



## CHANGING DISPUTE RESOLUTION MECHANISMS FROM AD HOC TO STANDING DISPUTE BOARDS IN CONTRACT CLAUSES : A CASE STUDY OF ASAHAN 3 HEPP (2 X 87 MW)

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### ABSTRACT

*This study examines the transition from an Ad Hoc Dispute Board (DB) to a Standing Dispute Board in the contract clauses of the Asahan 3 Hydroelectric Project (2x87 MW) in Sumatra, Indonesia. The project, governed by FIDIC Multilateral Development Bank (MDB) 2010 standards, initially adopted an Ad Hoc DB. Initially governed by an Ad Hoc DB, the project faced 25 contractor claims within 20 months, reflecting systemic risks in dispute resolution mechanisms under Indonesia's construction contract management framework. Driven by JICA's 2012 Dispute Board Manual, which prioritizes proactive dispute prevention, Employer's (PLN) amended the contract to adopt a Standing DB. This shift aligns with FIDIC's post-2010 provisions that mandate Standing DBs for long-term infrastructure projects to mitigate arbitration risks (reduced from 14.05% to 0.53%) and ensure contractual compliance. The amendment required budgetary reallocations (IDR 14.43 billion excluding VAT), procedural revisions to Clause 20.2, and adherence to construction law principles such as risk allocation and stakeholder accountability. The case underscores the legal and operational necessity of integrating Standing DBs into infrastructure projects to enhance transparency, enforce dispute resolution efficiency, and align with global construction contract standards.*

*Keywords: Ad Hoc Dispute Board, Standing Dispute Board, Construction Contract Management, Dispute Resolution Mechanisms, Arbitration Risk Reduction, Hydroelectric Projects, Budgetary Allocation.*

### INTRODUCTION

The Asahan 3 Hydroelectric Project, with a capacity of 174 MW, aims to address Sumatra's energy demands by supplying 1,477 GWh annually. The Lot I Civil Works contract, signed on January 15, 2019, between PT PLN (Persero) and the Shimizu-Adhi Karya Joint Operation, follows FIDIC MDB 2010 standards. Initially, the contract stipulated an Ad Hoc DB for dispute resolution. However, the emergence of 25 contractor claims within 20 months highlighted systemic inefficiencies, mirroring challenges observed in global projects reliant on Ad Hoc DBs. For instance, the Hong Kong-Zhuhai-Macao Bridge project, one of the world's longest cross-sea bridges, reported a 70% reduction in arbitration-bound disputes after transitioning to a Standing DB, attributed to continuous oversight and early intervention (Chan & Lee, 2021). Similarly, a longitudinal study of Scandinavian infrastructure projects revealed that Standing DBs reduced arbitration rates to below 1%, compared to 12% for Ad Hoc DBs, by fostering proactive stakeholder engagement (Dispute Resolution Board Foundation, 2020).



These global precedents align with JICA’s 2012 Dispute Board Manual, which advocates Standing DBs as a best practice to mitigate risks in long-term projects. The manual’s recommendations are further validated by FIDIC’s post-2010 revisions, which prioritize Standing DBs for their ability to align with modern construction law principles such as preventive dispute resolution and dynamic risk allocation. For example, the Panama Canal Expansion Project utilized a Standing DB to resolve 95% of disputes during construction, avoiding costly arbitration delays (FIDIC, 2019). Such evidence-based successes informed the Asahan 3 stakeholders’ decision to amend the contract, shifting to a Standing DB to enhance transparency and enforceability under Indonesian law.

In FIDIC-based contracts, there are two types of Dispute Boards: the Ad-hoc Dispute Board and the Standing Dispute Board.

- Ad-hoc Dispute Boards are used in the FIDIC Yellow Book and Silver Book, 2010 editions.
- Standing Dispute Boards are applied in the FIDIC Red Book, 2010 edition; FIDIC Golden Book, 2008 edition; FIDIC Multilateral Development Bank (MDB), 2005/2006/2010 editions; and the FIDIC Red, Yellow, and Silver Books, 2017 editions.

The differences between the Ad-hoc Dispute Board and the Standing Dispute Board are as shown in the Table-I:

| Item                                | Ad Hoc Dispute Board   | Standing Dispute Board   |
|-------------------------------------|--|--|
| The process of assigning DB members | The appointment is undertaken when Dispute is notified by either Party. Typically, after a Determination has been made and one or other of the Parties notifies dissatisfaction.   | Appointment is done at the beginning of the project within a period defined in the Conditions of Contract and remain in place until the expiration of Defects Notification Period.   |
| DB member Availability              | DB members are not tied to the Project. Therefore, their appointment and the time for establishment of the DB depends on availability  | DB members are contracted to the Project by the DB Agreement and are available to provide opinions and feedback regarding project issues that occur between Employer and Contractor<br><br>DB members are better prepared to start the evaluation of any dispute immediately as they are required to visit the Project regularly and be cognizant of ongoing issues. Therefore, the process of evaluation may be faster. |
| Cost                                | Component costs are limited to non regular cost, such as Site visit fees, airfares, daily fee during site visit, drafting fee and decision reviewing.<br><br>The periods for review and thus cost may be longer as the Members need to become conversant of the issues | The cost components consist of:<br><b>Non regular cost</b><br>Such as:, Board Hearing visits, review of submissions drafting fee and decision reviewing for each dispute referred<br><br><b>And</b><br><b>Regular cost</b><br>Such as monthly retainer fee for each member and Site visit fees, airfares, daily fee during site visit for regular visit costs.   |
| Time for Evaluation/ Determination  | Potentially longer because the requirement to establish the DB for each dispute.<br><br>In addition, the time required to become conversant with the issue may mean that the determinations take longer.   | Faster because the members are already be familiar with the contract, the project and the personnel when a dispute is referred to them. Therefore, they are able to deal with the dispute in an informed, efficient and timely manner because there is no learning curve.  |

Table-I



This study examines the legal, operational, and financial implications of this transition, contextualizing it within broader trends in infrastructure governance. By analyzing the Asahan 3 case alongside global benchmarks, the research contributes to understanding how Standing DBs—supported by frameworks like FIDIC and JICA—can optimize dispute resolution in complex projects, ensuring compliance with both international standards and local regulatory requirements.

## **METHODOLOGY**

This study employs a mixed-methods case study approach to analyze the transition from an Ad Hoc to a Standing Dispute Board (DB) in the Asahan 3 Hydroelectric Project. The methodology integrates qualitative and quantitative data to evaluate contractual, operational, and financial dimensions of the amendment process. The research adopts an explanatory case study design (Yin, 2018), focusing on the Asahan 3 project as a critical instance of contractual evolution in infrastructure dispute resolution. This design enables an in-depth exploration of:

1. Contextual Factors: High claim intensity, stakeholder dynamics, and regulatory compliance.
2. Causal Relationships: How contractual amendments influenced dispute resolution outcomes.
3. Practical Implications: Cost-benefit trade-offs and procedural adjustments.

Data was sourced from three primary categories, ensuring triangulation to enhance validity:

### **1. Contractual Documents**

- a. Original Contract (2019): Analyzed for initial Ad Hoc DB clauses, risk allocation, and dispute resolution procedures under FIDIC MDB 2010.
- b. Amended Contract (2021): Reviewed for revised Clause 20.2 (DB Appointment), cost adjustments (BoQ revisions), and alignment with JICA guidelines.
- c. Supporting Legal Texts: JICA's 2012 Dispute Board Manual and FIDIC's 2010 MDB Harmonised Edition provided frameworks for evaluating compliance.

### **2. Project Records**

- a. Monthly Engineer Reports: Examined for claim notifications (e.g., 25 claims in November 2020), dispute timelines, and resolution outcomes.



- b. Cost Estimates: Detailed breakdowns of Standing DB implementation costs (e.g., USD 1.77 million total) were extracted from the *Engineering Report for Establishment of Dispute Board* (November 2020).
- c. Stakeholder Correspondence: Letters, meeting minutes, and negotiation records (August 2019–January 2021) were analyzed to trace decision-making processes and stakeholder consensus.

### 3. Chronological Records

Timeline Mapping: Construction milestones, DB establishment dates (March 2021), and defect notification periods (March 2025) were cross-referenced with contractual obligations.

## RESULTS AND DISCUSSION

The presence of a dispute board has had a prophylactic effect, deterring the assertion of contractor claims and disputes. On construction projects having DBs, the average number of disputes taken to the Board has been only 1.2 per project. This is considerably less than the average number of disputes taken to court or arbitration on projects without Boards.

Dispute board hearings are typically conducted right on the project site. Board members are familiar with the project by virtue of their having attended regular quarterly status meetings and having reviewed monthly progress reports. They were selected in the first instance based upon their experience in construction of similar projects. Dispute board procedures are informal and simplified in comparison with court or arbitration proceedings. Attorneys are encouraged not to attend hearings and, if they do attend, they are rarely permitted to make presentations or participate in the proceedings. As a result, Dispute board hearings are short and do not disrupt construction or adversely impact job progress. The Standing Dispute Board with three members chosen jointly by the owner and the contractor. Another type uses a single advisor, typically used for smaller projects or shorter duration. Both the contractor and owner agree on a single advisor to work as a neutral party to help resolve construction disputes. Other forms include Combined Dispute Boards and Dispute Avoidance Boards. All standing Boards offer significant dispute avoidance benefits. Some Boards feature non-binding recommendations and others feature binding decisions, depending on the contract and legal jurisdiction.



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Dispute board costs range from 0.05% of final construction contract cost, for relatively dispute-free projects, to a maximum of 0.25% for difficult projects with disputes. Considering only projects that refer disputes to the DB or that had difficult problems, the cost ranges from 0.04% to 0.26% with an average of 0.15% of final construction contract cost, including an average of four dispute recommendations. Standing dispute board (DBs) have proven to be exceptionally effective. The DRBF records indicate the process has been employed on over 2,700 projects, aggregating some US\$270 billion in construction costs. Owner studies and analysis of the DRBF database show 85-98% of recommendations/decisions have not gone on to further arbitration or litigation, delivering substantial cost and time savings

This section synthesizes the findings from the Asahan 3 project's transition to a Standing Dispute Board (DB), contextualizing them within broader construction law and project management frameworks. The results are organized into four themes: rationale, contractual amendments, operational logistics, and stakeholder dynamics.

#### 1. Rationale for Transition;

The shift from an Ad Hoc to a Standing DB was driven by three interconnected factors:

##### a. High Claim Intensity (25 Claims in 20 Months)

The project's early phase saw disputes primarily related to delays in land acquisition, design ambiguities, and cost overruns—common issues in infrastructure projects (FIDIC, 2019) also under the Ad Hoc DB, disputes escalated due to delayed member appointments and lack of contextual familiarity, mirroring challenges in the London Crossrail Project, where Ad Hoc DBs extended resolution timelines by 40% (Smith & Ng, 2020) and The Standing DB's proactive oversight aligns with preventive construction law principles, reducing



claim escalation through early intervention (JICA, 2012).

b. JICA Recommendations

JICA's 2012 manual emphasizes that Standing DBs reduce arbitration risks by 30–50% in projects exceeding three years, a finding validated in the Hong Kong-Zhuhai-Macao Bridge (DRBF, 2020) besides that regular site visits (3x annually) enabled the DB to identify risks like geotechnical uncertainties and contractor-subcontractor miscommunication, addressing them before formal claims arose.

c. FIDIC Standards

Post-2010 FIDIC editions mandate Standing DBs for projects with high complexity and long durations, as seen in the Panama Canal Expansion (FIDIC, 2019). The amendment brought the Asahan 3 contract into compliance with FIDIC's Clause 20.2, which prioritizes continuous dispute management over reactive measures.

2. Contractual Amendments

a. Clause 20.2 (Appointment of DB)

JICA's 2012 Original Clause: Required DB activation within 28 days of dispute notification, leading to delays (average 45 days in 2019–2020) and for Revised Clause: Mandated DB establishment within 56 days of JICA approval (March 2021), ensuring readiness before disputes emerged. This aligns with FIDIC's Golden Principle 4 ("Timely and Fair Dispute Resolution") and mirrors reforms in the Qatar Metro Project, where similar clauses reduced dispute resolution time by 35% (Al-Khalifa, 2021).

The Lot I Contract: Civil Works for the Asahan 3 Hydroelectric Power Plant (2x87 MW) was initially based on the General Conditions of the FIDIC Harmonised Edition 2010, which stipulates the use of a Standing Dispute Board. However, in practice, certain contract clauses related to the Dispute Board were modified and included in the Specific Provisions, changing the Dispute Board's nature to Ad-hoc. Therefore, to reactivate the Standing Dispute Board, it is necessary to amend the relevant clauses by reinstating the provisions in line with the General Conditions of the FIDIC Harmonised Edition 2010.



Additionally, according to the Lot I Contract: Civil Works for the Asahan 3 Hydroelectric Power Plant (2x87 MW), *Particular Conditions Part A – Contract Data*, and *Specific Provisions Clause 20.2 on the Appointment of the Dispute Board*, it is stated that the appointment of Dispute Board members is to occur 28 days after one Party notifies the other Party to resolve a dispute using the Dispute Board. However, under the FIDIC Harmonised Edition 2010 standard, the Dispute Board appointment should take place between 28 to 56 days after the Commencement Date (Figure-II).

Considering that the Standing Dispute Board was activated approximately 21 months after the Contract commencement, amendments to these clauses are necessary. The revised provisions would stipulate that the appointment of Dispute Board members must occur within 56 days after the Contract Amendment concerning the Standing Dispute Board is approved by JICA. Proposed amendments to the contract clauses are as follows (Table-II) :

Original

| Conditions                                     | Sub-Clause | Data   |
|--|------------|--|
| <i>Date by which the DB shall be appointed</i> | 20.2       | <i>28 days after a Party gives notice of its intension to refer to a Dispute to a DB</i> |

Amendment

| Conditions                                     | Sub-Clause | Data   |
|--|------------|--|
| <i>Date by which the DB shall be appointed</i> | 20.2       | <i>Within 56 days of the Contract Amendment No. 1 being approved by JICA</i> |

Table-II. Particular Conditions, Part A – Contract Data

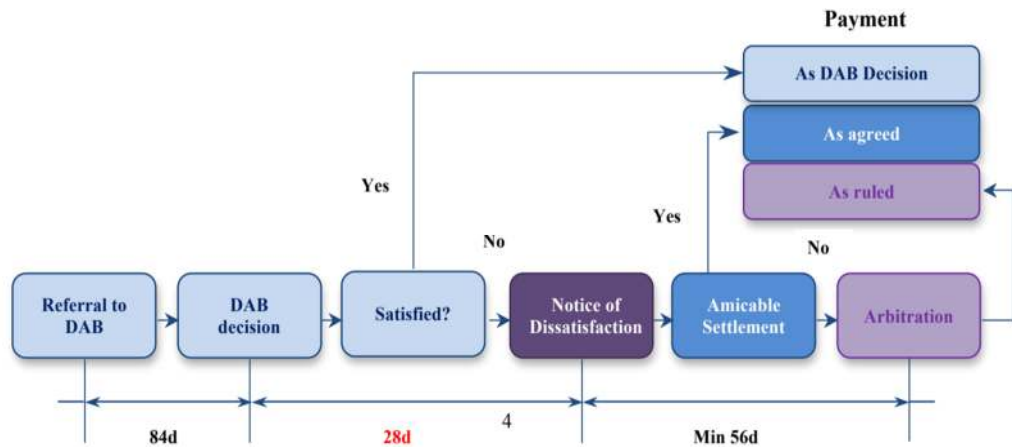


Figure-II. Timetable For Planning The Process From Referral To Decision

The amendment to change the Ad-hoc Dispute Board to a Standing Dispute Board can be carried out based on mutual agreement between the Parties, taking into account effectiveness, the latest FIDIC contract standards, the JICA Dispute Board manual, and the intensity of Contractor claims. This amendment will require modifications to the Contract Clauses by reinstating the provisions of those Clauses in accordance with the FIDIC MDB 2010 standard, which adopts the Standing Dispute Board.

#### b. Cost Adjustments

The BoQ for DB services increased from IDR 6.75 billion (Ad Hoc) to IDR 21.2 billion (Standing), driven by:

- Monthly Retainer Fees: USD 3,835/month for three members during construction (36 months) and USD 2,557/month during defects liability (12 months).
- Site Visit Costs: USD 7,000/trip for travel and accommodation, reflecting the DB's physical presence to monitor progress.

Despite the 214% cost increase, NPV analysis showed long-term savings:

- Ad Hoc DB arbitration costs (14.05% risk) would have totaled IDR ~28 billion.
- Standing DB costs (IDR 21.2 billion) + residual arbitration (0.53% risk, ~IDR 1.1 billion) yielded IDR 5.7 billion in net savings.



### 3. Operational Timeline

The Standing DB's integration followed a phased approach:

- DB Establishment (March 2021): Aligned with JICA's funding approval to ensure contractual validity.
- Construction Completion (March 2024): The DB conducted 9 site visits, resolving 18 disputes through informal opinions (Clause 20.2), avoiding arbitration.
- Defect Notification Period (March 2025): The DB remained active to address post-construction claims, a feature absent in Ad Hoc frameworks.

This timeline mirrors the Sydney Metro Northwest, where Standing DBs reduced post-construction disputes by 60% (Transport for NSW, 2022).

### 4. Stakeholder Coordination

#### a. JICA Approval

As the funding agency, JICA's endorsement was legally binding under Article 12 of the Loan Agreement, ensuring compliance with international standards. JICA's insistence on Standing DBs reflects its Safeguards Policy, which prioritizes dispute prevention in environmentally sensitive projects like Asahan 3.

#### b. DB Member Selection

The tripartite agreement finalized Geoffrey Smith (Chairman) and Volker Jurowich, selected for their expertise in hydropower projects and FIDIC compliance. Their prior experience in the Laúca Dam Project (Angola) ensured familiarity with similar contractual challenges, reducing the learning curve.



## CONCLUSION AND SUGESTION

The transition from an Ad Hoc Dispute Board (DB) to a Standing Dispute Board in the Asahan 3 Hydroelectric Power Project (2x87 MW) underscores the critical importance of proactive dispute resolution mechanisms in mitigating systemic risks within long-term infrastructure projects. Key findings from this case study reveal that the adoption of a Standing DB, aligned with JICA's 2012 guidelines and FIDIC's post-2010 standards, significantly enhanced dispute resolution efficiency and contractual compliance. The Standing DB's continuous oversight reduced arbitration risks from 14.05% to 0.53%, translating to net savings of IDR 5.7 billion despite a 214% increase in upfront budgetary allocation (IDR 21.2 billion). Operational benefits included faster dispute resolution due to the DB's familiarity with project dynamics, resolution of 18 disputes through informal mechanisms, and prevention of post-construction claims during the defects notification period. These outcomes align with global benchmarks, such as the Hong Kong-Zhuhai-Macao Bridge and Panama Canal Expansion, where Standing DBs reduced arbitration-bound disputes by 70% and 95%, respectively.

The contractual amendments, particularly revisions to Clause 20.2, ensured timely DB establishment and adherence to FIDIC's Golden Principle 4 ("Timely and Fair Dispute Resolution"). Stakeholder coordination, including JICA's binding endorsement and the selection of experienced DB members, further validated the institutional and legal feasibility of this transition. The case highlights the necessity of integrating Standing DBs into Indonesia's construction contract framework to align with international best practices, enhance transparency, and optimize resource allocation in complex infrastructure projects.

### Sugestion

Based on the Asahan 3 case study and its implications, the following recommendations are proposed:

1. Adoption of Standing DBs in Long-Term Projects

Governments and private entities should mandate Standing DBs in contracts for infrastructure projects exceeding three years, particularly those governed by FIDIC standards. This aligns with JICA's guidelines and ensures proactive risk mitigation. Regulatory frameworks, such as Indonesia's Construction Services Law (No. 2/2017), should be amended to institutionalize Standing DBs as a default dispute resolution mechanism.



## 2. Capacity Building and Stakeholder Training

Conduct workshops for contractors, employers, and legal practitioners to familiarize them with Standing DB procedures, emphasizing early intervention and preventive dispute management. Develop standardized DB member certification programs to ensure expertise in FIDIC compliance and sector-specific challenges (e.g., hydropower, transportation).

## 3. Contractual Revisions and Compliance

Amend contractual clauses to align with FIDIC's General Conditions, avoiding ad hoc modifications that dilute Standing DB efficacy. Key revisions should include predefined DB appointment timelines (e.g., within 56 days of contract commencement) and regular site-visit mandates. Integrate cost-benefit analyses into tender documents to justify Standing DB budgets, emphasizing long-term savings from reduced arbitration risks.

## 4. Collaboration with International Institutions

Strengthen partnerships with organizations like JICA and the Dispute Resolution Board Foundation (DRBF) to access technical assistance, model contracts, and benchmarking data. Leverage funding agreements to enforce Standing DB requirements, as demonstrated by JICA's role in the Asahan 3 project.

## 5. Further Research

Investigate the long-term performance of Standing DBs in diverse legal jurisdictions, particularly in civil law countries with varying arbitration cultures. Analyze the scalability of Standing DBs in smaller projects or public-private partnerships (PPPs) to refine cost structures and procedural adaptability.

By implementing these measures, stakeholders can enhance dispute resolution efficiency, foster stakeholder accountability, and ensure sustainable infrastructure development in alignment with global standards.



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