed efficiently and to the highest standards. As the adage goes, "Feedback is the breakfast of champions." In our ever-evolving industry, it is the foundation for success.

"Coming together is a beginning, staying together is progress, and working together is success." - Henry Ford.



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**NH International
Caribbean Ltd**

Mr. Mikey Thackoor is an experienced professional in the construction industry with a track record of over 25 years working across the globe. Presently, he holds the position of Head of Operations (Eastern Caribbean) at NH International Caribbean Ltd. In this role, Mr. Thackoor provides expert leadership in project development, design, implementation, and execution to ensure optimal results are achieved.



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Asphalt Batching Plants

Best Management Practices

by Environmental Management Authority



The Environmental Management Authority (EMA) is responsible for maintaining a balance between environmental management and sustainable development as outlined in the Environmental Management Act Chapter 35:05 (EM Act). Its aim is to minimize the negative environmental impact resulting from human activities. The Certificate of Environmental Clearance (CEC) process is governed by the CEC Rules and the CEC (Designated Activities) Order (as amended), subsidiary legislation to the EM Act. The CEC process is one of the instruments used by the EMA to regulate development and reduce negative environmental impacts.

Through the CEC process, the EMA assesses the potential environmental impacts of new or significantly modified existing activities. The CEC (Designated Activities) Order 2001, as amended, identifies 44 Designated Activities (DAs) that require a CEC.

Table 1 displays the applicable DA for Asphalt Batching Plants. Additional DAs are determined by the project description and proposed scope of work. If the scope of works includes site preparation and construction tasks such as land clearing, earthworks, paving, and drainage, the EMA will consider whether other DAs are also applicable to the project.

Table 1. Applicable DAs for Asphalt Batching Plants		
	Activity	Definition
19	Establishment of a facility for petroleum products, petrochemicals or petrochemical products.	The establishment, modification, expansion, decommissioning or abandonment (inclusive of associated works) of a facility for the manufacture of petrochemicals; petrochemical products; petroleum products, including asphalt or bitumen.

Hot Mix Asphalt Plants, Impacts, Emissions, And Best Management Practices

Hot Mix Asphalt (HMA) plants produce asphalt within a temperature range of 150–180 °C (Milad A. et al. 2022) and can be classified by the mixing operation and typically include one of the following depicted in Diagram 1: (USEPA, 2004):

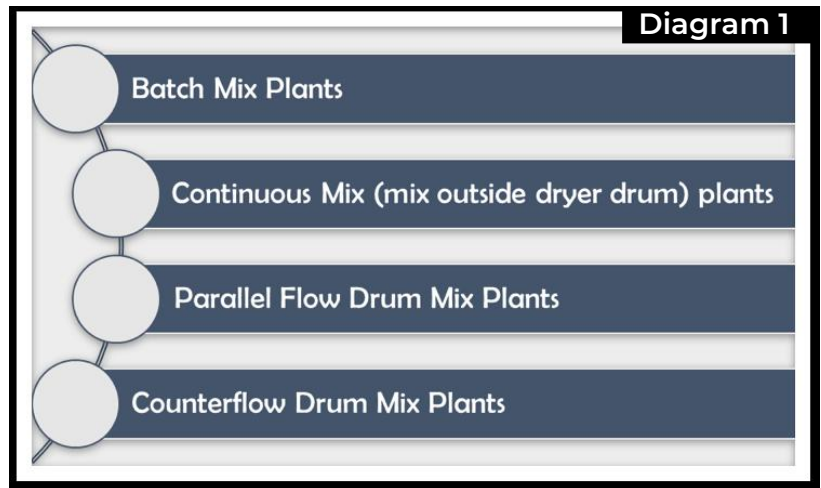


Table 2. Potential Impacts from HMA Plant Operations

Potential Impacts

The key potential impacts associated with asphalt batching plants include emissions, noise and solid and liquid waste as outlined in Table 2:

Impacts	Source
Air Emissions	<ul style="list-style-type: none"> • <i>Ducted production emissions</i> - vented to the atmosphere through a stack, vent, or pipe (e.g., generated during the aggregate heating and drying process. Dryers are the most significant ducted sources of emissions from both batch mix and drum mix HMA plants); • <i>Fugitive</i> - generated from the delivery, storage and handling of aggregates or from general plant and yard activities with potential points of origin including stockpiles, cold feed bins, conveyor belts, screens, material transfer points and the movement of vehicles and equipment.
Odour	<p>Hot mix production of asphalt influenced by the source of the raw materials, sulphur content, temperature, and use of additives.</p> <p>The main points of origin at asphalt plants are from delivery vehicles, storage tanks and load-out areas (CCA, 2004).</p>
Noise	<p>Generated from:</p> <ul style="list-style-type: none"> • Burner, fans, diesel generators. • Yard activities related to the operation/movement of equipment and vehicles. <p>Note: Noise emissions are greatly influenced by surrounding ambient noise levels and the time of day or night.</p>
Waste	<p>Wet scrubbers trap particulates in the fine mist and the wetted particles/slurry are discharged typically to settling ponds. The settled slurry must be periodically removed from the ponds for disposal (CCA, 2004).</p>

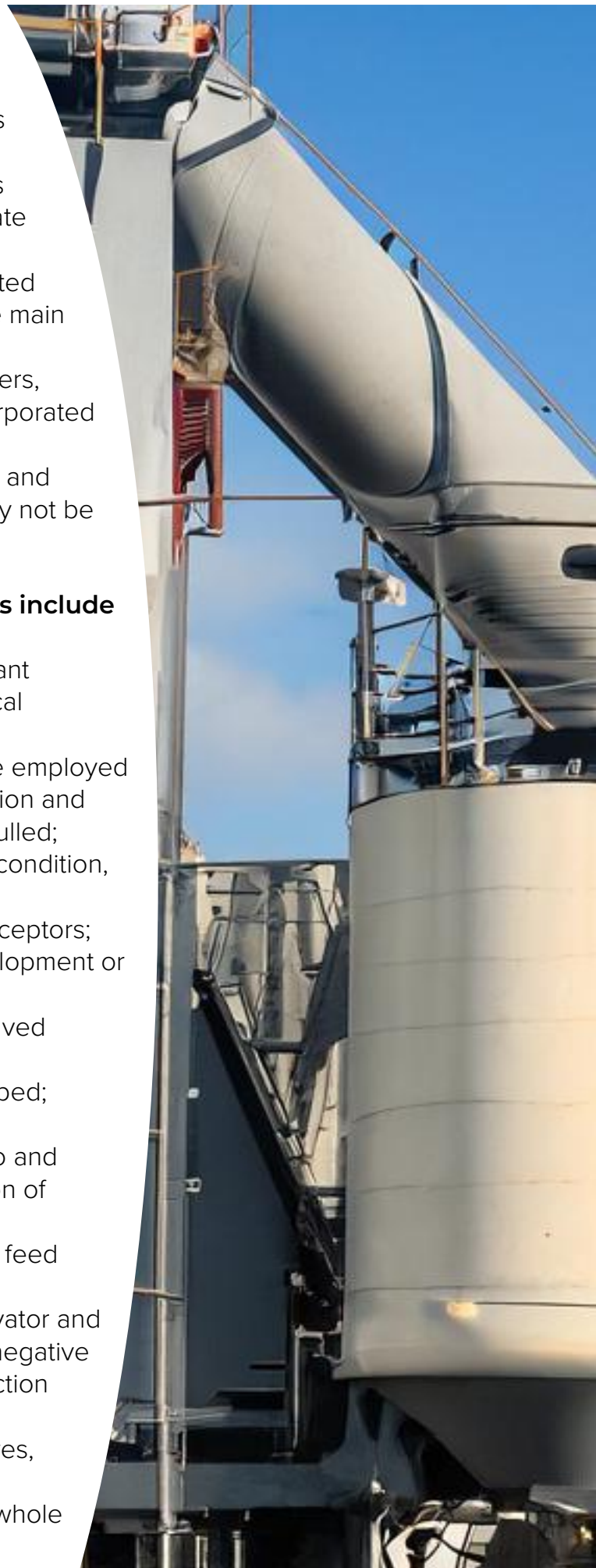
Best Management Practices/Emissions Control Systems

The systems typically employed on HMA plants include primary and secondary collection devices (USEPA, 2000b):

- Primary Collection - Cyclones or multicyclones incorporated for the collection of fine particulate matter generated and emitted principally from the drying operation and from which all collected material may or may not be reinjected into the main aggregate flow.
- Secondary Collection – Multicyclones, scrubbers, bag filters and electrostatic precipitators, incorporated for the collection of that particulate matter not collected by the primary collection equipment and from which such collected material may or may not be reinjected into the main aggregate flow.

BMPs utilised at HMA Plants for air emissions include (USEPA, 2000) (CCA 2004):

- Control of fugitive particulate matter on the plant premises and access roads by paving, chemical treatment or other suitable measures;
- Water spraying or other suitable measures are employed to minimise fugitive particulate matter generation and atmospheric entrainment when hot bins are pulled;
- Stockpiled aggregates maintained in a damp condition, especially during periods of dry conditions;
- Use of dust screens in areas near sensitive receptors;
- Location of stockpiles downwind of built development or receptors;
- Adoption of a speed limit for vehicles on unpaved surfaces;
- Ensure vehicles delivering aggregates are tarped;
- Use of non-toxic dust-suppressant chemicals;
- Transfer of aggregates in a dampened state to and from storage area(s) to minimise the generation of windborne dust;
- Locate stockpiles as close as possible to cold feed bins to minimise loader travel;
- Ensure tight seal at connections between elevator and screens, seals are properly fitted to maintain negative pressure at the connection to the dryer/ collection system;
- Inspection and maintenance of discharge valves, ducts and seals around dryer intake;
- Minimise the number of transfer points in the whole system.



Alternatives to HMA Production

There are other Asphalt mixtures depending on the production temperature (Milad. A. et al. 2022) as follows:

- (i) Cold mix asphalt (CMA) produced at 0–30 °C;
- (ii) Half-warm mix asphalt (HWMA) produced at 60–100 °C; and
- (iii) Warm mix asphalt (WMA) produced at 110–140 °C.

The Kyoto Protocol, which committed countries to reducing their Green House Gas (GHG) emissions encouraged countries to develop technologies, products and processes that reduce the mixing and compaction temperatures of HMA (Almeida and Benta, 2016). This is due to the energy required to achieve the desired workability of the material is exponentially increased from CMA to HMA resulting in higher Greenhouse Gas (GHG) emissions of HMA compared to other mixtures (Milad. A. et al. 2022).

Other subsidiary legislation

Other subsidiary legislation of the Environmental Management Act, 2000 (EMA, 2023, a) also regulates the operation of concrete batching and HMA plants, as follows:

- Air Pollution Rules, 2014 (APR) - Any air pollutant from the operational phase of HMAs must be in compliance with the permissible levels prescribed in Schedules 1 and 2 of the APR;
- Noise Pollution Control Rules, 2001 (as amended) (NPCR) - Operational activities must be in compliance with the prescribed Standards in the NPCR when measured at the property line, except in circumstances described under Rule 7 of the NPCR.
- Water Pollution Rules, 2019 (WPR) - Any effluent intended to be discharged during the operational phase of the project must be in compliance with the permissible levels prescribed in Schedule II of the WPR;
- Waste Management Rules, 2021 (WMR) – As described in the WMR, the requirement for a Waste Generation Permit if the operation will produce non-hazardous wastes at or above specified quantities, or hazardous waste at any quantity.

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Building the Future with Unyielding Integrity: NH's Debut Project in Antigua

by Mikey Thackoor
NH International Caribbean Ltd

In the vibrant canvass of the Caribbean, nestled amidst lush landscapes and turquoise waters, the realm of construction is witnessing a paradigm shift. NH has pioneered cutting-edge construction methodologies across 12 Caribbean nations. Our ongoing venture, the Royalton Chic Antigua Project, marks our inaugural foray into Antigua, fostering a synergy of innovation, sustainability, and community engagement.

A revolution in construction design and execution, as the head of operations at NH, the leading contractor in the Caribbean construction industry, I am delighted to share insights into our latest endeavor, the Royalton Chic Antigua Project, which is making waves not just for its impeccable design and innovation but also for the harmonious blend of technology and local craftsmanship it embodies.

NH's Legacy in the Caribbean, since its inception NH has anchored its reputation in 12 Caribbean nations. Today, as a trail blazer, we journey for the first time to the shores of Antigua, in partnership with the esteemed Blue Diamond, one of the premier developers and hoteliers in the region.



The Royalton Chic Antigua Project: Beyond Just Buildings

- Guest Room Block: A 72-suite, six-level masterpiece leverages the NH's tunnel form system – a proprietary innovation that reduces construction time, costs, and environmental impact while ensuring durability against the region's seismic and hurricane challenges.
- Main Lobby and Restaurant & Back of House: Adhering to the same innovative criteria, we've ensured aesthetic excellence while upholding sustainability and resilience.

The project, set to be completed by November 2023, is a testament to NH's commitment to delivering unmatched quality within set timelines. The numbers speak for themselves: 4,500 cubic meter of concrete, 375 metric tons of reinforcement bars, 2,100 meters square of reinforcement mesh, and a plethora of other structural enhancements.

A Journey of Innovation with NH's Tunnel Form System

At the epicenter of this project stands the guest room block, a 72-suite structure spanning six levels, brought to life with our proprietary tunnel form system. This innovation allows for a seamless and monolithic structure, significantly reducing the construction period compared to conventional methods. The efficiency of the NH's Tunnel Form system is not just in speed but also in its environmental footprint, promoting sustainability by utilizing a single set of formwork reused throughout 24 cycles of construction.

Innovation doesn't stop at speed and sustainability. Working next to the beach presented a foundational challenge that we turned into an opportunity. By implementing a groundbreaking design to minimize foundation depth, we circumvented the need for deep foundations and dewatering, saving both time and cost.



The structural integrity also needed to withstand the harsh oceanic proximity and potential seismic and hurricane events. By meticulously choosing specific concrete

and reinforcements, we ensured the longevity of the structure without compromising on the aesthetic appeal.

Synergizing Local Craftsmanship and Advanced Techniques

Being a debutant in Antigua posed a unique challenge for NH, akin to setting up a new company. How do you balance introducing pioneering methods while respecting local traditions and expertise? Our answer: Integration. We aimed to uplift local skills and resources while infusing our expertise. Much of our success is credited to the rich diversity of our labor force, reflecting the myriad cultures of the Caribbean. It required a delicate balance of integrating advanced techniques while honoring and elevating the local craftsmanship. At NH, we believe in leaving a lasting positive imprint on the regions we work in. In Antigua, this translated to harnessing as much local labor and resources as possible.

Our dedication to adaptability and collaboration has been the cornerstone in addressing these challenges. The mutual respect and learning fostered between NH and the Antiguan community have created a robust foundation, capable of overcoming any obstacle, paving the way for a landmark structure that embodies the essence of modern Caribbean architecture.

Despite initial skepticism regarding our ambitious timeline, NH's unwavering dedication, combined with an attentive ear to the client's needs, a comprehensive supply chain management system, and a fearless approach to challenges, steered the project towards success. This achievement stands as a testament to the relentless dedication of our management team, unwavering support from our client, and a shared vision of excellence.

Fostering Growth and Unity in the Caribbean

NH prides itself as a truly Caribbean-centric entity.

Our workforce is a vivid testament to the rich and diverse cultures that adorn this region. We are more than a company; we are a collective force that stands by our people, nurturing and elevating their skills to new heights.

The Royalton Chic Antigua project stands as a beacon of what is achievable when ingenuity meets integrity. As we navigate through this project, slated for completion in November 2023, we are not just building structures but fostering relationships and shaping landscapes that resonate with the vibrancy and resilience of the Caribbean spirit.

NH: The Epitome of Trust and Excellence in the Caribbean

In the face of skepticism and numerous challenges, the unyielding spirit and integrity that NH embodies have proven to be our guiding light. We are not just a construction company; we are builders of nations, transformers of businesses, and shapers of landscapes. As we forge ahead, our mission remains steadfast: to be the Caribbean's most trusted construction and design/build company.

I invite you to witness the remarkable journey of the Royalton Chic Antigua Project, a living testament to NH's commitment to quality, innovation, and community development. Together, we are building a brighter, stronger Caribbean, one project at a time. As I reflect on the journey so far, it is evident that the Royalton Chic Antigua Project is more than a construction venture. It is a demonstration of NH's unwavering commitment to pushing boundaries, nurturing communities, and paving the way for a greener, more sustainable future in the Caribbean construction landscape.

"Innovation is our tradition, community our foundation; as we sculpt tomorrow's landscapes with the synergy of both."

Mikey Thackoor



Disparities in the Allocation of Risk in State Construction Contracts in Trinidad and Tobago

by Vaughn I. Lezama
Consulting Engineers Associates 2005 Ltd.

In Trinidad and Tobago, the State Sector is by far the largest procurer of services in the construction industry. The state sector contracting agencies therefore exercises overwhelming leverage in determining the contents and in particular, the allocation of risks in its Construction Contracts. Attempts are made at every available opportunity provided in state construction Contract to offload all possibilities of risks onto the other contracting party. It is difficult to conclude otherwise, given the extent of anomalies and the ill-advised rewriting of provisions of the FIDIC Contracts in an effort to avoid risks which are best allocated to the function of the Contracting Agency



The Design-Built (DB) method of project procurement has become the preferred method of procurement for the construction of most state infrastructure projects in Trinidad and Tobago. The preponderance of anomalies, skewed and ill-advised risk allocation provisions found in such Contracts invariably and inadvertently results in unnecessarily higher than optimum bid prices, unnecessary disputes, cost and time overrun and sometimes abandoned projects which have to be retendered. The results of all of this are often unintended project outcome and therefore the absence of value for money.

The inherent attraction for the Contracting Agencies is supposedly the single source of responsibility, and an apparent deliberate and shortsighted desire to sideline construction professionals which constitute the local Architectural and Engineering Consultancy Practices, that is a key technology-based intellectual services sector of the industry.

To the legal minds in the state sector contracting agencies, a Construction Contract is a “good” Contract if it is so structured as to eliminate any and every possible risk to the Employer and offloads it to the other party. However, failure to follow established principles of risks allocation whenever possible, invariably leads to conflict and dispute between the parties because of cost and time impact on either one or both parties. Equally important is the higher than optimum project construction prices tendered in the first place, because of the need by tenderers to include contingent elements to cover uncertain risks.

While DB Contracts under the FIDIC Yellow Book do place a higher level of risk on the contractor than is the case with Design-Bid-Build Contracts, there is expected to be a level of shared risk, and the Employer is not entirely devoid of risks. Therefore, the inordinate disparity in allocating risks to the contractor, both explicitly and implicitly, is unlikely to serve the best interest of the Project.

Inherent Risk Characteristics of Construction Projects

Construction Projects are sensitive to an extremely wide range of hazards and risks. This sensitivity is due to some of the inherent characteristics of construction projects. Some of these are:


- The time required to plan, obtain statutory approvals, design, construct and complete a construction project may span a very lengthy period which invariably expose projects to the cyclic recurrences of many hazards.
- Cyclic risks include seasonal rainfall, supply and demand of human and materials resources, economic and political cycles.
- Site specific risks related to unique physical, geological and environmental site conditions
- The number of people, including decisions makers, required to initiate, plan, design, finance, supply materials and plant, administer, supervise, commission and repair any defects in a construction project is enormous.
- Extensive interaction is required between many of the firms involved in construction, including contracting agencies, construction professionals, suppliers and manufacturer (local and foreign), contractors and sub-contractors, each with different goals and commitment and inherent risks of their own.



Risks at the Project Investigation and Planning Stage

The Project planning and conceptual design stages of most public DB Projects are undertaken by in-house personnel within the employ of the state appointed Contracting Agency and stakeholder client / government ministry. The costs of this service are financed in the interim by the Agency and the Client Ministry. However, such interim financing rarely extends to field investigations and surveys and therefore important site-specific parameters are invariably unavailable for tenderers at the time of Tender. As such, the risk associated with the unavailability of sub-surface soils parameters or topography surveys are offloaded onto the Contractor at the tender stage. This type of Risk falls within the category of “Unforeseeable Physical Conditions” and carries with it a high level of uncertainty that unavoidably leads to higher than optimum tender prices, because of the need to cover the risks associated with the uncertainty of fit-for-purpose foundation designs.

Risks at the Project Post-Contract Stage



State sector construction projects are often plagued by payment delays, onerous payment terms, and a general level of uncertainty in the financing of projects during the construction stage. In addition, State Contracting Agencies take undue advantage of their bargaining leverage in the industry to preempt the consequences of delayed payments; this being a critical factor which influences the replacing, changing or omitting of General Conditions (GCs) via the Particular Conditions of Contract (PCs), as they relate to contractual payment terms and specified time periods among others things. Such actions have the effect of imposing risks that negatively impact the project outcome in the absence of contingency allowances to mitigate the impact of the inherent risks translated into the Particular Conditions (PCs).

Based on a review of several construction Contracts issued by UDeCOTT, NIDCO and NIPDEC which are among the major state Contracting Agencies in the construction sector, some of the Clauses of FIDIC Contracts (Yellow Book) which are reworded, changed or omitted via Special Conditions so as to reduce adverse consequences to the Employer and increase the adverse consequences to the Contractor are generally related to the following issues

- Bonds, insurances, retention, payment terms (advanced and interim), delay damages and delayed payments.
- Increasing the time period allowed for the Employer to make payment to the contractor.
- Increasing the time period required for the Employer to service notices or provide information, where applicable
- Reducing the time period required for the contractor to serve notices or provide documents

- Omitting the requirement to pay financial charges to the Contractor for delayed payments (Sub-Clause 14.8) or otherwise setting a low limit, e.g., prime plus 1% which is below the cost of capital
- Omitting the required for Adjustments for Changes in Cost (Sub-Clause 13.8)
- Addition of subjective Sub-Clause other than Bankruptcy and Bribery (e.g., non-compliance with undefined safety regulations) as reason for immediate “Termination by the Employer” (Sub-Clause 15.2)
- Omission of the contract provision which states that the Employer shall not terminate the Contract under Sub-Clause 15.5 (Employer’s Entitlement to Terminate) in order to execute the Works himself or to arrange for the Works to be executed by another contractor.
- Provisions to allow the Employer to use part or all of the Works prior to issuance of a Taking-Over Certificate (Sub-Clause 10.2)
- Exclusion of the Contractor’s rights to Claim Extension of Time and Payment of Cost arising out of suspension of the works due to delayed payments by the Employer.
- Exclusion of the condition where “the Employer substantially fails to perform his obligation under the Contract” as a circumstance for Termination by the Contractor (Sub-Clause 16.2)
- Exclusion of the requirement to pay for damages or loss sustained by the Contractor under Sub-Clause 16.4 – Payment on Termination (other than profit which would have been earned on the unpaid portion of the Contract Price), after termination under Sub-Clause 16.2 (Termination by the Contractor) has taken effect.
- Provisions whereby additions or deductions which becomes due under Clause 20 (Claims, Disputes and Arbitration) or Sub-Clause 3.5 (Determination) to be claimed only under Clause 14.10 (Statement at Completion)
- Requirement (under Sub-Clause 4.10 Site Data) that the Contractor procure any additional site data (e.g., sub-surface data for foundation design) necessary for submission of his proposal, even when the Employer knows that it is impractical to do so.
- Defining “Unforeseeable” (Sub-Clause 1.1.6.8) to mean “not reasonably foreseeable by an experienced contractor by the “Base Date”, (where “Base Date” is defined in the PCs as the Date of execution of the Contract)
- Provisions whereby the Employer is not required to give Notice to the Contractor under Sub-Clause 2.5 (Employer’s Claim) for payment due under Sub-Clause 8.7 (Delay Damages). FIDIC GCs applies this provision only to Sub-Clause 4.19 (Electricity, Water and Gas) and Sub-Clause 4.20 (Employer’s Equipment and Free-Issue Material)
- Requirement that the contractor provides warranties and liabilities on the contractor’s designs to be executed by the replacement contractor, after termination by the Employer, and which designs were not executed by or on behalf of the contractor during the pendency of the Contract (Sub-Clause 1.10)
- No Limit to the 10% Retention on Interim Payments even with a two (2) year Defects Notification Period
- Naming of the Employer as the Engineer
- Stipulation that the Chairman of a three-member DAB will be a Lawyer (without any other qualifications this could mean any Lawyer)
- The Employer to take Ownership of the Contractor’s Intellectual Property



FIDIC Golden Principles and Risk Allocation

FIDIC General Conditions of Contract are based on fair and balanced risk/reward allocation between the Employer and the Contractor and are widely recognized as striking a balance between the reasonable expectations of the contracting Parties. FIDIC General Conditions (GCs) are prepared for use in a wide range of projects and jurisdictions and invariably require supplementing with Particular Conditions (PCs) that address particular requirements of the site location, the unique features of the specific project, the Employer's preferences and compliance with the governing laws of the contract.

FIDIC has established five (5) contractual principles, referred to as "FIDIC Golden Principles". which it considers to be inviolable and sacrosanct. Where the application of its Contracts, as is the case locally, results in modifications to the GCs that are so substantial that the final Contract no longer represents FIDIC Principles, such a Contract is not recognized as a FIDIC Contract.

"FIDIC Golden Principles" are stated as follows:

GP1: *The duties, rights, obligations, roles and responsibilities of all the Contract Participants must be generally as implied in the General Conditions, and appropriate to the requirements of the Project.*

GP2: *The Particular Conditions must be drafted clearly and unambiguously.*

GP3: *The Particular Conditions must not change the balance of risk/reward allocation provided for in the GCs.*

GP4: *All time periods specified in the Contract for Contract Participants to perform their obligations must be of reasonable duration.*

GP5: *Unless there is a conflict with the governing law of the Contract, all formal disputes must be referred to a Dispute Adjudication Board for a provisionally binding decision as a condition precedent to arbitration*

Review of Disparities in the Allocation of Risks

There are certain FIDIC Contract Clauses (Yellow Book) which are fundamentally altered in the PCs of Contracts issued by State Contracting Agencies, and which have the effect of reducing adverse consequences to the Employer and increasing the adverse consequences to the Contractor.

Following is a review of some of these Clauses in relation to "FIDIC Golden Principles" 1, 3 & 4

Risk relative to the Duties, Rights and Obligations of the Parties (GP1)

Delayed Payment (Financial Charges on delayed Payment)

The Employer is obliged to make payment under the Contract, irrespective of the Employer's financing arrangements, and the Contractor ought not to be deprived of his rights under the GCs to receive financial charges for delayed payments. **Sub-Clause 14.8** is often omitted in state contracts or the financial charge rate reduced from prime plus 3%, as recommended in the GC, to prime plus 1%. This results in a rate that is less than the cost of local capital and thus increases the Contractor's risk profile. These conditions represent an unjustified deprivation of the contractor's right to be paid and therefore does not comply with FIDIC's **GP1**.

The transfer of the risk of **“Unforeseeable Physical Conditions”** (Sub-Clause 4.12), to the Contractor, as it relates to the sub-surface conditions of the site under a Yellow Book Contract, is also a failure of the Employer’s obligation and does not comply with FIDIC’s **GPI**. The Silver Book is the appropriate contract form to be used if the Employer is not willing to bear this risk.

The Balance of Risk/Reward Allocation (GP3)

Delay Damages vs Delayed Payment

State Contracts never fail to explicitly identify the amount of Delay Damages while omitting the Contractor’s right to receive financial charges for delayed payments or otherwise making such charges inconsequential. This is perhaps the most egregious example of disparity of Risk allocation since the Contractor is penalized for late delivery of the works but inconsequentially or by no means compensated for delayed payments.

Reasonable Duration to perform time specified obligations (GP4)

Based on international experience, the several time specified periods for the Parties to perform their obligations are reasonable for the particular matters to which they refer. The common thread which is the norm in state contracts with regard to these time specified obligations is that they are arbitrarily and unreasonably adjusted by factors in excess of 200% via the PCs to reverse adverse consequences in favour of the Employer. Given that there are invariably penalties and consequences for non-compliance on the part of the Contractor, such modifications of the GCs by state Contracting Agencies further exacerbates the Contractor’s risks profile.

The data provided in the following Table 1 is based on a review of time period related Clauses of Contracts (Yellow Book) issued by UDeCOTT, NIDCO and NIPDEC which are all state Contracting Agencies. Another such Agency is the HDC, which has begun to issue Contracts utilizing the FIDIC Silver Book that places a higher level of Risk on the Contractor than does the Yellow Book. Silver Book Contracts are not considered in this review. The results of this review reveal the extent of the imbalance of time period allocations in state contracts.

Table 1 - Tabulated of Typical DB Contract Time Period Provisions vs FIDIC GCs Provisions

FIDIC Sub-Clause & Provisions	FIDIC Time Period Provisions	Typical State DB Contract Provisions
Sub-Clause 20.1 - Notice of Claim after the Contractor becomes aware of Claim circumstance	28 Days	10 Days’ Notice (280% Reduction)
Sub-Clause 20.1 - Submission of Claim with detail Particulars after becoming aware of Claim circumstance	42 Days	21 Days (50% Reduction)
Sub-Clause 14.7 - Payment by the Employer		
(a) First Installment of Advance Payment after receiving Performance Security	21 Days	Although not stated there is no anecdotal experience of this time period ever being honored
(b) Payment of Interim Certificate after the Engineer receives the Statement and supporting Documents	56 Days	77 Days
(c) Final Payment by Employer after receiving the Payment Certificate	56 Days	77 Days
Sub-Clause 5.1 - General Design Obligation (Period from Commencement Date within which Contractor shall give Notice of any error, fault or other defect found in Employer’s Requirements and Items of Reference mentioned in Sub-Clause 4.7 -Setting Out)	Not Specified	5 Days (It should be noted as a rule that FIDIC references to time periods are always in multiples of 7 days)
Sub-Clause 16.2 - Termination by the Contractor (Period of Notice)	14 Days	56 Days (400% Increase)

Recommendations for Contractors bidding on state projects

The following recommendations are largely directed to Contractors who are bidding on State DB Contracts: -

- It's important to pay attention to the PCs of the Contract, once these are provided in the Tender Documents. Note the important risk issues as outlined in this paper and asked for clarification as deemed necessary since Addenda issued by the Employer form an important part of the Contract Documents.
- Regardless of whether the PCs were issued with the Tender Documents or with the Contract Agreement, always seek to negotiate on the issue of Delayed Damages vs Non-payment of Financial Charges on Delayed Payments. Advance the position that there should be a reduction in the quantum of the Delay Damages in the absence of non-payment of financial charges or better yet, a reciprocal compensation provision for early completion, or better yet, a 5% Limit on the Retention Sum. An effort should also be made to negotiate revisions of some of the specified time periods to meet certain obligations, and in particular the time period for Notification of Claims, among others.
- A 5% Limit on Retention is the best negotiated outcome since this could represent a substantial cost benefit to the Contractor. For Example, on a \$20M contract, a 10% Limit on Retention is \$2.0M. Half of this sum (\$1.0M) is withheld over the Defects Notification Period (DNP) which can extend to up to two (2) years. If the Limit of Retention is reduced to 5%, then the sum withheld during the DNP is reduced to \$500,000.00. The difference between the two circumstances can have a major operational cost impact on the Contractor.
 - Always find a reason to give Notice within the time stated in the PCs (this could be as little as five (5) days from the Commencement Date as noted in some Contracts) of error, fault or other defect found in the Employer's Requirements or items of reference (Sub-Clause 4.7). Identify the absence of original points, lines and level of reference, as per this Sub-Clause, as an omission for the purpose of executing the project design works (it always is an omission). Always serve Notice on the absence of statutory planning approval and/or CEC, if relevant. Also identify the failure by the Employer to provide Sub-Surface Soils and Site Topographic Data as a fault in the Employer's Requirements since the risks of Unforeseeable Physical conditions is always an employer's risk under the Yellow Book.





- Once the Report of the Soils Investigation, which the Contractor commissions, is received, regardless of the results, immediately provide a copy to the Engineer/Employer with a Notice given under Sub-Clause 4.12 (Unforeseeable Physical Conditions) advising that the conditions as determined by the Soils Report constitutes conditions which were not foreseen at the Time of Tender or the Base Date, as the case may. Given that the Time Period to serve Notices of Claim is likely to be as short as 10 Days, it's important to ensure that legitimate Claim opportunities are not forfeited by the failure to serve timely Notices.
- In the Design/Construction Method Statement which is part of the Tender submission, it is important to make clear statements about design assumptions and expectations of sub-surface conditions, which must be regarded as Unforeseeable physical conditions, in the absence of an Employer issued Soils Report. This is required to later safeguard the Contractor's interest as far as the risk of increased foundation cost may be concerned.
- In general, Contractors undertaking state Contracts need to be always aware of the very limited time period in these Contracts for serving Notices and submission of Claims, since the PCs in these Contract distinctly specifies the consequences of such failure.

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The FIDIC Golden Principles – 1st Edition, 2019



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Vaughn Lezama is a Civil Engineer with over 44 years of engineering practice. He is the Chairman and Principal Engineer at Consulting Engineers Associates 2005 Ltd. Eng. Lezama is registered with the Board of Engineering of Trinidad and Tobago and is a Fellow and Past President of the Association of Professional Engineers of Trinidad and Tobago. He is also a Member of the American Society of Civil Engineers. Eng. Lezama has extensive experience in Engineering Designs, Technical Studies, Construction Supervision, and Contract Administration. He is highly trained in the use of the FIDIC suite of Contracts. Currently, Eng. Lezama serves as the Registrar of the Board of Engineering of Trinidad and Tobago (BOETT) and is responsible for maintaining the Register of Engineers in accordance with the Engineering Profession Act No. 34 of 1985.



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Public Sector Payment

Impact On Project Performance

by Shizelle Ramjit and Derek Outridge

Payment delays continue to plague the construction industry. Delay payments generally have an adverse effect on a company's cash flow, leading to extensions on overdraft facilities, ultimately increasing their borrowing. Late payment of commercial debt adversely affects the liquidity of contracting companies sometimes leading to insolvency.

This study examined the impact of the contractual payment period and payment process on the cash flow of contractors executing projects for the Public Sector. The sample population chosen for this research

consisted of 63 construction contractors to illustrate the varying effects of the payment issues on the contractor organizations. A review of previously published literature along with a questionnaire survey distributed, determined the objectives of the paper. Statistical analysis using the SPSS software further analyzed the data collected using Cumulative Means, Relative Importance Index, Spearman's Rank Correlation and Analysis of Variance (ANOVA) to test the hypothesis.

Delayed Payments to Public Sector contractors resulted in the cascading adverse effects on the contractor's cash flow. The findings also indicated that there has been no significant improvement to the delayed payment issue over the past decade. The implementation of Prompt Payment Legislation or Statutory Adjudication is recommended to ensure the sustainability of small and medium contractors.



The Construction Industry significantly impacts Trinidad and Tobago's economy, growth and GDP whenever there are project delays and wasted resources. Cash flow is its lifeblood since the overall success of construction projects is dependent on timely payments to contractors. Sufficient evidence, (Uff and Thornhill 2010, Charles-Ragoo 2015, Mungroo 2016, Bissoon 2019, Bissoon and Outridge 2020, Ramroopsingh 2020), exists within the local industry to show that delayed payments in Public Sector Projects are affecting contractors project performance, which in turn impacted the financial health of these organizations.

Payment issues to contractors, particularly small and medium construction contracting companies (SMCCC), continue to hinder the development of the country and its economy as the construction sector is vastly responsible for creating jobs and improving citizen's standard of living.

Construction contractors typically spend project money up front which makes cash flow and timely payments crucial to the organization's survival and project success. The biggest impact of delayed payment is incomplete and even abandoned public sector projects. It is not unusual that many relationships between parties break down leading to disputes and conflicts, which results in abandoned projects and/or delayed completion, the effects of which is felt by all stakeholders. Small contractors are usually faced with various challenges and these challenges affect whether the organization will survive the competitive environment or terminate prematurely.

Contractor's finances are critically evaluated during the prequalification stage to determine their financial standing. To maintain competitive and effective bidding processes, it is only fair that these issues are resolved. In Trinidad and Tobago, payment issues cripple many of our contracting organizations which of course puts only a few companies at an advantage while the majority are forced to stop competing and therefore there is little to no competition between contractors, which easily facilitates sub-standard work and corruption within the industry.





The availability of sufficient funds, inappropriate terms and conditions governed by contracts is another challenge. Most times, contracting companies expect to receive payment 30 days after the receipt of invoices. This is mainly due to the billing cycle established by the contract for the submission of invoices. In engineering contracts, this period can take up to 90 days to review invoices submitted. Contractual terms or agreements also do not facilitate fairness to contractors and subcontractors, as seen with the “pay when paid” clause. Upon review of documents from projects under FIDIC Red and Yellow books in Trinidad and Tobago, within previous research by Mungroo (2016), Bissoon (2019), Bissoon and Outridge (2020), the General Conditions of Contract did not take into consideration the bureaucratic approval timely procedure in the payment process, and no specific contract clause made allowances for this additional period. It was found that the Client Ministry’s bureaucratic approval process required “an additional 16 steps” to process payments to contractors for SPCs (Special Purpose Companies) certified works, which caused considerable delays in payments. An analysis of in-house payment tracking systems also revealed that delayed payment was resolved within an average of 2 to 6 months and in extreme cases even years. To avoid the long bureaucratic process the SPC’s attempted to submit invoices directly to the Ministry of Finance but supposedly met challenges due to an alternative verifying system. It was discovered that the different SPC organizations owe over \$500 million TTD and interest on payments collected since 2010, which would have eliminated any profits for the contractors.

Building projects are prone to retention, particularly when they are intricate, expensive, or time-consuming. This serves to financially shield the Employer from approving subpar work or project failure and guarantees that the standards are duly complied. Retention typically means incomplete and late payments to contractors and therefore the cash flow of a project will suffer. In some cases, retention is not always released especially if disputes arise between a contractor and the owner.

In general, the industry’s payment problems can be categorized as underpayment, late or delayed payment and complete non-payment. Any contractor who could foresee a client payment delay would take risk mitigation measures when bidding, since contractors raise bid rates for clients who have a history of late payment causing public sector projects to cost more to the taxpayer. Contractors unfortunately also contribute to delayed payment by submitting claims with errors that result in failure to agree with the valuation of work done on site that eventually leads to disputes.

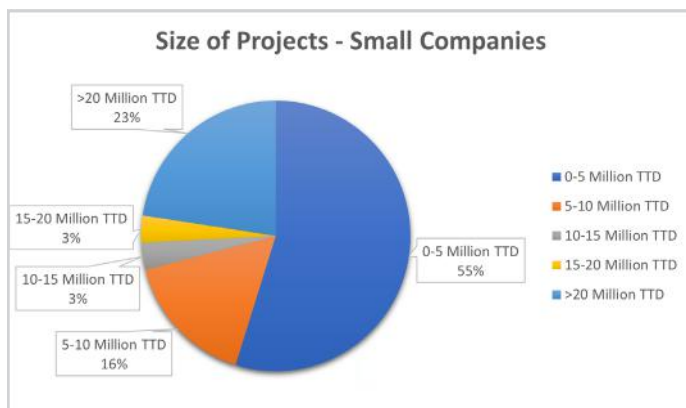
Construction projects are judged successful if they are delivered on schedule, within budget, in accordance with technical requirements, and to the satisfaction of the client. The three basic principles of project management assessment are time, cost and quality which are used to group the project performance characteristics. Although clients, particularly the Government, expect projects to be finished on time, within budget, and to the requisite quality, accomplishing these goals should not come at the expense of the contractors’ sustainable growth.

Research Findings

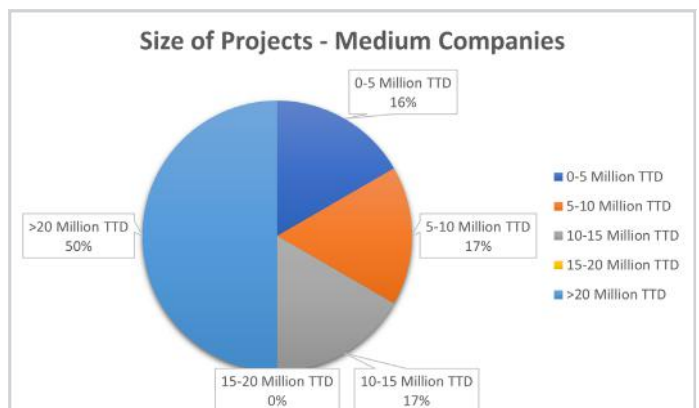
Research was conducted on the causes, effects and proposed mitigation strategies for payment issues within Trinidad and Tobago’s Construction Industry from a pool of sixty-three (63) Contractor Organizations registered with the Trinidad and Tobago Contractor’s Association. Small Companies represented 49% of the responses, while a mere 10% represented medium sized organizations and 41% were representative of large construction companies. Majority of the responses were yielded from Managing Directors/Chairmans or Owners of these organizations followed by Senior Project Managers. Each Contractor was asked to specify the number of Public Sector Projects completed by their organization. The results were as follows:

- Between 0-10 Projects: 38%
- > 10 Projects: 62%

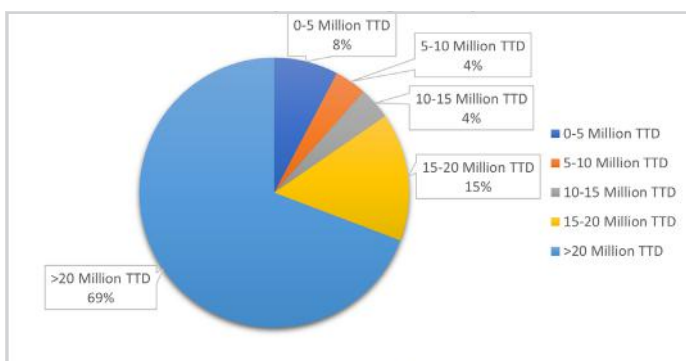
The size of projects completed by Small Contractor Organizations are as follows:



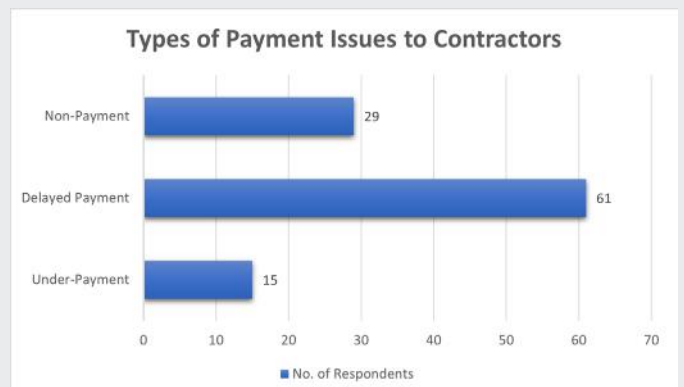
Few Medium Construction Contracting Companies participated in the survey and of the 10%, the results revealed the following:



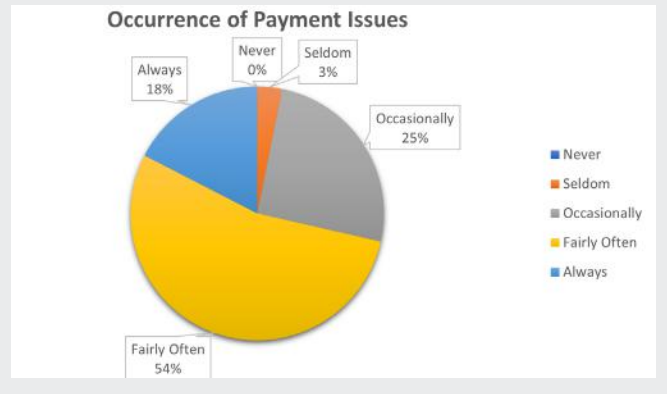
The size of projects undertaken by Large Contractor Organizations yielded the following results:



100% of contractors experienced payment issues during construction of Public Sector Projects as well as after its completion. Contractors indicated the types of payment issues experienced which were classified into under-payment, delayed payment and non-payment. The results are as follows:



Contractors were then asked to identify the frequency of the occurrence of these payment issues and this was the outcome:

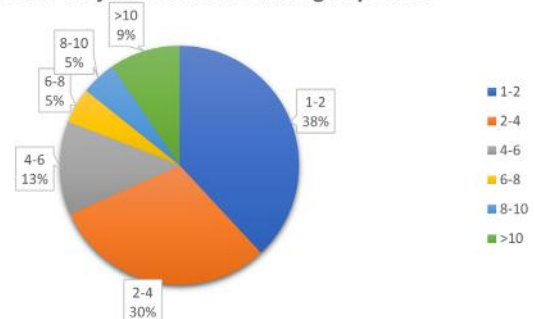


62% of the Contractors undertaking more than 10 Public Sector projects in their companies' lifetime have been plagued by these payment issues for possibly more than 20 years.

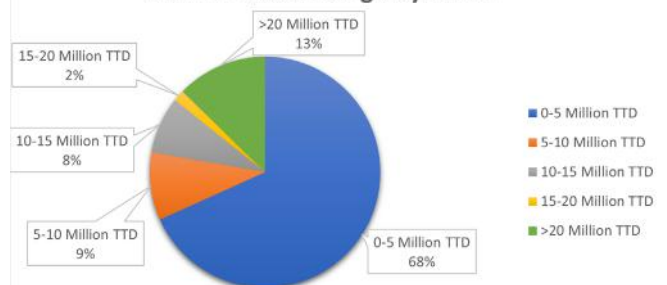
The fact that the contractors have always and fairly often experienced payment issues when conducting Public Sector projects, underlines that it is a critical issue to be mitigated especially when the majority of projects undertaken carry a value of more than 20 million TTD.

Contractors identified the number of Public Sector projects that the Company is yet to recover payment for work done.

No. of Projects with Outstanding Payments



Sum of Outstanding Payments



The Contractors who are owed payment on over 10 projects were identified from Small, Medium and Large Contractor Companies which means that payment issues affect all contractors irrespective of the size of Contracting Organization. They further identified the size of payment owed to their companies which were as follows:

Magnitude of Claims

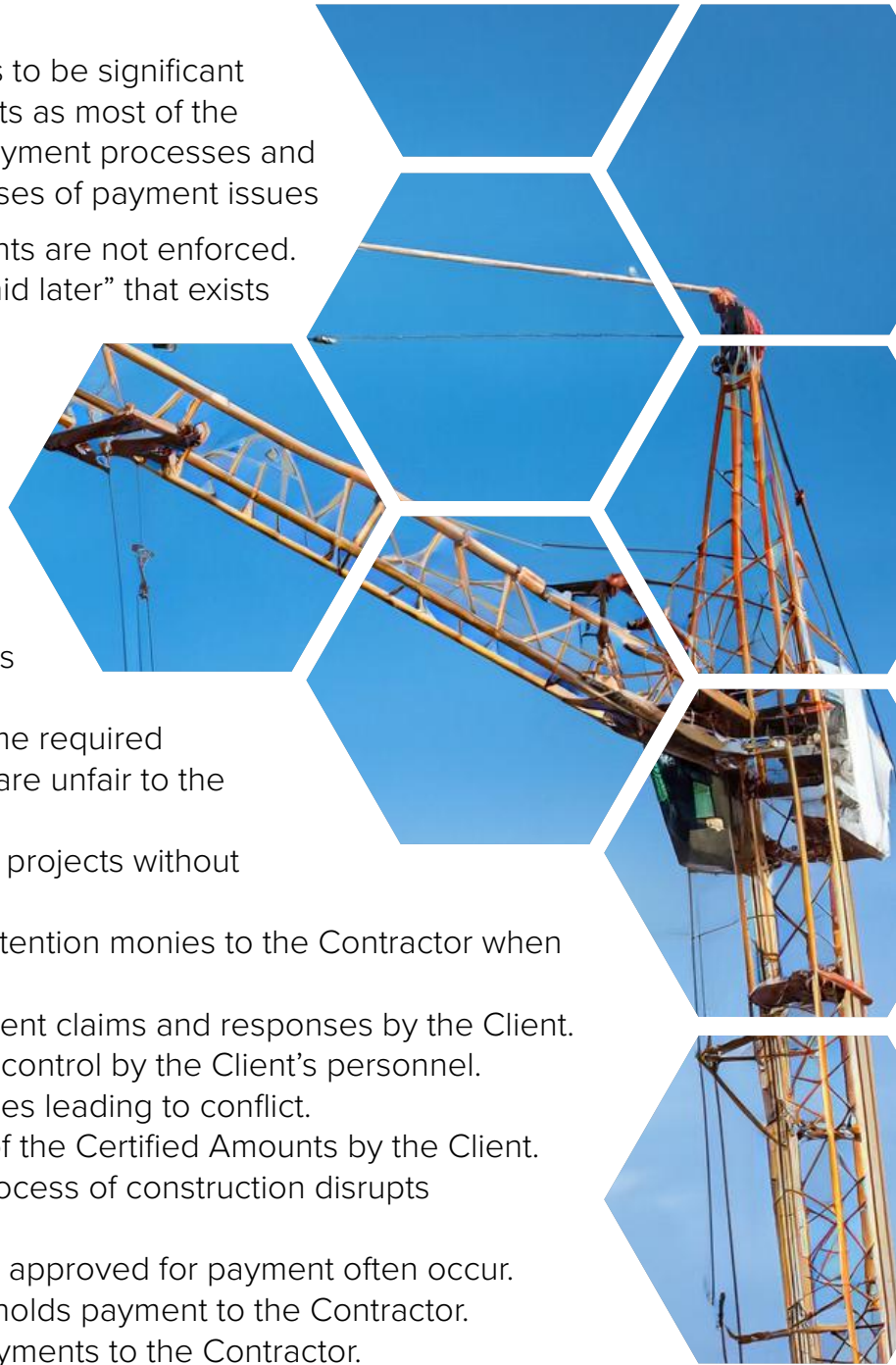


Causes of Payment Issues

The findings indicated that there needs to be significant improvements from Public Sector Clients as most of the causes identified are based on their payment processes and attitudes towards Contractors. The causes of payment issues

1. Conditions regarding timely payments are not enforced.
2. Existing culture of “work first, get paid later” that exists by Clients.
3. Client’s poor financial management resulting in payment issues to the Contractor.
4. Contract clauses responsible for financing charges and interest are eliminated.
5. There is a general lack of understanding of contract provisions and unfair contract clauses.
6. Payment clauses that specify the time required for payment application processes are unfair to the Contractor.
7. Government State Agencies initiate projects without sufficient funding arrangements.
8. Clients tend to delay in releasing retention monies to the Contractor when due.
9. Disputes arise often between payment claims and responses by the Client.
10. Improper supervision and financial control by the Client’s personnel.
11. Poor communication between parties leading to conflict.
12. Underpayment or disagreements of the Certified Amounts by the Client.
13. Fragmentation and complicated process of construction disrupts payments.
14. Disputes over quality of work to be approved for payment often occur.
15. Client sometimes deliberately withholds payment to the Contractor.
16. Clients delay the certification of payments to the Contractor.
17. Contractors do not submit payment claims on time as stipulated within the contract.
18. Highly competitive market conditions.

Regardless of the public sector untimely payments the Contractors were expected to maintain their Rate of Progress and more often than not were penalized based on the contract terms for their reduction in their rate of progress. Small contractor organizations ranked the highest in the cause of payment issues under “Conditions regarding timely payments not enforced” against the public sector client, while medium contracting companies agreed that “Contract clauses responsible for financing charges and interest being eliminated” was the greatest factor causing their payment issues and the large contracting companies concluded that “Clients poor financial management” was their biggest challenge.



Impacts of Payment Issues on Contractor Organizations

The construction industry has experienced an increase in disputes stemming from payment issues, the irregularities in the processing of the Engineer's valuations for interim, final and variation claims and failure to comply with payment regulations are the causes of disputes between the owners of projects and contractors. Projects would be suspended and terminated as a result of disputes resulting from late or non-payment. The main areas of contention in the construction project adjudication proceedings are the valuation of modifications and final accounts, as well as failure to adhere to payment obligations. The Contractors identified the impacts on their organizations and is presented in descending order:

1. Sub-Contractors and suppliers suffer financial difficulty
2. Cash flow impact which attracts additional cost for completion
3. Contractor forced to borrow funds leading to higher construction cost due to claims and interest charges
4. Impact on the operation of the Contractor Organization
5. Reduction in profit
6. Financial difficulties within the organization
7. Contractor's inability to procure goods and services which impacts time
8. Claims in dispute impact Contractor's future on tendering
9. Impact on Contractor's reputation as project performance is affected
10. Inability to pay staff which leads to loss of productivity
11. Liquidation of assets to facilitate payments to banks and other financing institutions
12. Impact on productivity yielding to poor quality workmanship
13. Increase in bid amounts to mitigated against probable future losses once Client is reputable for under-payment, delayed payment and non-payment
14. Inability to purchase goods and services which leads to the procurement of poor-quality goods and materials having a negative impact on overall project quality

Small and medium contractors ranked highest the inability to pay their suppliers and sub-contractors which results in financial difficulty due to payment issues, while larger contracting organizations ranked the impact on their cash flow which attracts additional costs for completion within their claims as the highest impact on their organization.

Impact of Payment Issues on Project Performance

Contractor's ranked the impact on their project performance due to payment issues in descending order below:

1. Projects go off schedule as works progress slower than planned
2. Suspension of works which require additional time for completion
3. Loss of time in following up with Clients for overdue payments
4. Unsuccessful completion of project in terms of time, cost and quality
5. Contractor submitting claims for additional costs, sometimes due to interest charges from lending institutions leading to cost overruns
6. Project now require more time for completion than initially planned
7. Various levels of dispute resolution resulting in lost time and cost
8. Financial difficulties within the company to carry out daily activities
9. Delayed payment or underpaid certificates lead to construction cost increase
10. Negative impact on the quality of works which require costly and expensive rework usually borne by the contractor

The largest impact for Contractors on their projects was found to be project delay more than cost and quality, which can lead to the Contractor suspending works for overdue payment or a reduction in the Rate of Progress.

Small contracting companies have ranked the largest impact on their project performance as the need to suspend works and request additional time for completion when payment issues are experienced. Medium sized contracting companies found the biggest impact on them was the various levels of dispute resolution which resulted in lost time and extra costs, while larger construction companies reported the slow progress of works as the most severe impact of payment issues on their project performance.

Mitigation Methods for Payment Issues

When asked if timely payment to Contractors, and other payment issues, have improved within the past 10 years, the majority of respondents disagreed. Since the publication of the Uff Report in 2010, which delved into details of payment and procurement practices involving the local construction industry, there should have been a substantial improvement to the payment issues. Contractors ranked the following mitigation strategies in descending order as follows:

1. Mandatory Payment Terms within Contracts
2. Discouraging “pay when paid” and other unfair attitudes and cultures
3. Implement advanced payment where clients finance projects
4. Enforce penalties and create a history of Clients with a history of bad payment practices to Contractors
5. Demand mobilization fees prior to commencement of works
6. Strengthening the implementation of laws and regulations
7. Use of payment bonds
8. Increase Debt Financing
9. Increase the use of litigation
10. Exercising administrative control via the central government over local governments
11. Suspend Works
12. Increase tender bid estimates

The Contractor’s proposed Mitigation Strategies were observed to be similar, irrespective of contractor size, with the most common being enforcing Contract Clauses, reducing the procedures with the State Agencies to release funds, and ensuring the Client is capable of funding the project prior to the commencement of works.

If local Contractors are not capable of sustaining their business, then the industry is opened to foreign companies who have the ability to fund their projects and organizations while waiting on payments from the government. While several mitigation strategies have been presented the fact remains that several ‘culture’ changes need to occur for these solutions to be implemented. The most significant change needed is the unity of Contractors in supporting each other by rejecting contracts with unfair payment terms, otherwise there is a huge possibility that a client may simply approach another Contractor willing to accept the risk. This removal of competition when tendering for projects opens up the industry to corrupted and unethical practices such as bid-rigging. There should not be a fear of submission of claims for outstanding monies which can lead to disputes and prevent the company from future tendering until the matter is resolved, which can in itself take up to years.

If there is a unanimous decision among contractors to not conduct business with a client that has a history of bad payment, then a level of accountability and responsibility will be upheld. Disputes can also be avoided with Clients who appreciate and understand the perspective of a Contractor and the day-to-day operations of their businesses which impacts their ability to perform well on projects. Therefore, there is a need for uncorrupted relationships between clients and contractors to be developed.

The findings of the study indicate that the majority of the causes of payment issues to contractors' stem from the Employer or Government, being the largest Client and that these have a negative impact on the contractors project success, the most significant being project delays. Changes in laws and enforcing of regulations might not be the first response to resolving this bane to contractors however internal and independent change in payments to contractors need to be done by the Public Sector as a matter of priority.



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Unlocking Contractor Success

A Guide to Cause Analysis

by Damien Surajbally
Trinidad & Tobago Bureau of Standards

Contracts are the lifeblood of any business. They are defined as agreements which involve a set deadline and compensatory package for achievement of the objectives of the agreement. Yet, how often have you faced setbacks such as equipment failures, safety concerns, late deliveries, financial losses, customer complaints, or damage to your reputation? If you've encountered such challenges, this article is a must-read.

Setbacks are unwanted events that can hit contractors hard, leading to income loss, personal and professional upheaval, and a downward spiral. Most contractors start with just a skill and a passion for their work, but life's twists and turns can throw us off course. The Trinidad and Tobago Bureau of Standards (TTBS) is here to help you break free from this downward spiral and position your company for long-term success. In this article, we'll introduce you to a powerful tool: Cause Analysis.

Step 1: Identifying the Issue and Contributing Factors

To begin, pinpoint the unwanted issue or incident affecting your ongoing project. Record all relevant details, including date, time, and location. Don't forget to involve your customer in the investigation, sharing your findings transparently. Keeping them informed enhances your professional image.

Step 2: Taking Responsibility and Launching the Investigation

Responsibility is the hallmark of an honest contractor. Act swiftly to prevent the issue from escalating. Initiate the investigation with clear goals, including timelines, budgets, and necessary resources. Managing these aspects effectively prevents cost overruns, material wastage, safety risks, or project failures.

Step 3: Gathering and Preserving Data

Collect data to gauge the scope and depth of your investigation. This may involve discussions, historical data, purchases, competence evidence, or environmental factors. Experienced analysts identify "causal factors," the elements contributing to the incident.

Step 4: Analyzing the Data

In this stage, separate facts from assumptions. Use inductive reasoning, identify noteworthy factors, and consider "causal factors." Analyze historical trends to learn from past jobs, suppliers, clients, or locations. Utilize tools like causal factor charts, timelines, or cause and effect tree charts for root cause analysis.

Step 5: Root Cause Analysis

Root Cause Analysis involves digging deep to identify causes and develop recommendations. For instance, the “five whys” method asks “Why” five times to reveal the root cause. More complex root causes may require methods like Failure Mode/Effect Analysis, the Nishikawa method, or Pareto charts.

Common Shortcomings in Root Cause Analysis

1. Mechanical Failures: Blaming old or faulty parts may hide the real issue—lack of equipment inspection, testing, and maintenance.
2. Human Errors: Instead of blaming individuals, consider whether proper training and clear procedures were in place.
3. External Factors: Don't blame natural events like rain without evaluating your planning and preparedness.

Step 6: Recommendations for Addressing the Issue

Recommendations should directly target causal and underlying causes, leading to system improvements. Implement recommendations to eliminate the causal factor and prevent recurrence. Recommendations are divided into short, medium, and long-term actions, ensuring a holistic approach to problem-solving.

Step 7: Completing the Investigation

Don't overlook the crucial final steps: writing reports, sharing results, and evaluating recommendations' efficiency. These steps help prevent future issues, rebuild trust within your team, and improve communication.

Conclusion

Cause analysis is a vital tool for contractors seeking sustainable success. At the Certification Division, we offer ISO 9001:2015 Certification Programs tailored to Ready-Mix Concrete, Engineering Services, and Wholesale and Retail Trade.

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His goals are to see all companies, whether large, medium or small, grow through innovation and brilliant ideas. He hopes that one day through his efforts and support that the CARICOM business community will be the benchmark strived for by non-CARICOM multinational conglomerates as they pursue success.



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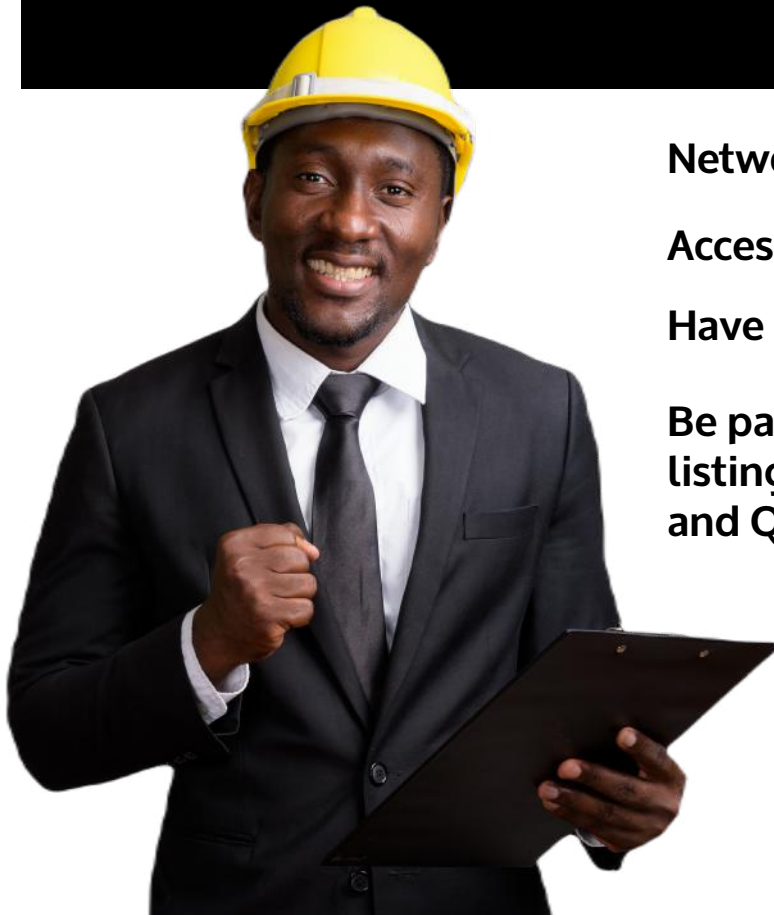
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