RISK ALLOCATION AND DISPUTE RESOLUTION UNDER FIDIC-BASED EPC CONTRACTS IN INDIA: RECONCILING INTERNATIONAL STANDARD FORMS WITH DOMESTIC LAW

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ABSTRACT

India has a huge emphasis on infrastructure. The Engineering, Procurement and Construction ("EPC") contract has become the prevalent procurement model for projects like highways, metro rail, power and water. Public Authorities like National Highways Authority of India have come out with model EPC agreements that draw heavily from the FIDIC standard forms. These international forms, drafted for a neutral common-law setting, do not always sit easily with Indian contract, arbitration and public procurement law. This article looks at three sources of friction. First, it discusses how EPC pricing and Indian modifications to FIDIC shift ground, design and change-in-law risk to the contractor. Second, it asks whether the time-bar and notice provisions in a FIDIC-style form are enforceable in light of Section 28 of the Indian Contract Act, 1872. Third, it asks whether the tiered dispute resolution mechanism (including the Dispute Avoidance/Adjudication Board) is enforceable in light of the Arbitration and Conciliation Act, 1996 and recent Supreme Court judgments on the limitation on judicial interference with awards. The article advocates that rather than abandoning FIDIC, India should mindfully adapt it through balanced risk allocation, binding interim adjudication and specialised construction benches if the promise of speedy, predictable dispute resolution is to be realised.

Keywords: EPC Contracts; FIDIC; Risk Allocation; Time-Bar Clauses; Dispute Adjudication Board; Construction Arbitration; Section 34; Infrastructure Law.

I. INTRODUCTION

Infrastructure has become the centrepiece of India's development strategy. The National Infrastructure Pipeline envisages investment of over 111 lakh crore in a host of sectors.₹ [1] The delivery of the bulk of this investment depends on contracts in which a single contractor designs, procures and builds a facility for a fixed price in a fixed time.

The majority of EPC contracts in India are not domestically developed. They draw mainly on the standard forms released by FIDIC, namely the FIDIC Yellow Book (Plant and DesignBuild) and the FIDIC Silver Book (EPC/Turnkey Projects).[2] Multilateral lenders like the World Bank and the Asian Development Bank seek FIDIC-based conditions in projects they fund while domestic authorities have absorbed the same framework into their model contracts.

The transplant, however, is incomplete. The FIDIC risk matrix is routinely amended by Indian authorities; the Indian courts are applying statutory rules which the drafters of FIDIC never imagined; and Indian arbitration has a history of delay. This article does not survey construction law as a whole. It asks a narrower question: where do FIDIC-based EPC forms run into Indian law and practice in the allocation of risk and the resolution of disputes, and what changes would make them work better?

Much of the arbitration docket in India relates to construction and infrastructure, and the amounts tied up in pending construction claims are substantial enough to adversely impact the balance sheets of both contractors and the banks that lend to them. When claims stay unsettled for a decade, contractors' working capital is blocked, lenders tag accounts as stressed and fewer credible bidders come forward. The design of the contract therefore has consequences well beyond the two parties who sign it.

The article continues in seven sections. Part II goes over the EPC Model and its Indian Adaptation. Part III looks at the main friction points regarding risk allocation. Part IV will discuss time-bar clauses and Section 28 of the Indian Contract Act. Part V discusses the role of the Engineer and the employer's representative. Part VI evaluates the dispute resolution

[1] Ministry of Finance, Government of India, Report of the Task Force on National Infrastructure Pipeline (2020).
[2] FIDIC, Conditions of Contract for EPC/Turnkey Projects (2d ed. 2017); FIDIC, Conditions of Contract for Plant and Design-Build (2d ed. 2017).

architecture, from adjudication boards to arbitration and court challenges. Part VII gives recommendations and Part VIII is a concluding section.

II. THE EPC MODEL AND ITS INDIAN ADAPTATION

The key features of EPC contract are single point responsibility and lump-sum price. The contractor will undertake design, procurement and construction, and will be expected to price the risks of doing so into its bid. The FIDIC Silver Book clearly states that it is appropriate for projects where the employer desires "a greater degree of certainty" in terms of price and time[3], and it acknowledges that the contractor will bear a greater share of the risk in return for the higher price.

In India, the Ministry of Road Transport and Highways came up with a Model EPC Agreement for highway projects in 2014, which has since been revised and extensively used.[4] The FIDIC skeleton is still present but several risk provisions have been changed. Obligations of employers pertaining to land acquisition, utility shift, forest clearance commonly left broadly worded while contractors' obligations concerning site investigation and contract price sufficiency have strict drafts. As a result, a contractor may suffer consequences of a delay in reality caused by the failure of the authority to hand over encumbrance-free land, unless of course it strictly complies with notice and claim procedures.

This shift shows governments' true public concern for budget certainty. A risk matrix cannot be so constructed that it allocates risks which could not be reasonably foreseen at the time of tendering onto the party least able to control them without achieving cost reduction. Such allocation merely relocates this risk into higher bid prices, contingency margins and ultimately disputes.

When making a project-financed transaction, private developers and lenders will often negotiate the risk matrix line by line. In contrast, public authorities produce tenders that are not negotiable. Because of the imbalance in bargaining power, the risk allocation in Indian public EPC contracts stems more from administrative preference than commercial negotiation, which is why its fairness is worth questioning.

[3] FIDIC, Conditions of Contract for EPC/Turnkey Projects, Introductory Note (2d ed. 2017).
[4] Ministry of Road Transport & Highways, Model Agreement for Engineering, Procurement and Construction of National Highways (2014, as amended).

III. RISK ALLOCATION: WHERE THE FRICTION LIES

A. Ground Conditions and Site Data

Under the Silver Book, the contractor is deemed to have reviewed the employer's requirements and is generally responsible for unforeseen physical conditions. The Yellow Book, on the other hand, allows for unforeseen physical conditions relief. The Indian authorities generally take the stricter Silver Book position but disclaim the accuracy of the site data provided during tendering. In linear projects that span for hundreds of kilometres, meaningful pre-bid investigation is not practicable and this imposes a disproportionate and often unpriceable burden on the contractor.

Claims for further work stemming from design modifications due to unforeseen soil strata, elevated water tables or rock experienced during excavation are a common result. Contractor's claim that such conditions could not have been detected reasonably in the bid period; authority relies on contractor's deemed acceptance of site condition. Accordingly, tribunals are asked to determine, some years later and on a half-complete record, what a prudent bidder would have foreseen. A geotechnical baseline report forming part of the contract would turn an issue that is fought over into one that is measurable, allowing risk beyond the baseline to be priced and shared transparently.

B. Change in Law and Price Variation

The regulations for taxation, labour and environment change in India quite often. In 2017, the advent of the Goods and Services Tax prompted a slew of claims citing change-in-law provisions as contractors petitioned to reimburse the tax incidence shift on works contracts.[5] Since model agreements narrowly define "change in law", or require the contractor to demonstrate the precise cost impact within short timeframes, a statutory change which is clearly outside the contractor's control can still go uncompensated.

The same pattern emerges in variation provisions or change of scope. The typical model agreements limit the value of changes that the authority may instruct, require the contractor to provide a detailed cost estimate in advance of executing the change and give the authority the right to withhold payment until the change is approved. At running sites, however, instructions

[5] Central Goods and Services Tax Act, 2017, No. 12, Acts of Parliament, 2017 (India).

are often given orally or through meeting minutes, and the contractor does not stop work. In the absence of formal approval, the contractor can only claim on a quantum meruit basis under Section 70 of the Contract Act.[6] That route is uncertain: the contractor must prove that the work was not done gratuitously and there was acceptance of the benefit by the authority. If clearer procedures were in place to confirm instructions and if there was a deeming provision (when the authority does not respond, in writing, to a confirmation within a fixed period) this would remove a significant source of dispute that is frequently avoidable.

C. Delay, Extension of Time and Liquidated Damages

Construction disputes mostly arise out of delay. Under Indian law, Section 74 of the Indian Contract Act, 1872 provides that the liquidated damages are to be taken as a ceiling on reasonable compensation and not as of right, a position crystallised in Kailash Nath Associates v. Delhi Development Authority.[7] This sits uneasily with FIDIC's assumption that delay damages are a pre-agreed sum payable without proof of loss. Indian model forms say little about concurrent delay, leaving tribunals to apportion it case by case.

D. Force Majeure and Pandemic Disruption

The COVID-19 pandemic tested force majeure clauses of Indian infrastructure contracts. The Ministry of Finance issued office memoranda in recognition of the broad disruption caused by the pandemic, enabling the public authority to treat the pandemic as a force majeure event and to extend timelines without penalties.[8] The episode revealed a flaw in the standard form models: the force majeure provision usually only allows an extension of time, but not cost, in circumstances where the employer benefits from the contractor's resources remaining on site. FIDIC's 2017 forms, which speak of "Exceptional Events", likewise limit cost recovery to specified events. Given significant idle overheads on large Indian sites, standard drafting makes what is otherwise a neutral risk the risk of the contractor without any cost-sharing plan for lengthy force majeure.

According to the Supreme Court's understanding of the doctrine of frustration under Section 56 of the Contract Act, which sets a high threshold and asks whether performance has become

[6] Indian Contract Act, 1872, § 70 (India).
[7] Kailash Nath Assocs. v. Delhi Dev. Auth., (2015) 4 SCC 136 (India).
[8] Ministry of Finance, Department of Expenditure, Office Memorandum No. F.18/4/2020-PPD (May 13, 2020) (India).

impossible and not merely onerous, contractors get no relief outside the contract.[9] The drafting of the force majeure clause itself is thus decisive, and strengthens the case for a balanced costsharing formula in the model agreements.

E. Performance Security and Bank Guarantees

Under EPC contract, the contractor is required to give performance security which is generally an unconditional bank guarantee. Indian Courts have held consistently in the past that such guarantees are independent of the underlying contract and that encashment thereof will not be restrained save in cases of egregious fraud or irretrievable injustice.[10] In construction, this principle allows an employer to call on security during a live dispute over delay or defects, thereby effectively pre-judging the case. The employer must indemnify the contractor for wrongful claims under the performance security as per FIDIC, which allows a remedy only after the event. Model agreements could require a notice period before invocation to allow the contractor to approach the DAAB.

IV. TIME-BAR CLAUSES AND SECTION 28 OF THE CONTRACT ACT

According to sub-clause 20.2 of the forms of contract under the FIDIC 2017, the contractor shall give notice of a claim 28 days after the contractor became aware or should have become aware of the relevant event.[11] Should the contractor fail to do so, the employer is discharged from liability. Such conditions precedent are central to FIDIC's philosophy of contemporaneous claim management.

These clauses are viewed with caution by Indian law. The amended Section 28 of Indian Contract Act of 1997 declares void any agreement that extinguishes the rights of a party, or discharges a party from liability, on the expiry of a specified period. A strict 28-day time bar that forfeits a substantive claim arguably falls within this prohibition.[12] Accordingly, arbitral tribunals in India have often refused to treat late notice as fatal, asking instead whether the employer suffered any prejudice.

[9] Energy Watchdog v. Cent. Elec. Regul. Comm'n, (2017) 14 SCC 80 (India).
[10] Hindustan Constr. Co. v. State of Bihar, (1999) 8 SCC 436 (India); U.P. State Sugar Corp. v. Sumac Int'l Ltd., (1997) 1 SCC 568 (India).
[11] FIDIC, Conditions of Contract for Plant and Design-Build, sub-cl. 20.2.1 (2d ed. 2017).
[12] Indian Contract Act, 1872, § 28 & Explanation (as amended by Act 1 of 1997) (India).
[13]FIDIC, Conditions of Contract for Plant and Design-Build, sub-cl. 3.7 (2d ed. 2017).

This causes ambiguity. Contractors cannot be sure whether a failure to comply will defeat their claim, and employers cannot rely on the clause to close out their liabilities. A consistent approach would separate those provisions in contracts which require notice for procedural reasons which can be enforced by consequences in costs from those clauses which extinguish a right with substantive consequence (which s 28 makes void). Model agreements must expressly make this distinction, rather than leaving it to divergence of arbitral interpretation.

V. THE ROLE OF THE ENGINEER

The Engineer administers the FIDIC scheme contract, certifying payment claims and making determinations on other claims. The 2017 forms require the Engineer to make determinations in a neutral manner and not to be treated as acting for the employer in that role.[13] The Silver Book replaces the Engineer with the Employer's Representative, who makes no claim to neutrality.

The public contracts in India adopt a hybrid figure. EPC agreements for highways utilize an Authority Engineer who is appointed and paid by the authority to certify stage payments. It also evaluates claims for change of scope. Due to the fact that Authority's Engineers are generally consultancy companies reliant on repeat public commissions, the contractors often complain that their determinations are cautious or delayed and that any substantial claim is simply sent to the authority for a decision. In practice, the first tier that FIDIC intends as a quick, impartial view becomes another delaying tier. One way to strengthen the neutrality of this role would be to require the Engineer to make determinations in a reasoned manner, within fixed timelines and also provide that all claims will stand admitted if such determinations are not made.

VI. DISPUTE RESOLUTION: FROM ADJUDICATION BOARDS TO ARBITRATION

A. The Dispute Avoidance/Adjudication Board

FIDIC envisions a hierarchical process. Disputes are first referred to a standing Dispute Avoidance/Adjudication Board ("DAAB") whose decision is binding on an interim basis and must be complied with pending arbitration.[13]

[13] FIDIC, Conditions of Contract for Plant and Design-Build, cl. 21 (2d ed. 2017).

India's practice has degraded this mechanism. Boards are often appointed late or ad hoc, and their decisions are not taken as immediately enforceable. There is no statutory adjudication regime, such as the Housing Grants, Construction and Regeneration Act, 1996 (UK),[14] to provide a summary route to enforce a board's decision in court. As a result, the disputes move on to arbitration and contractors remain under cash-flow pressure.

Comparative experience suggests that boards work when they exist at the genesis of the project and visit the site often. The reasoning behind forming a standing board is to avoid disputes as much as possible. Standing boards allow members who understand the project to develop an informal opinion before positions harden. When boards are only formed after a dispute crystallizes, they are a costly additional layer of litigation. Indian model agreements should make standing boards mandatory for projects of value above a certain threshold with fees shared equally.

B. Arbitration and the Limits of Court Intervention

Arbitration remains the final forum for most EPC disputes. The Arbitration and Conciliation Act, 1996 was amended in 2015, narrowing the "public policy" ground for setting aside awards. Furthermore, in Ssangyong Engineering & Construction Co. v. National Highways Authority of India, the Supreme Court clarified that the courts are not to reappreciate evidence or substitute their own interpretation of the contract, save where the award is perverse or against the fundamental policy of Indian law.[15] The court struck down section 87 of the Act in Hindustan Construction Co. v. Union of India. This section permitted an automatic stay on the enforcement of the award. As a result, construction companies were starved of funds.[16]

Nonetheless, the trend is not uniformly in favor of enforcement. In Delhi Metro Rail Corporation Ltd. v. Delhi Airport Metro Express Pvt. Ltd., the Supreme Court used its curative jurisdiction to set aside a substantial award made to the concessionaire on the ground of patent illegality.[17] The decision shows that despite years of litigation, the finality of a construction award in India is uncertain. The standard clauses used by public entities have become a troubled area, on similar lines as the concern over party autonomy in arbitrator appointments in Perkins

[14] Housing Grants, Construction and Regeneration Act 1996, c. 53, § 108 (U.K.).
[15] Ssangyong Eng'g & Constr. Co. v. Nat'l Highways Auth. of India, (2019) 15 SCC 131 (India).
[16] Hindustan Constr. Co. v. Union of India, (2020) 17 SCC 324 (India).
[17] Delhi Metro Rail Corp. v. Delhi Airport Metro Express (P) Ltd., (2024) 6 SCC 357 (India).
[19]Perkins Eastman Architects DPC v. HSCC (India) Ltd., (2020) 20 SCC 760 (India).

Eastman Architects DPC v. HSCC (India) Ltd.[19]

C. Delay in Arbitral Proceedings

The period for making an award as stated in section 29A of the Arbitration and Conciliation Act is now twelve months which can be extended by six months by consent and thereafter by the court only.[18] The provision has improved discipline, but construction disputes, which involve voluminous records, expert delay analyses and numerous claims, often cause the timeline to get disturbed and the applications for extension themselves become the source of satellite litigation. Institutional arbitration under auspices such as the Mumbai Centre for International Arbitration or the Delhi International Arbitration Centre, with their case management tools better suited to complex construction references than ad hoc proceedings, is available, yet public employers still favour ad hoc clauses.

Construction disputes also suffer at the post-award stage. Despite the Ssangyong ruling, challenges under Section 34 and appeals under Section 37 take several years. In Gayatri Balasamy v. ISG Novasoft Technologies Ltd, the court has recently clarified that courts have a limited power to modify awards.[21] The core problem, however, is time. A contractor awarded sums for work done years earlier, with interest which seldom equals its own cost of borrowing, is not made whole by victory.

VII. RECOMMENDATIONS

To begin with, public authorities should agree on a balanced risk matrix which allocates each risk to the party better suited to control or insure it. On linear projects, ground risk, land acquisition delays and bona fide alterations in law should be borne by the employer, along with transparent mechanisms for extension of time and cost.

Second, notice and time-bar provisions should be re-drafted in line with Section 28. A late notice should bring with it proportionate consequences, eg the forfeiture only of costs that can be attributed to the late notification. Entire claims should not be forfeited.

Third, a statutory adjudication framework for construction contracts should be considered by Parliament under which interim decisions of a DAAB or adjudicator would be summarily

[18] Arbitration and Conciliation Act, 1996, § 29A, No. 26, Acts of Parliament, 1996 (India).
[21] Gayatri Balasamy v. ISG Novasoft Techs. Ltd., 2025 INSC 605 (India).

enforceable. The cash flow is preserved without harming the arbitration's eventual outcome according to such a regime.

Fourth, it should be mandatory for the Engineer to issue reasoned determinations within a limited period of time. Standing DAABs should be made mandatory on high value projects. Their decisions should be complied with promptly by public employers as a matter of policy.

Fifth, public employers ought to include institutional arbitration clauses and abstain from regular award challenges. A litigation policy of the government that mandates senior level approval before a challenge to an award under Section 34 and encourages payment of a large part of the awarded amount against security pending challenge would revive liquidity in the sector.

Sixth, commercial courts and High Courts should set up construction benches along with technical assistance to have challenges under Section 34 heard by judges acquainted with programming, delay analysis, and quantum.

Seventh, the invocation of performance security while there is a dispute going on must be preceded by notice to allow the contractor to seek interim relief from the DAAB or tribunal.

Finally, model EPC agreements must be reviewed periodically in consultation with contractors, the lenders and the arbitrators, with published commentary explaining the differences with FIDIC forms.

VIII. CONCLUSION

Over the last decade, India's experience with FIDIC-based EPC contracts has provided clear proof that standard forms are not neutral instruments which can be transplanted as is. Every change to the risk matrix, every strict notice clause and every weakened adjudication step has repercussions that accumulate across thousands of contracts and surface years later as arbitral claims, stressed loan accounts and stalled projects.

The FIDIC-based EPC contracts provide a mature, internationally recognised framework for India to deliver complex infrastructure. Their worth depends on the balance between risk allocation, claim procedures and dispute resolution, which are designed to work together. Indian practice has adopted the strict aspects of the regimes (single-point responsibility and

time-bar clauses) while diluting the protective clauses (fair risk sharing, binding interim adjudication). The result is a hybrid that achieves neither price certainty nor speedy dispute resolution. A conscious, law-aware adaptation of FIDIC in consonance with sections 28 and 74 of the Contract Act and with the post 2015 arbitration regime, will allow the infrastructure contracts of India to fulfill their true purpose of enabling the timely construction of projects at a reasonable price and getting the disputes resolved before they interfere with the works.

These reforms are modest and largely within the executive's control. India is not required to scrap any of its model agreements or to adopt a foreign statutory scheme lock, stock and barrel. It only requires public employers to recognize that a fair contract, one that sensibly allocates risk and has quick dispute resolution, will ultimately cost the public exchequer less than one which seeks to transfer all risks to the contractor. As the National Infrastructure Pipeline enters the next phase, the contract's quality will matter as much as the investment's size.