Best Practice in the Training, Appointment, and Remuneration of Members of Dispute Boards for Large Infrastructure Projects

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Abstract: This paper reports part of a qualitative study into evolving practice in the implementation of the dispute adjudication board (DAB) construction dispute resolution technique, a variant of the dispute review board (DRB) concept used in the United States and Canada. Data were collected through a focus group interview of 20 highly experienced dispute resolution practitioners from engineering and the law. The group was assembled from members of FIDIC-NET with direct experience of project DABs. The part reported here concerns practice and procedure for establishing DABs. The main findings are that the constitution of DABs is often delayed because of either project owners' ignorance of the DAB process or deterrence by the cost of the DABs; such owners also tend to insist on appointing DAB members from local engineers and lawyers without sufficient understanding of the DAB process; rates of remuneration of DAB members vary widely; the training provision for DAB membership and advocacy skills is inadequate; and the process of selecting candidates for DAB membership and negotiating the tripartite agreement between each member and the contractual parties needs to be navigated with great care to avoid raising ethical problems. The research contribution is threefold. First, it highlights the importance of realistic fees for DAB members within a standard framework in achieving timely establishment of a board that works well as a team. Second, it illustrates the use of a qualitative focus group interview to study the impact of new contract terms from multiple stakeholder perspectives. Finally, it identifies areas where further research is needed. **DOI: 10.1061/(ASCE)ME.1943-5479.0000195.**

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Introduction

The construction industries in many countries are prone to disputes that not only damage the quality of relationships within supply chains but also increase the costs of projects. Arbitration, an early alternative, is now being perceived as just as time-consuming, expensive, and destructive of relationships as litigation (Matyas et al. 1996; Stipanowich 1996; Parratt 2001; Harmon 2004a, c; Uff 2005; Harris 2005; Bell 2006). The concept of a dispute board (DB) has been part of the development of alternative dispute resolution (ADR) techniques. It originated in the United States, where it has been referred to as a "dispute review board" (DRB), which is a panel of three members of recognized knowledge, experience, and professional standing, in relation to construction disputes, jointly appointed and paid by the contractor and the project owner on a construction project (Matyas et al. 1996). The role of the DRB is to make a nonbinding advisory opinion, referred to as a "recommendation," on how any dispute that arises from the project is to be resolved by the contractor and the project owner. To allow it to perform this function, the DRB keeps abreast of project matters through regular visits to the site and being supplied contemporaneously with key project documents such as drawings, minutes of site meetings, instructions from the contract administrator, and notices.

A particular problem often encountered in any attempt to develop knowledge and understanding of disputes from international construction contracts has been that they are resolved by private procedures such as negotiation, mediation, DB, or arbitration. To get over the barrier of privacy, the Universities of Leeds, Reading, and Wolverhampton, with funding from the Engineering and Physical Science Research Council of the U.K., established a research network (FIDIC-NET) of academics and practitioners for the study of projects procured internationally. Projects procured using the Fédération Internationale Des Ingénieurs-Conseil (FIDIC) family of contracts are of particular interest, thus the name of the network. FIDIC is the international federation of national associations of consulting engineers representing the consulting engineering profession in their respective countries. Membership is restricted to one association from each country. To qualify for membership, a national association must demonstrate that its statutes, bylaws, and regulations ensure that its members comply with the professional code of practice and ethics of a consulting engineer as outlined by FIDIC (FIDIC 1989; Bunni 2005).

In 1999 FIDIC replaced all its standard contracts with four sets of new forms of contracts employing new concepts and terminology: (1) *Conditions of Contract for Construction* (the new "Red

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Book"); (2) *Conditions of Contract for Plant and Design and Build* (the "Yellow Book"); (3) *Conditions of Contract for EPC/Turnkey Projects* (the "Silver Book"); and (4) *Short Form of Contract* (the "Green Book"). A fifth standard contract, *Conditions of Contract for Design, Build and Operate Project* (the "Gold Book"), was added in 2008. With the exception of the Green Book, all the contracts innovate on the basic DRB concept by providing for a dispute adjudication board (DAB) that shares all the attributes of the conventional DRB but with the key distinction that a DAB's determination of a dispute referred to it is binding on the contracting parties unless one of the parties serves notice of dissatisfaction with it and until the dispute is finally settled by agreement, or arbitration.

The multilateral development banks (MDB), including the World Bank (WB), have adopted the new FIDIC Red Book with amendments that retain the concept of a decision-making DAB. This variant of the 1999 edition of the Red Book is hereafter referred to as the "MDB Contract." One of the amendments made in the WB's *Standard Bidding Documents for the Procurement of Works* (SBDW) (World Bank 2006) is that the generic label "dispute board" is given to the board. Readers are therefore cautioned that, in the light of this terminological fluidity, whether a board makes recommendations or binding decisions depends on the terms of the particular contract and not the label given to it. In the rest of this paper, for simplicity and clarity, the term DAB is used to refer to any decision-making board, including the board provided for in the MDB Contract and the SBDW.

Most of the literature on the practical operation of the DB and its more recent variations consists of narratives by practitioners on various aspects of the resolution method. Some of the authors of this category of DB literature report experiences as members or chairpersons of DRB/DABs on particular projects (Dettman et al. 2010; Golvan 2010; Golvan 2012). Such writings may lack external objectivity where they are intended to promote wider adoption of the DB concept (Sweet 2009). The main research publications on DBs that go beyond personal experience have been by Harmon (2004a, b, c, 2009, 2012), Yates and Duran (2006), Menassa and Peña-Mora (2010), and Gerber and Ong (2012) and are limited to conventional DRBs that make nonbinding recommendations. Some of these studies were based largely on data from the Dispute Resolution Board Foundation (DRBF) database or practitioner reports on their experience as DRB members.

This paper reports a part of a study undertaken with the purpose of describing the evolving wider DB practice and to identify problems and challenges encountered in practice for further investigation. The part reported here concerned the constitution of DABs and was designed to answer a number of questions in relation to the procedures of constituting them. The paper is structured as follows. The very next two sections outline the development of the DRB/DAB concepts to highlight their international importance. A section describing the research approach, design, and assumptions then follows. The fourth section summarizes the provisions in the MDB Contract and the WB's SBDW on the constitution of a DAB. Finally, the findings of the study on the formation of DABs are presented and discussed. Any reference to clauses or subclauses is to the provisions in the MDB Contract unless it is stated otherwise.

Development of the Dispute Board Concept and Its Variants

The *Construction Dispute Review Board Manual* (DRB Manual) (Matyas et al. 1996), easily the most authoritative source of information on DRB principles and practice, provides an overview of the development of the concept. It was first published as a collection of papers representing the combined experience and observations of members of more than 100 DRBs used in the United States up to 1996. However, there are now online updates available from the website (www.drb.org) of the DRBF, a nonprofit organization in Seattle, Washington, in the United States set up in 1996 to promote the use of DRBs. Menassa and Peña-Mora (2010) analyzed data maintained by the DRBF on DRBs on 1,042 U.S. projects between 1975 and 2007 and found strong evidence of the efficacy of the technique in not only preventing disputes completely on about 50 percent of the projects but also in resolving finally more than 90 percent of the disputes that were referred to the board for recommendations. An update by Harmon (2012) up to February 2012 found that 88 percent of 2,753 disputes referred to DRBs were finally resolved without further reference to mediation, arbitration, or litigation.

Chapman (2009) and Chern (2008) chart the global growth in the use of dispute boards in more recent times. An important driver of the development of the DAB technique in international contracting concerned criticism of the traditional role of the engineer under the original FIDIC Red Book, the most widely used standard form of contract for internationally procured construction projects. The development of the DAB variant is attributable largely to parallel actions by FIDIC and the WB in response to this criticism, which persisted for over three decades (Ndekugri et al. 2007). Changes in the procurement procedures and methods of the WB are always closely watched by FIDIC as the bank funds a large proportion of the international projects in which international consulting engineers are particularly interested. Also, as the contracts incorporated in the procurement procedures of the WB are based on FIDIC contracts, staff in the procurement department of the Bank maintain a close watch over additions to or updates of the FIDIC family of contracts. It is not therefore surprising that there were parallel attempts to address the question of the role of the engineer.

Positive experiences reported from the use of the dispute board innovation on large projects led to the WB introducing the concept of a decision-making DAB into the 1991 editions of its *Standard Bidding Documents for Procurement of Works*. At that stage borrowers were simply encouraged to incorporate the DAB provisions in their contracts. Moving a step further, the World Bank in January 1995 made use of the DAB concept a mandatory part of its *Standard Bidding Document* then current (World Bank 1995), although it was then referred to as a DRB. The DRB was a three-member panel constituted as follows. Each party nominated a member who was appointed only upon approval by the other party. These two members selected the third member, the chairman of the board, for approval and appointment by both parties. The DRB replaced the engineer as the first-instance tribunal for disputes between the employer (the term used for the project owner in the contract documents) and the contractor. This means that "any dispute in connection with, or arising out of, the contract or the execution of, the works" was to be referred to the DRB instead of the project engineer prior to its reference to arbitration.

The DRB had 56 days after receipt of the reference to make a recommendation as to the determination of the dispute. A party dissatisfied with the recommendation had 14 days after its receipt to serve notice of intention to refer the dispute to arbitration. When the DRB failed to submit a recommendation, the dissatisfied party had 14 days after expiry to the 56 days to serve the notice to refer to arbitration. If such a notice was served, the recommendation was nonbinding. However, if notice to refer to arbitration on account of such dissatisfaction was not served within the stated time limits, the recommendation became finally binding on the parties. The DRB in the WB's contract therefore differed from the pure U.S.-style

J. Manage. Eng. 2014.30:185-193.

DRB in that, under the WB contract, the recommendation became finally binding if no timely notice of dissatisfaction was served.

In the development in 1995 of the first edition of its *Conditions of Contract Design/Build and Turnkey* (Orange Book) (FIDIC 1995), FIDIC decided to respond to the criticism of the role of the engineer by providing for a DAB that was to replace the engineer but only as the first-instance tribunal for the resolution of disputes. Unlike the DRB under the WB's SBDW, which made recommendations, the DAB made decisions that became immediately binding subject to final resolution of the dispute by amicable settlement, arbitration, or litigation.

In 1996 FIDIC took the DAB innovation forward with publication of a supplement to the then current edition of its Red Book (Bowcock 1997). One of the changes made in the supplement was also the provision for a DAB as a replacement of the engineer in his role as the first-instance tribunal for disputes. It was recommended in the supplement that the DAB could be a three-member or a sole-member board depending upon the size of the project and the types of activities in it. In the 1999 FIDIC Red Book the traditional role of the engineer as the first-tier tribunal for resolution of disputes between the employer and the contractor has been replaced by resolution by a DAB. The DAB is to be constituted at the commencement of the project, stays with it until project completion, and makes decisions that must be implemented by the parties pending final resolution of the dispute by amicable settlement or arbitration.

Research Design and Methods

A qualitative research design approach was followed. A number of factors were decisive in the making of this choice. First, there is a paucity of research literature on the DB concept. Second, differences in project characteristics, such as participants and funding arrangements, generate different contexts and settings for the operation of DABs. Third, the main issues of interest (descriptions of institutional support, legal frameworks, procedural matters, and training provision) pertain to social environments and are, therefore, not amenable to quantitative measurement. These are some of the factors identified in the major treatises on research design, such as the works of Creswell (2007) and Bryman (2008), as pointing toward adoption of the qualitative research approach.

Data Collection

After considering various data collection methods in the light of the confidentiality of dispute processes and the difficulties of determining the population of organizations and individuals with direct experience of DABs, the research team decided that a composite of the group interview and the focus group interview would be the most appropriate data collection method. The focus group is a particular type of group interview in which the scope of the issues of interest is tightly defined and the members of the group are selected on the researcher's knowledge of their involvement in the situation or phenomenon under investigation. As a research method, it has been used in market research to test consumer responses to new products and services (Calder 1977; Bryman 2008).

Practitioners with direct experience of DABs were targeted for the group interview. To assemble the focus group, an e-mail message describing the aims and objectives of the workshop was sent to members of FIDIC-NET with invitations to members with direct experience of DABs to submit expressions of interest to participate at the workshop, including summaries of their experience relevant to DABs. Of 37 applications to participate, 22 invitations to participate were issued based on relevant dispute resolution experience. Although applicants were not required to disclose their ages, the profiles of experience suggested that the vast majority would have been aged over 50 years. Twenty of these attended the workshop, the remaining two writing in advance to withdraw for reasons of unexpected conflicting demands on their time. The experience profiles indicated rich experience from the perspectives of both project owners and contractors. For example, while some were from international construction law firms with project owners and contractors as past clients, others were dispute resolution practitioners after a long period of practice as consulting engineers or employees of contractors.

The interviews were scheduled in five sessions over the day, with a senior professional with sufficient knowledge and experience designated to facilitate the discussion. The research team had provided each facilitator with an interview guide containing a list of issues to be covered and specific questions to ask where the discussion was likely to end without addressing the specific research issues. The research recognized that associated with the large size of the group was the risk of suppression of views and domineering attitudes. To counter it, a horseshoe seating arrangement was adopted coupled with a standard practice of proceeding methodically from participant to participant and progressing to the next participant only after the current participant had been allowed ample opportunity to contribute on the issue under discussion.

There were facilities for electronic audio-recording of the entire workshop right from its inception to its close. Audio-recordings of the group interview were transcribed by a commercial transcription service provider for analysis.

Analysis and Validation

The analytic procedures adopted in this study were basically Miles and Huberman's (1994) analytic activities using Bryman's (2008) narrative analysis approach as a framework. The main part of the analysis started with listening to the audio-recording and reading the transcript through several times with the aim of checking the accuracy of the transcription and developing a general sense of the data gathered. Upon reflection after such repeated listening and reading, thematic analysis, one of the techniques within the narrative analysis approach, emerged as the most appropriate. The transcript was read through again several times but, at this stage, the process included making notes on its margins and highlighting relevant fragments of text as themes and subthemes. Also, the need to add themes to those already recognized in the structuring of the interview became apparent. For example, a new theme for "relationship between a DAB member and his/her nominator" was developed as there were references to that issue scattered over the responses on many of the research questions. From the structuring of the interview, it was easy to identify themes, subthemes, and their locations in the transcript and the interviewees who had articulated them. By noting themes and patterns, clustering, counting, and making contrasts/comparisons, meanings were generated from the qualitative data for the purpose of drawing and verifying conclusions.

The validation of the research entailed e-mailing a draft report of the workshop prepared from the analysis to the research informants with an invitation to them to draw the researchers' attention to any perceived inaccuracy, misinterpretation, or any other concern of whatsoever nature. The validation confirmed all the substantive points of the report. Additional comments received were compliments on the quality of the report; expressions of how interesting and informative the study was; and exhortations to the researchers to organize follow-on or similar events to continue the study of DABs.

J. Manage. Eng. 2014.30:185-193.

Contractual Provisions on Dispute Boards

The MDB Contract is in three sections: (1) "General Conditions," (2) "Contract Data," and (3) "Specific Provisions." The general conditions (GC) are the standard terms expected to be adopted for most projects. The "Contract Data" section is a form for completion to state the particulars of the project in hand, e.g., names and addresses of the parties, the name and address of the engineer, the contract price, the contract period, and delay damages. The "Special Provisions" section is for the insertion of terms tailor-made for specific matters in which the parties prefer such terms to the corresponding provision in the GC. It is also the section for providing for matters on which the GC are silent. The specific provisions therefore prevail over the GC to the extent that there is any conflict between the two.

The DAB is to be constituted in accordance with "Subclause 20.2," which anticipates the number of DAB members being stated in the contract data. When this information is not so stated, the parties are to agree on the number, failing which, a three-member board applies as the default position. Other items of information on the DAB that must be completed in the contract data are the deadline for establishing it and the name of the appointing entity or individual to be approached to nominate a member of the board should the parties fail to agree on that member. This appointing role is hereafter referred to as the "appointor." There are no contractual limitations on who may be designated in the contract as the appointor. However, for the DAB process to work smoothly, both parties must believe in the neutrality and integrity of the appointor. The temptation to use an official associated with one of the parties, e.g., the minister of a specified government department in the case of a contract with a state entity, should be resisted as such a step could open the door to the entire DAB being appointed by this person. The appointor must also be in a position to make timely appointments of suitable DAB members when called upon to do so.

As pointed out in a publication of the European International Contractors (2011), it is also to be noted that while under the parent 1999 FIDIC Red Book, the president of FIDIC or the president's nominee is the default appointor when the parties fail to complete this information in the contract data; there is no default appointor in the MDB Contract. Omitting to state the appointor would frustrate the establishment of the DAB, and therefore the entire DAB provisions, unless there is a relationship of cooperation between the parties.

The names of potential members may be stated in the contract data. "None" should be stated when there is no intention to limit choice of nominees. Notes against the "Subclause 20.2" entry in the contract data suggest that the contract does not contemplate lists of names of potential members of three-member DABs being provided as part of the contract data. However, there is no such limitation in the text of the subclause.

The contract provides that appointments are to be made from the provided list if the potential members are agreed upon by both parties. There is the question of whether the contractor may therefore reject nominations from any such list prepared unilaterally by the employer. It is arguable that execution of the contract by the contractor amounts to the required agreement to the list of potential DAB members. However, it should be borne in mind that neutrality of each DAB member and both parties' belief in his or her being so are absolutely fundamental to the effectiveness of the DAB technique. Foisting a DAB member on the contractor through unilateral listing of candidates in the contract could therefore be counterproductive.

When the DAB is not in place 21 days prior to the specified deadline for constituting it, it is to be constituted by an appointment methodology that starts with each party nominating a candidate for membership of the DAB for approval by the other party. The two members appointed by the parties in this way then identify and recommend a candidate for approval and appointment by both parties as the third member of the DAB. The third member is to take on the role of chairing the DAB. This methodology is considered good practice as it is designed to minimize the risk of any DAB member being under a psychological pressure of loyalty to a party for the opportunity to serve in that capacity.

"Subclause 20.3" describes a default mechanism for appointing a DAB member when the process is being held up by inaction or the parties' failure to make a consensual appointment. It provides for a request to be made to the appointor to step in and make a remedial appointment. The appointor's appointment is "final and conclusive." This power is unlikely to be as unilateral as it may appear, for if it transpires that the appointee is not independent or, for whatever reason, cannot be considered impartial in law, it would be pointless to maintain the member in the role. The appointor would therefore be acting properly to consult the parties before confirming any appointment.

To achieve formal constitution of a DAB, the employer, the contractor and each member of the DAB must enter into a contract referred to as the "dispute board agreement" (DBA). No standard form for the DBA is provided with the MDB Contract. This omission is probably in recognition that different legal systems may have their own distinctive requirements as to the form for entering into a valid agreement. However, "Subclause 20.2" requires the form actually used to incorporate the *General Conditions of Dispute Board Agreement* (GCDBA) and the procedural rules provided as an appendix to the GC. The GCDBA spells out the rights and obligations of the three parties to the agreement. The procedural rules govern procedure in the performance of the function of the DAB. The GCDBA anticipates statement of the amount of a monthly retainer and the daily fee rate of the member in the DBA. As good practice for most commercial agreements, other information to be provided in the DBA includes the names, addresses, and signatures of the three parties to the agreement and the corresponding information for their witnesses. There is a standard DBA in the 1999 edition of the FIDIC Red Book that, with or without amendments, may be suitable for some jurisdictions.

Analysis and Discussion of Interview Data

Amendment of DAB Provisions in Contracts

The main types of amendment of the DAB provisions in contracts that participants had come across were to have an ad hoc board when the contract required a standing board and to require a sole-member board instead of a three-member board. The principal reason for such amendments has been to keep costs down. Such amendments require the agreement of both parties. However, it was doubted whether contractors had any real say in the decisions to make these amendments. In theory, a contractor to whom such amendment is unacceptable may challenge it in the appropriate dispute resolution arena or even terminate the contract for repudiation by the project owner. However, there is often reluctance to embark on such steps laden with the most serious consequences at the outset of a project for which the contractor would have prepared at considerable cost.

Developing Appointment Practice

Participants reported that failure to comply with the DAB provisions on the timetable for the constitution of the board is common.

J. Manage. Eng. 2014.30:185-193.

There were reported instances in which the parties began the procedures for appointing the board only after disputes had arisen. In the participants' opinion, the disputes could have been avoided if the DABs had been in place from the beginning as provided for in the contract.

Both parties' trust and confidence in the neutrality of each member of the DAB is at the heart of its effectiveness. The need for joint appointment in the real sense works at a psychological level to foster this important mindset (Matyas et al. 1996). However, it was reported that, with three-member DABs, it is convention for each party to accept the other's nominee without question. Although there is reciprocity in this practice, it could sow the seeds for the perception of a DAB member as an advocate for the party who nominated him/her, which is contrary to best practice in the use of the DB technique. Discussions on other issues in the remainder of this paper show that this concern is not without some justification.

The unquestioning acceptance of nominees may be as a result of some confusion with the procedure for constituting arbitration panels under the rules of arbitration of the International Chamber of Commerce (ICC). Under that procedure, it is the ICC that approves a party's nominated arbitrator. The parties themselves have no powers of rejection, although a party may make representations to the ICC to reject the other party's nomination.

A suggested alternative to the "Subclause 20.2" appointment procedure was for the parties, first, to appoint the chairperson jointly, who would then identify and recommend the other members for joint appointment by the parties. This alternative offers several advantages: it is likely to be quicker; and the chairperson may recommend members with whom he/she has direct working experience, thus giving the chairperson the opportunity to ensure all-around expertise and competence within the DAB. It was argued against this alternative that many contractors and project owners often want to feel that they have on a board a person who, by reason of having nominated him or her, they believe will protect their interests. The issue of the relationship between a board member and the party that nominated him/her is explored separately later in the paper.

Attitudes to nominations are different when a sole-member DAB is specified in the contract. In such situations there is a tendency for any nomination by one side to be rejected by the other as there is concern about binding decisions being made by a person put forward by only one party. The provision for an appointor prevents the impasse that would otherwise result.

Negotiation and Execution of the Dispute Board Agreement

"Clause 2" of the GCDBA provides that, unless otherwise stated, a DBA takes effect on the latest of three dates: (1) the commencement date defined in the contract; (2) when the DBA is signed by the employer, the contractor, and the DAB member; or (3) when the DBA for each member has been signed by all concerned. The most obvious way of achieving formal constitution of a DAB would therefore entail both parties negotiating the terms of the agreement with each nominee followed by execution of the agreement by the parties and the nominee. This negotiation must be done in a manner that does not raise questions of improper ex parte communication between a DAB member and a party. An alternative route to the same end is for the parties to draw up the terms and then offer them to each nominee on a take-it-or-leave-it basis.

It was reported that a common reason for delay in establishing the DAB was failure by a party to take all the necessary steps, particularly nomination of a member for approval by the other party. Withholding of approval of the other party's nominee would also hold things up, although it was reported that, with three-member DABs, such withholding has been rare so far. This situation raises the issue of how to proceed in the face of such conduct. The contract anticipates this problem by providing the default appointment mechanism in "Subclause 20.3." However, it does not address the difficulty that would still arise if the recalcitrant party declines to enter into the DBA even after the appointor has intervened with all necessary appointments. It was suggested that, in English law, a dispute board agreement incorporating the GCDBA would be implied, thus allowing the DAB to become operational as intended under the construction contract. The fact that there is no agreement on the remuneration of the board members would not present any problem because "Clause 6" of the GCDBA provides that, in any such event, the appointor has authority to determine the amount of fees payable.

A decision of the Technology and Construction Court, the main court in which disputes from construction in England and Wales are litigated, supports this doctrine of implication of a DBA. In *Christopher Michael Linnett v. Halliwells LLP* [2009] EWHC 319 (TCC); [2009] B.L.R. 312; 123 Con. L.R. 104 the claimant was appointed adjudicator in respect of a dispute between the defendant and a third party (ISG). On appointment, the claimant sent the parties his terms of engagement, which included his fee scales with a request to each party either to accept or reject them in writing. ISG accepted the terms but the defendant, without expressly accepting or rejecting them, challenged the adjudicator's jurisdiction to decide the dispute. As part of this challenge, the defendant clearly stated that its participation in the adjudication was without prejudice to its right to raise the jurisdictional challenge to enforcement of any decision arrived at. The adjudicator wrote to the defendant again stating that, if there was no response to the issue of his terms of engagement within seven days, he would consider them accepted. To this letter, the defendant replied that, having raised the jurisdictional challenge, a response on the issue of the terms of engagement was unnecessary.

The adjudicator made a decision in favor of ISG and directed that, as the losing party, the defendant should pay his fees and expenses. The defendant refused to comply and the adjudicator brought court proceedings to recover the payment. Mr. Justice Ramsey held that the claimant was entitled to reasonable fees from the defendant. Acknowledging the novelty of the case, he entered into a detailed legal analysis of the legal basis of the entitlement. He stated that, even with the jurisdictional challenge, the defendant's participation in the adjudication amounted to a request by conduct to the adjudicator to act that gave rise to a duty to pay for the service on principles of contract, quasi-contract, or restitution. The doctrine of implication of contract terms or even the contract itself was central in his contractual analysis.

Remuneration of Board Members

"Clause 6" of the GCDBA provides remuneration of the DAB as follows. Each member is to be paid (1) a retainer per calendar month from the date when the agreement took effect until the month in which the taking-over certificate (TOC) is issued; (2) a daily fee for each day or part of a day spent on the duties of the DAB, be it traveling to and from meetings or the site, site visits, hearings, reading submissions on disputes referred for the DAB's opinion or decision, or preparing opinions or decisions; (3) reasonable expenses; and (4) tax properly levied in the country in which payment is to be made to the member. From the calendar month following the date of issue of the TOC to the expiry of the appointment of the DAB, the monthly retainer fee is to be reduced

J. Manage. Eng. 2014.30:185-193.

by one-third to reflect the reduction in the burden of staying abreast with developments on the project. The appointment of the DAB expires on the discharge accompanying the contractor's final statement taking effect, which will usually be when the employer makes the payment required by the engineer's final certificate and returns the performance security to the contractor (see "Clause 14.12").

As already explained, the retainer per calendar month and daily fee rate for a member are to be stated in the DBA. In view of the greater responsibility, the chairperson's remuneration is usually higher than that of any other member. When a member performs the duties without his or her fees having been stated in the DBA or agreed by the parties, the appointor is to determine them. FIDIC's 1996 supplement to the fourth edition of the original Red Book provided that if the appointment of a DAB member omitted to state the daily fee, it was to be that of arbitrators under the regulations of the International Center for Settlement of Investment Disputes (ICSID). The ICSID current daily fee rate for arbitrators has been $3,000 since January 1, 2012 (ICSID 2012). It is therefore not unreasonable to expect fee rates at this level when FIDIC is the designated appointor. The supplement also recommended calculation of the monthly retainer on the basis of a DAB member, on average, spending time equivalent to three days in every calendar month working full-time on project matters.

Many participants reported reluctance of some project owners to accept the obligation to pay retainers. Nonpayment of retainers requires DAB members to do everything necessary for staying abreast with developments on the project at no charge to the parties. Two main suggestions for dealing with no retainers were made: (1) the member bills for the time used in performing the task of staying abreast with the project at the agreed daily fee rate; and (2) the member builds the retainer into the daily fee rate for site visits and like.

Uncertainty was reported not only about the level of fees but also the procedures whereby the fee is agreed with a DAB member. Although participants had come across daily fees for DAB members in excess of the ICSID figure, when the works were in a developing country, it was not uncommon for the daily fee rate of a DAB member who is a national of the country of the works to be in the region of $100. On the issue of the equity of such huge differentials in fees of members of the same DAB, there was a range of opinions among the participants. It was reported that in some countries statutory regulation of the wages and similar remuneration of their citizens working for international organizations often makes it illegal to pay DAB members who are citizens or residents of the country of the works at anywhere near the international norms. Some participants took the view that remuneration for professional services is a private matter for the individual professional to resolve with his/her clients. According to the proponents of this viewpoint, the matter should, therefore, be left to market forces applicable to those offering services as DAB members. A third viewpoint was that the inequity may be illusory as a dollar often buys a lot more in the country of the works than in most developed countries.

In some cases the fee rate was stated in the construction contract. It would appear that this practice should offer the advantage of reducing the burdens and delays of entering into tripartite negotiations with candidates for DAB membership. However, concern was expressed that such practice often frustrates the establishment of the board, particularly when the stipulated fee rates were unrealistically low.

Whenever bids from potential DAB members are invited, the fees rates in the bids can vary considerably. Such variation can be confusing to project owners not familiar with the DAB process. Very often engineers in state entities acting for project owners need some publicly available fee frameworks to justify the level of DAB remuneration to their senior management or government ministers. To establish a perspective on the range of fee rates often charged, without too much intrusion into such a private matter, participants agreed to write their personal standard fee rates on a blank sheet of paper to be passed round. On completion of this exercise, the rates were found to range from £175/h to £600/h (about $280/h and $960/h, respectively). Harmon (2012) reported remuneration rates of members of DRBs in the United States as ranging from $165 to $350 per hour. The higher rates for DAB members probably reflect the international nature of the assignment.

The GCDBA provides that fee rates are fixed for the first 24 calendar months unless it is provided otherwise in the DBA. Thereafter, they are to be reviewed by the employer, the contractor, and the member every year. The GCDBA, however, provides that the retainer fee is to be reduced by one-third effective the first day of the calendar month following that in which the TOC is issued. The TOC signifies substantial completion of the works. The reduction in the retainer is therefore to reflect the reduced burdens of the DAB in staying abreast with developments on the project.

Some informants reported instances in which the parties insisted on fixing the fee rates of DAB members for the entire duration of their projects. Some DAB members normally deal with this by requesting a fee rate a little higher than when there is agreement to keep the fees under annual review.

Qualities for Board Membership

The type of dispute that may be referred to the DAB is stated in "Subclause 20.4" in extremely wide terms: "a dispute (of any kind whatsoever) between the Parties in connection with or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, and opinion of the Engineer." Considering the width of the disputes clause, it is impossible to predict at the time of constituting a DAB the type and nature of disputes that will be referred to it. The ideal DAB is therefore one that has the mix of professional knowledge, understanding, and skills necessary for resolution of a wide range of disputes. The only requirements of a member stated in the MDB Contract are that he or she is: (1) fluent in the language for communications defined in the contract; (2) professionally experienced in the type of construction involved; and (3) professionally experienced in the interpretation of contractual documents (see second paragraph of "Subclause 20.2"). Also, the GCDBA, which is incorporated into the contract between a member and the parties, contains a warranty by the member that he or she is impartial and independent of the contractor, the employer, and the engineer.

It was reported that, in many developing countries, local lawyers/engineers are often appointed to boards. In one reported instance, the project owner (the government of a developing country) insisted on a local chairman of the board who did not have the experience to manage the board proceedings. Some participants found that, while such members are often highly experienced as engineers or lawyers, they often lack the experience and skills required for effective membership of DABs.

A view that had some support from participants was that, to have the appropriate mix of professional experience and skills within a DAB, it should have a lawyer, an engineer from a design background and an engineer from a contracting background. To ensure such a mix, the parties need to consult each other from the start of the nomination process. However, in practice, a dilemma commonly faced is whether or not to match the other side in terms of the expertise of their nominee. For example, if the dispute turns on a point of Baratanian law and one side nominates a Baratanian

J. Manage. Eng. 2014.30:185-193.

lawyer, should the other party also nominate a Baratanian lawyer? Not doing so entails the risk that the point will be decided on the understanding of the only Baratanian lawyer, whose opinions the party that nominated him or her may well have verified before the nomination.

It was strongly voiced by some participants that relevant professional knowledge or experience alone would not be enough. Additional attributes considered essential were awareness of the DAB process; ability to communicate one's viewpoint to the other DAB members with sufficient clarity and to persuade; awareness of the natural justice implications of actions taken while a DAB member and related ethical issues; and possession of a suitable personality. These findings are generally consistent with the findings of a survey conducted by Harmon (2004a) designed to investigate, among other DRB matter, the requirements for U.S.-style DRB membership. That survey identified six key desirable attributes: (1) construction knowledge and experience; (2) fair and impartial decision making; (3) credibility; (4) professional behavior; (5) the possibility of a nominee being rejected; and (6) knowledge of claims procedure.

The term "natural justice" is a label used to describe the obligation of the court or other tribunal to do justice by all the parties to the dispute before it. It is a fundamental principle of English law and many other legal systems. The elaborateness of court procedures in such jurisdictions, e.g., statement of case, statement of reply, disclosure of documents relied upon by each side and extensive cross-examination by each side, is often justified on a need to ensure that natural justice prevails. There are two rules within the general natural justice principle. First, the tribunal must not be biased in any way for or against any party to the proceedings. It must be not only impartial but also seen to be so. Second, the procedures of the tribunal must be such that each party is given a reasonable opportunity not only to put forward its case but also to understand and challenge the case against it.

The issue of what is usually done to ensure suitability of a candidate for a DAB membership was discussed. Some reported experience of vigorous interviews by parties before a decision to nominate is taken. In the context of ad hoc DABs, the candidate's views on the general nature of the issues in dispute may be explored. As stated earlier, the more common practice is for the parties to accept each other's nominee without hesitation, with much of any detailed scrutiny being reserved for the candidate for the chairing of the board.

Relationship between a DAB Member and His/Her Nominator

The issue here is the level of contact that a DAB member can properly maintain with the party that nominated him/her. It arose in three related contexts during the workshop: (1) the stated need for each party to be satisfied that there is on the board its nominee to protect its interests; (2) a suggestion that it would be proper for a DAB member, who notices that the party who nominated him/her is failing to present its case properly, to alert that party to the presentational shortcoming; and (3) an inclination on the part of a member to ensure that his/her nominator's case is fully understood within the DAB. It is a basic canon applicable to most forms of dispute boards that a board member must not act as an advocate of the party that nominated him/her. Although there was unanimous support for this principle, there was the unresolved question of how far a board member may properly go to protect his/her nominator's interests in any of these ways without being that party's advocate.

Developing jurisprudence on U.K. adjudication of construction disputes, which shares some common features with dispute resolution by a DAB, indicates that the court will not enforce an adjudicator's decision tainted by apparent or actual bias. In cases of allegation of bias, the test applied by the court is whether the circumstances complained about are such that a fair-minded and informed observer would conclude that there was *a real possibility* of bias for or against either party arising from them (see for example *Amec Capital Projects Ltd. v. Whitefriars City Estates Ltd.* [2004] EWCA Civ 1418). With respect to the contact between a DAB member and his/her nominator, the test would be whether, tested on this objective basis, the background to the contact raises a real risk of bias. The member's actual mental state is irrelevant in such assessment. The authors believe that ex parte communication between a DAB member and any of the parties carries serious risk of bias being made out on this basis and are therefore best avoided (see for example *Discain Project Services Ltd. v. Opecprime Development Ltd.* [2001] B.L.R. 285 and *Glencot Development & Design Co Ltd. v. Ben Barrett & Son (Contractors) Ltd.* [2001] BLR 207). Indeed, a participant from the United States reported that a DRB in the United States was dissolved when one of the members was seen having lunch with one of the parties.

Appropriate Training

So far most of the available training provision has been designed for delivery over two days. In view of the qualifications, experience, and other requirements for effective board membership outlined above, there is serious doubt whether such training could ever be sufficient except in the small number of senior professionals with relevant transferrable skills from prior membership of other decision-making boards or experience of related spheres of dispute resolution and contract management.

There are accreditation schemes operated by various organizations for the purpose of preparing and maintaining lists of people considered competent for DAB duty. However, the view was expressed that such schemes appear to have been designed to rule people out for DAB membership and generate income for the institutions operating them. An approach designed to enlarge the pool of competent candidates for board membership is to be preferred if the organizations and the individuals involved are to ward off accusations of gate-keeping for inappropriate reasons. For this reason, a more comprehensive training program, involving taught elements to impart knowledge and understanding and pupillage, role plays, and simulations designed to hone "soft" skills, is called for.

Summary, Conclusions, and Recommendations

As the main determinants of the cost effectiveness of a DAB include the expertise, skills, and competencies of its members and the strength of the parties' trust in their professional competence and impartiality, the method of constituting the DAB is of the utmost importance. This study has identified potential challenges that must be confronted as the use of DABs grows globally.

The neutrality and impartiality of each member of the DAB is a key canon of this resolution technique. Each member must therefore exercise great care in how far to go in protecting the interests of the party that nominated him/her even when the member observes that the party is presenting poorly an otherwise good case. Project owners and contractors should also be educated not to expect any such assistance from their nominated DAB members. Such education may be undertaken as part of general staff development or by the DAB as part of their project services.

J. Manage. Eng. 2014.30:185-193.

The expectation is that each DAB member enters into a tripartite contract with the parties stating, among other matters, the monthly retainer and daily/hourly fee for time spent on the business of the board. The route to identifying candidates for DAB appointment and entering in negotiations with them on these matters is strewn with risks of creating perception of bias. For example, a party entering into negotiations with a candidate in the absence of the other party may lead an impartial observer to conclude that there is a real risk of that candidate preferring decisions in favor of his or her nominator, depending upon the attractiveness of the agreed terms. The appointment procedure must therefore be navigated with attention to this risk. A way around this problem is for the parties to agree the amount of retainers and the fees in the construction contract, with candidates being informed of them on a take-it-or-leave-it basis. However, retainers and fees agreed so early in the project cycle must not be so low as to undermine the timely formation of the DAB.

There is very wide variation in the rates of fees charged for membership of DABs, with DAB members in developing countries being remunerated at less than a 10th of their counterparts from the developed world. The main justification for this is that the matter is best left to market forces and the individual professional. There is the danger that such variation may not only create impediments to smooth constitution of DABs but also undermine harmonious working relationships within the DAB.

The cost of the DAB is a deterrent against its wider adoption, particularly to project owners with constrained project budgets, as would be the case for projects in most developing countries. Such project owners are tempted to make economies likely to detract from the effectiveness of the DAB. These include having a sole-member DAB when a three-member board was required; having an ad hoc DAB instead of a standing one; insisting on local engineers and lawyers without appropriate expertise as DAB members; delaying the appointment of the DAB in the hope that no dispute would actually arise; and insisting on remuneration parameters that few professionals with the appropriate experience would accept. To make the DAB technique more appealing to such project owners, ways of making the DAB more affordable without compromising on DAB competence should be found.

As DABs become more commonly used, the debate about costs is likely to attract more controversy. For instance, it is doubtful whether the role of the engineer under the contract, which is not of less value, is remunerated at comparable levels to DAB members. The market forces justification for the level of fees suggests concerted action to expand the pool of competent candidates for DAB appointments. Such expansion would also reduce repeated nominations of a particular individual by a particular organization, which could raise concerns about apparent bias. On account of their established track records of collaborative design of educational programs and operation of transparent systems of independent and external moderation of assessment of learning experience, universities and national institutions of engineers have an important role to play.

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