FIDIC 110 Years:

Sarwono And The Use of FIDIC Conditions of Contracts

"*Experience is the best teacher*".
Julius Caesar

PREFACE

Sharing experiences is something that must be done so that written records based on what we experience can be used as lessons for future generations. Noteworthy matters that need to be considered during the implementation of construction projects using the FIDIC Conditions of Contract should be collected and written down so that this experience can be conveyed and used as a knowledge base for the implementation of future construction projects. Based on the reasons above this book has been written.

Experience in carrying out construction projects in the field using three successive editions is something that is rare or even almost impossible for someone to experience, therefore I feel grateful and obliged to share this experience so that it can be used as a reference by future generations.

Based on the experience in the construction projects using FIDIC Conditions of Contract 2nd Edition 1967 in the implementation of tunnels, roads and bridges as a Project Manager on the Contractor's side at the Saguling Hydro Electric Power Project, I was eager in learning more and had an obsession to have expertise on contractual issues, especially FIDIC Conditions of Contract.

After I moved to work from Contractor's side to the Employer's side, in this case State Electricity Corporation in the Cirata Hydro Electric Power Project using the FIDIC Conditions of Contract 1977 3rd Edition, the eagerness to study FIDIC contracts more deeply, prompted me to start learning everything from the philosophy to the wording of the FIDIC Conditions of Contract used.

Experience working in the third project, Renun Hydro Electric Power Project as a Project Manager on the Employer's side by

using the FIDIC Conditions of Contract 4th Edition 1987 updated 1992, found that a construction contract is a dynamic contract that is develops from time to time, a construction contract is a contract with a target goal of completing a project of something that does not exist comes into being with a contract price that changes from time to time, in contrast to other contracts which are commonly a fixed work and price as well.

It turns out that God gave the opportunity not only to learn contracts, started in 1993 I joined the FIDIC Conditions of Contract course in Sweden delivered by contract expert Michael Mortimer Hawkins, but also the opportunity to work together with Masaru Takei, a construction claims expert and also work in opposite positions with Gordon L. Jaynes and Toshihiko Omoto. Even with Toshihiko Omoto currently still working together as a dispute board for several international projects.

The opportunity to become a FIDIC Contract trainer for the first time in 2008 was given by Richard Kell whom I have known since 2003 and then thanks to Peter Boswell's encouragement since 2005 to become FIDIC Accredited Trainer turned out to be a way to achieve my obsession to study FIDIC Conditions of Contract, more than that I managed to become a Member of the Board of Director of FIDIC from 2019-2023 with the assignment as secondary liaison for the Contract Committee and first liaison for FIDIC Asia Pacific which provided an opportunity to further explore the FIDIC Contract and its implementation, especially in Asia.

In this occasion I would like to share the construction community in general and to parties who wish to explore the FIDIC Conditions of Contract and try to share experiences in the FIDIC 110 years inauguration with the title “Sarwono and the Use of FIDIC Conditions of Contract in Indonesia”.

Sarwono Hardjomuljadi
FIDIC Board Member
Jakarta, 25 Agustus 2023

"It does not matter how slowly you go as you do not stop".
Confusius

FOREWORD – Anthony Barry

"Sharing our personal stories is an important element of educating others and, by that I mean not only sharing technical or professional information but sharing our personal journey. By seeing how others have engaged, learnt, experienced, and shared we can, ourselves, gain insight into guiding our own professional development.

The International Federation of Consulting Engineers was founded 110 years ago in 1913 and has been representing and supporting the industry and providing advice focussed on quality, integrity and sustainability to global organisations on the delivery of infrastructure ever since.

FIDIC contracts have been developed over more than 60 years, now with nearly 200 volunteers involved in their development and maintenance, They support effective and efficient delivery of infrastructure and are proven, fair and experience based. The FIDIC contracts ecosystem encompasses the development, translation, maintenance and publication of the contracts as well as training and credentialing of users as well as The Presidents List of expert adjudicators.

Prof. Sarwono Hardjomuljadi has not only worked with FIDIC Contracts for many years and developed significant and important dispute resolution experience, but he has also shared his knowledge through academic papers, presentations, taught others about the use of FIDIC Contracts and importantly through his influence broadened the use of FIDIC Contracts and the environment in which they are used.

His ongoing commitment to FIDIC as an organisation and to the development and use of FIDIC Contracts is appreci ated by the FIDIC family and no doubt his country, Indonesia and the many banks, clients, contractors and consultants who use FIDIC Contracts.

It has been my great pleasure to have shared some of Sarwono's journey with FIDIC."

Anthony H Barry
FIDIC President
Australia, 25th August 2023

FOREWORD – Catherine Karakatsanis

In the complex world of construction and engineering where infrastructure projects shape and improve the quality of our lives, there are those whose dedication and expertise are noteworthy. Professor Sarwono Hardjomuljadi is one of those individuals.

As a fellow member of the board of directors of the International Federation of Consulting Engineers (FIDIC), I have had the privilege of collaborating with Sarwono. We also both served as board liaisons to the FIDIC Contracts Committee. In this capacity, I have come to appreciate the significant impact he has had on our industry.

Sarwono's career is a testament to his unwavering commitment to excellence. His list of credentials represents a wealth of knowledge and experience that he brings to his work. Throughout the years, Sarwono's dedication to expanding his knowledge and expertise in this field led him to take on increasingly influential roles, serving as a project engineer and later as project manager. These roles provided him with invaluable insights into the practical application of FIDIC Contracts and the challenges faced by professionals in the construction industry. In the field of higher education, Sarwono's impact is widespread, he teaches at multiple universities, sharing his profound knowledge with the next generation of industry leaders.

Beyond his academic and professional accolades, Sarwono has left an indelible mark through his practical contributions to the field. His roles as Special Adviser to the Minister of Public Works and Housing and as Deputy Director and Vice President of State Electricity Corporation/PT PLN (Persero) underscore his dedication to shaping the infrastructure landscape of Indonesia.

Sarwono's global involvement as an Adjudicator, Arbitrator, and Dispute Board member, combined with his role as an accredited trainer for FIDIC Standard Forms Conditions of Contract,

highlights his commitment to fostering excellence in construction contracts and dispute resolution.

The book, titled 'FIDIC 110 years. Sarwono and the use of FIDIC Conditions of Contract in Indonesia,' is a testament to Sarwono's passion for our industry. As a member of FIDIC's board of directors, I am proud to have worked alongside Sarwono. His dedication and his willingness to share his knowledge are exemplary, and his significant contributions are commendable.

I extend my heartfelt thanks to Sarwono for his tireless work, and it has been a genuine pleasure to collaborate with him. I wish him continued success in all his endeavors and thank him for his unwavering service to FIDIC and the industry.

Catherine Karakatsanis, M.E.Sc., P.Eng., ICD.D, FEC, FCAE
President-elect Board of Directors
International Federation of Consulting Engineers (FIDIC)
Canada, 28th August 2023

FOREWORD – Luis Villarroya

I had known Professor Sarwono Hardjomuljadi for many years due to his continuous presence at the FIDIC Global Infrastructure Conference as well as his many publications and papers regarding FIDIC Contracts and best practices. However, I did not have the pleasure of meeting him personally until in September 2019 when we were both elected Board Members at the GAM held in Mexico.

Since then my admiration for Prof. Hardjomuljadi has only grown.

It is difficult to find someone with greater knowledge and experience than Dr Hardjomuljadi in relation to FIDIC practices and contracts. Adjudicator, Arbitrator, Dispute Board and Accredited Trainer on FIDIC Contracts. If that were not enough, Professor of Construction Contract Management at various universities.

Additionally, his contribution to the development of best engineering practices, through FIDIC, in Indonesia and throughout Asia has been incredible having participated and been a member of all of them.

His contribution to the FIDIC Board has also been outstanding, exercising the delicate task of the Board's liaison with the Contracts Committee and coordination with FIDIC Asia-Pacific.

In both roles his performance has been invaluable.

But above all, Sarwono has been the voice on the Board of the small MAs, constantly advocating for them and always looking for ways to help them and improve the services that FIDIC offers them.

Outside the FIDIC´s world Sarwono has developed an important professional career that has covered all possible fields from public administration, private business and education.

But if there is something that I want to highlighting, it is Sarwono's human characteristics. He is always positive, with a

permanent smile and a great ability to calm tensions and find solutions. A serene but tremendously firm and solid personality, the result of someone who knows perfectly what he is talking about, and if Sarwono knows something, this is FIDIC.

The contribution of this great gentleman to FIDIC has been extremely important and this is how his colleagues and friends will always remember him.

Thank you, Sarwono.

Luis Villarroya
FIDIC
Vice President
Madrid Spain, 25th August 2023

FOREWORD - Richard Kell

The Conditions of Contract published by the Federation Internationale des Ingenieurs Conseils, (FIDIC), has been for many years the standard form contract most widely used in the delivery of infrastructure globally.

FIDIC was founded in 1913 as a Federation of Consulting Engineering Associations, from five countries initially. (Professor Sarwono has summarised the FIDIC history in his book). The member firms proceeded to produce contract documents individually and to administer contracts for infrastructure works. FIDIC grew in numbers and weathered the storms that beset the World between 1913 and the 1950s. Member firms came to recognise the significant merits of a standard forms of contract, and thus in 1957, Edition 1 of the CoC was produced by the members, and the FIDIC Contracts were born. The contracts specialists from within the firms, working pro bono, progressively developed, enhanced and expanded the standard contract general conditions, taking advantage of experience in usage and expert legal advice.

In 1999, a line was drawn by the FIDIC Contracts Committee, and a new suite of the three basic General Conditions of Contract (GCs) was launched by FIDIC: viz., Design by Employer (Red Book), Plant and Design Build (Yellow Book) and EPC (Silver Book). These GCs incorporated all previous experience and aimed at a balance of risks and obligations between the parties to the Contract (Employer and Contractor), They also integrated the concept of dispute resolution by an independent 3rd party, the Dispute Adjudication Board (DAB). These GCs were based on fundamental principles which subsequently became the "FIDIC Golden Principles". (Published by FIDIC in 2018). The Multilateral Development Bank version of the Red Book was published in 2006, in a joint undertaking with the MDBs, followed by other forms which have been developed by the FIDIC Contracts

Committee, in response to developments in the approaches to procurement of Works.

Professor Sarwono has had a close and impactful engagement with FIDIC contracts from the outset of his distinguished career – initially on the administration of civil works contracts associated with major hydroelectric power plants in Indonesia, using the Edition 2 1967. This was followed by further HEPP contracts, using Edition 3 1977 and then Edition 4 1987, before he was appointed as a Vice President responsible for contracts within the Indonesian State Electricity Corporation, and then as an Adviser to the Minister of Public Works of Indonesia where he was in a position to promote the benefits of FIDIC standard contracts. The outcome of the education and awareness training via seminars, conferences and courses initiated by Professor Sarwono in Indonesia, is that FIDIC Contracts are now mandatory for IFI funded government contracts and are the contract of choice in the private sector, being recognised as comprehensive, fair and balanced.

Clearly, Professor Sarwono recognised the international best practice of the FIDIC standard form contracts and the underlying principle that the contract GCs are comprehensive, balanced and fair to both parties. He was also recognised that a FIDIC contract can be flexible and accommodate variations in a structured way.

Whilst he continued to campaign for FIDIC best practice in his own country, Professor Sarwono branched out internationally. He engaged with the Asia Pacific Regional Grouping of FIDIC, ASPAC, and formed strong connections with FIDIC Contracts Committee members and experts from around the Globe. He spoke at international contracts conferences and contributed to publications and became highly recognised and respected in the field. He invited FIDIC contracts leaders to visit and present in Indonesia and the Region at conferences which he was responsible for organising. It was my privilege to join him on the podium on some of those events. Professor Sarwono translated

the FIDIC contracts into Bahasa Indonesia. All this activity was of much benefit for the infrastructure industry in his home country and the Region.

Recognising that resolution of disputes via Disputes Boards is a key plank of FIDIC contracts, Professor Sarwono engaged with the international Dispute Resolution Board Foundation and arranged with US based DRBF to conduct conferences and workshops in Indonesia, thus promoting the DB concepts and spreading skills in the resolution of contractual disputes. This connection culminated in the Government enacting legislation which mandated the use of disputes boards in government infrastructure contracts – a World's first. For his work, Professor Sarwono was the recipient of the International DRBF's highest accolade, the Al Mathews Award for Dispute Board Excellence in 2022.

Whilst undertaking much pro bono work in FIDIC contracts and disputes boards, Professor Sarwono also led the way in Indonesia as a FIDIC Accredited Trainer, Arbitrator and Dispute Board Member. He supports his practical experience with eminent formal qualifications, including a Masters' Degree in civil engineering and in law in Indonesia. He has been honoured by appointment as Professor of Construction Contract Management at a number of leading Indonesian universities, he is a DRBF Region 2 Board Director and is President, Society of Construction Law, Indonesia.

A number of years ago, at a conference, I introduced Professor Sarwono as "King of FIDIC in Indonesia". I suggest that this continues to be an apt descriptor. In all seriousness though, his work in encouraging best practice by the use of the internationally recognised FIDIC suite of standard contracts and the DRBF dispute resolution concepts as the default choice, represents an outstanding contribution to the infrastructure industry in his country and region.

Finally, Professor Sarwono was recognised as a leader internationally, when in 2019 at the FIDIC Annual Conference in

Mexico City, he was elected to the FIDIC Governing Board. President Bill Howard had no hesitation in appointing him as Contracts Committee Liaison for the Board, where he has continued to work on the development and promotion of best practice FIDIC contracts. He was also appointed as Board liaison with the ASPAC.

In this book, Professor Sarwono has written of his own career experience in Indonesia with specific reference to FIDIC contracts. He has shared his huge knowledge of the background of FIDIC contracts and his experience in the application of best practice principles in the infrastructure industry. The fact is, Professor Sarwono's professional career is so closely aligned with the development of the FIDIC suite of contracts, basically from the 2nd Edition to the present day, including his international involvement, that his book will be not only of great interest as a record of a remarkable professional life, but is an outstanding resource for all users and potential users of FIDIC Contracts. I am very pleased to recommend Professor Sarwono's excellent book to all employers, contractors, engineers and others with an interest in the best practice delivery of infrastructure.

Richard Kell AM FTSE
FIDIC President 2003- 2005
Lindfield - Australia, 14 June 2023

FOREWORD – Toshihiko Omoto

I have known Prof Sarwono Hardjomuljadi since 1983 when he was at Employer side and myself at Contractor side at Cirata Hydro Electric Power Plant Project with 1000 MW capacity of generation. The contract was conducted by utilizing the FIDIC Conditions of Contract for Work of Civil Engineering Construction, Edition 3, 1977. The dimensions of the plant are Dam Construction height 12 m, Crest length 453.5 m, Spillway Tunnel with 10 m diameter for 550 m long, Diversion Tunnel for 1800 m long and Underground Powerhouse with height 49.5 m, width 35 m and length 600 m.

In the field of Contract Management and Dispute Resolution, he is a FIDIC accredited trainer, the translator of FIDIC 1999 Rainbow series into Indonesian language and a Friendly Reviewer of FIDIC 2017 suites of contract, and he is one of the FIDIC Board Member responsible for Contract Committee. He also is giving lectures at several Universities for Construction Contract Management.

In dispute resolution activities, he attended the Dispute Board Adjudicator Training Workshop and passed the Assessment conducted under the DB promotion programme of JICA in 2012 where I was one of the Assessors. He has experiences as dispute board member in International Projects financed by international funding institutions, the latest are Patimban Harbour Package 1: Terminal and Port Construction, and Patimban Harbour Package 2: Seawall, Breakwater and Dredging Works in Indonesia as a Co-member of Dispute Board on which I am serving as the Chair.

He is an active member of the Dispute Resolution Board Foundation (DRBF) (www.drb.org). He has been the Country Representative for Indonesia since 2013, and Region 2 Board Member since 2018.

In addition, he is currently a Board Member of Federation Internationale Des Ingenieur-Conseils (FIDIC). (www.fidic.org) responsible for Contract Committee.

I have known Prof Sarwono Hardjomuljadi for four decades and can vouch for his expertise and experience in construction projects of Dams, Tunnels, Underground Powerhouse, Roads, Bridges and Buildings using the FIDIC Conditions of Contract as well as Dispute Resolution in the form of Arbitrator, Dispute Board Member and Expert Witness.

He works consistently for introducing and dissemination of the use of FIDIC Contract extensively to the Employers and Contractors as well as the stakeholders such as Auditors, and other Government's body related. He was also involved in the efforts to include Dispute Board concept in the Law of Indonesia in 2017 and also the philosophy of fair and balance the FIDIC Conditions of Contract in all President's and Minister's decree related to the construction works.

Finally, I assure that he is a man of high integrity as a Neutral.

Dr. Toshihiko Omoto
Adjunct Professor, Graduated School of Management, Kyoto University – Japan.
Tokyo, 16th August 2023

FOREWORD – Donald Charrett

I am honoured to write this Foreword to Sarwono's book on his long experience with FIDIC contracts. I have known Sarwono for over 10 years and had the pleasure of meeting him at many international events. We have collaborated in giving presentations at conferences, seminars and training courses where his deep knowledge of and commitment to international best practice in the delivery of construction and infrastructure projects and alternative dispute resolution has been shared with many practitioners around the world.

Professor Dr Sarwono Hardjomuljadi is uniquely qualified to write this book from many perspectives. He is first and foremost an engineer with considerable experience of delivering infrastructure projects using FIDIC contracts as Project Engineer and Project Manager. He is also qualified as a lawyer, which provides him with a thorough understanding of how the practical aspects of delivering a construction project must conform to the legal requirements of the contract, the governing law of the contract and the laws of the construction site. Importantly, and no doubt informed by his 'hands-on' experience of delivering projects, he understands the importance of avoiding disputes where possible, and resolving them expeditiously at least cost if they can't be avoided. Sarwono has tirelessly promoted Dispute Boards in Indonesia and elsewhere through his activities in the Dispute Resolution Board Foundation, and as the method of dispute resolution enshrined in the FIDIC Golden Principles. His role as Special Advisor to the Minister of Public Works was instrumental in Dispute Boards being included as a regulated method of dispute resolution in *Indonesian Law No 2 Year 2017 Construction Services*. Many other countries would benefit from such government endorsement of the value of Dispute Boards, as championed by Sarwono.

This book will be invaluable for engineers, contractors, lawyers and other construction professionals to understand how the various editions of the FIDIC contracts have been applied in practice to important Indonesian infrastructure projects.

Sarwono's distinctive perspective, writing as a practitioner who has been at 'the coal-face' delivering significant projects in an important developing country, marks this book as a unique contribution to the literature on the application of FIDIC contracts. Many essential construction projects in the developing world would not be possible without financing and support by multilateral development banks, another important area in which Sarwono has invaluable FIDIC experience.

Large construction projects take years to complete and involve very large sums of money; the contracting parties do not always agree on what the contract requires, and they may be from different countries and legal backgrounds. In these circumstances it is not surprising that disputes over construction projects are common and can be intractable and take considerable time and money to finally resolve. The section of this book on the use of Dispute Avoidance and Adjudication Boards under FIDIC Conditions of Contract is a welcome contribution to the important topic of dispute avoidance and the timely and cost-effective resolution of the disputes that are common in major construction projects.

The sections of the book on Sarwono's attendances at FIDIC world annual conferences since 2004 demonstrate that not only is he an indefatigable traveller, but also that he has remained abreast of the latest developments in consulting engineering around the world. Similarly, his regular attendance at the FIDIC Asia Pacific Contract Users' conferences since their inception in 2009 show his continuing drive to remain abreast of the changes in FIDIC contracts and to contribute to their progress.

This book is a fitting testament to the substantial contribution Professor Dr Sarwono Hardjomuljadi has made over many years to the promotion and acceptance of FIDIC contracts and Dispute Boards in the Asian region. The beneficiaries of the substantial improvements in living standards and quality of life that result from well delivered infrastructure projects are indebted to Sarwono for his dedication, his many skills and his advocacy of

international best practice in the delivery of infrastructure projects.

Dr Donald Charrett
Expert Determination Chambers, Melbourne
Australia
Melbourne, 17th August 2023

FOREWORD – Manish Kothari

I congratulate Dr. Sarwono for his exemplary service to the engineering fraternity and specially on the FIDIC Board. His familiarity and in-depth knowledge of the FIDIC Conditions of Contract spans over 40 years and numerous civil engineering infrastructure projects worldwide.

He has been the Board Liaison for the Contract Committee and to FIDIC Asia Pacific. He has consistently participated in FIDIC MDB meetings and conferences, cumulating in his nomination and eventual election as Board member for the 2019-2023 period. During this time, he was awarded the Al Matthews Award as Dispute Resolution Board Foundation Director of Region 2 and Country Representative of Indonesia, an incredible feat.

I am truly impressed by his dedication to continually improving the knowledge of users involved in construction projects using FIDIC standards. His leadership as a Board member, mentor, and fellow engineer sets an example in the field of civil engineering and construction. His dedication to teach and promote the field of engineering has inspired many.

Manish Kothari
FIDIC Board Member
Washington, 26th August 2023

FOREWORD – Nguyen Nam Trung

It is with immense pleasure and deep admiration that I introduce you to on a book of Professor Sarwono Hardjomujaldi about his remarkable journey with FIDIC contracts. Having had the privilege of knowing him since 2017, I can attest to the lasting impression he has made on me through his vision, hard work, and unwavering dedication to the world of FIDIC contracts, construction law, and dispute resolution.

Professor Sarwono's career with FIDIC contracts has been nothing short of extraordinary. Starting as a user of FIDIC contracts associated with major hydroelectric power plants in Indonesia, he has since grown to become a Certified Trainer, Dispute Board member, and a significant member of the FIDIC Board. His progression in the field is a testament to his passion and relentless pursuit of excellence.

As an educator, Professor Sarwono's energy and enthusiasm are truly infectious. Whether he is teaching, writing, or speaking about FIDIC contracts, his passion shines through, inspiring and motivating those around him.

Beyond his contributions as an individual, Professor Sarwono's impact on the development of Dispute Boards in Indonesia and the region is noteworthy. He took his involvement to new heights by establishing the Institute on Dispute Board for Construction (PADSK), a crucial step in promoting the use of Dispute Boards in the industry. His efforts also played a pivotal role in incorporating Dispute Boards as a recognized dispute resolution mechanism for construction in the construction law of Indonesia, as issued in 2017.

In this book, Professor Sarwono generously shares his vast experience with FIDIC and FIDIC contracts in Indonesia and beyond. This book will undoubtedly serve as a valuable resource for practitioners in the construction industry, including employers,

contractors, and consultants, seeking to navigate the complexities of FIDIC contracts and best practices in construction projects.
Writing this foreword for Professor Sarwono's book is an honor and a privilege. His dedication, accomplishments, and contributions to the field are truly inspiring, and I am certain that this book will be a beacon of knowledge and guidance for all who read it.

With utmost admiration and respect,

Nguyen Nam Trung
FIDIC Certified Trainer/ Contract Manager
Chair of Society of Construction Law – Viet Nam
Hanoi, 27th July 2023

FOREWORD – Husni Madi

I met Sarwono for the first time back in July 2017 at the FIDIC Contract Users' Conference in Hanoi, Vietnam. What struck me the most about him, in addition to his nice and extremely polite character, is the immense support and encouragement he gives to young professionals, particularly those coming from developing countries. The first time we met, he encouraged me to develop my involvement with FIDIC, and to be the best representative of Asia one could be. His words of encouragement, and predictions of a bright future has left a profound impact in myself; his words are still ringing in my ears.

We became closer after I became a member at the FIDIC Contracts Committee (CC), as he attended all of the CC meetings in his capacity as the FIDIC Board representative at the CC. He continued his usual support to all of the CC endeavors, and we have gained much from his valuable insights, vast experience, and bright mind. In every meeting, he contributed from his wide and diversified experience by bringing to the table interesting views and perspectives that have enriched every discussion.

This book is not only a personal autobiography of Sarwono, but also an overview of the development of the different FIDIC contracts. It also records Sarwono's 43 years journey with the use of the FIDIC Contracts since 1980, and the development of his involvement with FIDIC as a federation which, I am certain, will be a source of inspiration to future generations who wish to follow his footsteps, particularly those coming from Asia.

First, the starts off with notes on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 2nd Edition, Year 1967, then it proceeds to provide similar notes on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 3rd Edition, Year 1977. This is a valuable commentary for those interested in the history of FIDIC Contracts, and how these contracts operated back then, as it is extremely difficult these days to find any commentaries or even copies of

these old contracts. Then the book proceeds to provide a commentary on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 4th Edition, Year 1987 updated 1992. This Chapter would prove to be very interesting for so many professionals like myself who are relatively young, or relatively old, where this was the very edition that kick started our relationship with FIDIC Contracts. The last parts of the commentary on the use of FIDIC Contracts concludes with notes on the use of the FDIC 1999 Suite and MDB Harmonised Edition 2010, and the 2017 Suite. These last two Chapters are a must-read for any FIDIC Contracts user, as these forms of contract are presently the most widely used forms. In these Chapters, Sarwono has poured the knowledge of a lifetime dealing with these forms of contract.

This book is therefore another chapter of Sarwono's lifelong custom of encouraging the coming generations, giving back to the construction industry, and unlimited support to FIDIC. Sarwono did not save any opportunity to support Asian professionals; he is truly the voice of Asia at FIDIC. I am immensely honoured and privileged to have been requested by Sarwono to write this Forward for his valuable book; FIDIC 110 years: Sarwono and the use of FIDIC Conditions of Contract in Indonesia. For this, and for all of your efforts and contributions, thank you so much Sarwono.

Husni Madi
BEng, LLM, FCIArb, FAMINZ (Arb/Med), FCA, FCT, PMP, PMI-SP
Member of the FIDIC Contract Committee
Amman, Jordan, 28th August 2023.

Sarwono's Family
Aditya, Indy, Sarwono, Enni, Ayuningtyas, Hannafied and Hannah

CONTENT

"Never forget history because we can learn from it".
Soekarno

Introduction

FIDIC Conditions of Contract for Works of Civil Engineering Construction is one of the well-known and widely used standard form of conditions of contract developed and published by Fédération Internationale des Ingénieurs-Conseils ("FIDIC"). FIDIC is an organization which was founded in the form of federation of the association of engineering consultants throughout world. The founding of FIDIC happened in 1913 in Ghent, Belgium where 19 people of various nationalities including Belgium (5 delegates), France (6 delegates), Denmark (1 delegate), Germany (1 delegate), The Netherlands (2 delegates), USA (3 delegates) and Switzerland (1 delegate) conducted the first meeting and created a historical moment for FIDIC as an organisation.

After reading a book titled the "FIDIC over 75 years" which is a very informative book by Ragnar Widegreen (1988)[1] that was given by Peter Boswell and Enrico Vink in 2011 during my first visit to FIDIC Head Office in Geneva on my way back to Indonesia to join the first meeting on FIDIC Conditions of Contract MDB Harmonised Edition in Brussels which content a history of FIDIC as well as the Consulting Engineers 1913 – 1988, I was encouraged to be involved in the FIDIC organisation and represent the developing countries.

FIDIC published the first edition of the Standard Form of Conditions of Contract in August 1957 which, unfortunately, until the time this book was written, I had not been able to get it, even though I tried to find it in the FIDIC library at the Geneva head

[1] Ragnar Widegreen, Consulting Engineer 1913-1988, FIDIC Over 75 Years, FIDIC, 1988

office. Nevertheless, I was fortunate to have each copy of the FIDIC Conditions of Contract for Works of Civil Engineering Construction 2nd Edition[2], 3rd Edition[3] and 4th Edition[4] as well as FIDIC Rainbow Series 1999[5] and also FIDIC Conditions of Contract for Construction MDB Harmonised Edition 2006 and 2010[6], FIDIC New Suites of contracts 2017[7] and reprinted 2022[8], all of which I deeply treasured.

From the printout of the 2nd Edition, it was started that there are no changes to the content from the 1st Edition. The Second Edition was prepared jointly by FIDIC and FIBTP and this standard form was recommended for use by the Fédération internationale du bâtiment et des travaux (FIBTP) and the International Federation of Asian and Western Pacific Contractor Associations (IFAWPCA). The 3rd Edition featured a clear list showing FIDIC's membership originating from Asia continent where Indonesia is a member alongside Bangladesh, Hongkong, Indi, Iran, Israel, Japan, Korea, Philippines, Singapore, Sri Lanka with the addition of Thailand, Vietnamese and others.

In the 4th Edition, FIDIC separated the conditions into two parts, the General Conditions of Contract and the Particular Conditions of Contract, calling it the Conditions of Contract for Works of Civil Engineering Contracts (1977) Part II Conditions of Particular Application, and added the guidelines for preparing the Part II. This publication received constructive feedback from the

[2] FIDIC, Conditions of Contract for Works of Civil Engineering Construction, Edition 2 1967
[3] FIDIC, Conditions of Contract for Works of Civil Engineering Construction, Edition 3 1977
[4] FIDIC, Conditions of Contract for Works of Civil Engineering Construction, Edition 4 1987 Reprinted 1992
[5] FIDIC, Conditions of Contract for Construction, Edition 1, 1999; Conditions of Contract for Plant and Design – Build Edition 1, 1999; FIDIC, Conditions of Contract for EPC/Turnkey Project, Edition 1, 1999.
[6] FIDIC, Conditions of Contract for Construction, MDB Harmonised Edition 1, 2006; Edition 2, 2010
[7] FIDIC, Conditions of Contract for Construction, Edition 2, 2017
[8] FIDIC, Conditions of Contract for Construction, Edition 2, 2017 Reprinted 2022

European International Contractors (EIC) as mandatory of Confederation of international Contractors Associations (CICA) with participation of Associated General Contractors of America.

I first came into contact with the knowledge on FIDIC in 1980 when I worked as a project engineer for an international contracting company handling the early infrastructures for Saguling Hydro Electric Power Plant project[9] (rockfill dam with centre core, diversion and spillway channel, headrace tunnel, surge tank, penstock and powerhouse) in West Java at the Citarum River. This was also my first time handling an international project funded by the IBRD using the FIDIC Conditions of Contract as the basis of the contractor and the employer Contract Agreement.

Since then, I learned about "how" to work in the construction project using the FIDIC Conditions of Contract ("FIDIC CC") which at that time used the 2nd Edition 1967 and was encouraged to learn more on FIDIC especially on "what" is FIDIC CC by reading many references as well as on the philosophy of the "why" it should be used. I found that the Construction Contract is different with any other contract as other contract is usually signed after checking the premises that will be contracted, whereas the construction contract can be signed without nothing existing or also known as greenfield. Based on this the civil engineering contract should be opened for "variation" in order to complete the Work as intended and the result can be operated and get results in accordance with the objectives on building such infrastructure, i.e. the hydropower power plant in this case.

My desire to gain more understanding encouraged me to work in the government entity which might have given me the chance to learn more about FIDIC CC. This led me to participate in the recruitment examination of the State Electricity Corporation of Indonesia or the Perusahaan Listrik Negara.

[9] Sarwono Hardjomuljadi et al, Hydropower and Notes on Its Development in Indonesia, PT PLN (Persero), 2008. Saguling HEPP, West Java Province.

By God's grace, I passed the examination and became the project engineer for the Cirata hydroelectric power plant project[10] (comprising of concrete faced rockfill dam, diversion and spillway tunnel, headrace tunnel, surge tank, penstock tunnel, underground power works) utilizing water from the same river, Citarum which is now having the river cascade power plants Saguling, Cirata and Jatiluhur.

In Cirata HEPP my second project, the conditions of contract used was the FIDIC 3rd Edition 1977. At this stage, I improved my knowledge after joining a FIDIC Short Course in Japan which was facilitated by FIDIC and the New Japan Engineering Consultants Inc., who were the "Engineer" of the two above projects. Based on prepared for Association of Japanese Consulting Engineers on FIDIC Conditions of Contract by D.R. Wilshere and D.W. Graham, I gained the understanding that the Civil Engineering Construction Contract is a dynamic contract which allow for variations, and furthermore the FIDIC Conditions of Contract is also a dynamic form of contract which allows provisions for amendment and changes under the contract's clauses in order to achieve the completion of project by avoiding any disputes.

In my third project, I took on the role as a project manager for Renun hydroelectric power plant (HEPP) project[11] (which comprised of main intake, tributary intake no 1 – no 11, regulating pond, headrace tunnel, surge tank, penstock tunnel and powerhouse works). This Renun HEPP completed my knowledge about FIDIC Contract and further deepened my understanding that the interpretation of contract clauses is particularly important. The most important aspect in a project is to achieve physical progress completion with time, quality and cost under control, the outputs or products can be operated as

[10] Sarwono Hardjomuljadi et al, Hydropower and Notes on Its Development in Indonesia, PT PLN (Persero), 2008. Cirata HEPP, West Java Province.
[11] Sarwono Hardjomuljadi et al, Hydropower and Notes on Its Development in Indonesia, PT PLN (Persero), 2008. Renun HEPP, West Java Province.

expected and without prolonged disputes after completion of the project.

It is also to understand what FIDIC is as an organization, because often FIDIC is being mistook as the name of the Contract instead of the organization who published the Contract. Until now since becoming the FIDIC Board Member since 2019 (formerly named Executive Committee of FIDIC), I am still of the opinion that to use the FIDIC CC the main client which are mostly from the developing countries and/or non-English speaking country should understand how to use the FIDIC Conditions of Contract and why FIDIC Conditions of Contract should be used, which is because of such conditions of contract is considered a fair and balance conditions.

John Pantouw, Peter Boswell, Sarwono and Richard Kell, Workshop of FIDIC Contract Indonesia 2008.

One of the most memorable workshops on FIDIC Conditions of Contract which was conducted in Indonesia in 2008 and was attended by Richard Kell[12]

[12] Kell graduated from the University of Sydney, Australia in 1959. He joined Sydney-based consulting civil engineers McMillan & Britton shortly thereafter and began a lifelong career in the engineering, construction and infrastructure industry. His firm's involvement in the Sarawak (Malaysia) Bridges Project commencing in 1964 launched his long career on projects outside Australia, principally in the Asia/Pacific Region, one of the first Australian engineers to do so. Kell became managing director of McMillan Britton & Kell Pty Ltd in 1975 as the firm grew in numbers and scope of services. MBK merged with the Queensland firm Cardno & Davies in 1999 and Kell became chairman of Cardno Group and helped to grow the combined firm while he continued managing major engineering projects. Cardno now has more than 8,000 staff in offices throughout Australia and worldwide. Kell was chairman throughout Cardno's successful IPO listing on the Australian Stock Exchange in 2004.

Kell has spent his working life as an engineer, project manager and director on infrastructure and engineering projects, specialising in commercial and public

and Peter Boswell[13]. It is the first event about the FIDIC Conditions of Contract and was attended by about 200 participants coming from all over Indonesia with several people from outside the country. The workshop opened officially by HE Djoko Kirmanto, Minister of Public Works of Indonesia.

After such successful event, similar events were conducted every year from 2008 to 2011 in Indonesia under coordination between Sarwono, INKINDO (FIDIC Member Association of Indonesia) and FIDIC in Indonesia in addition to some other inhouse FIDIC licensed trainings.

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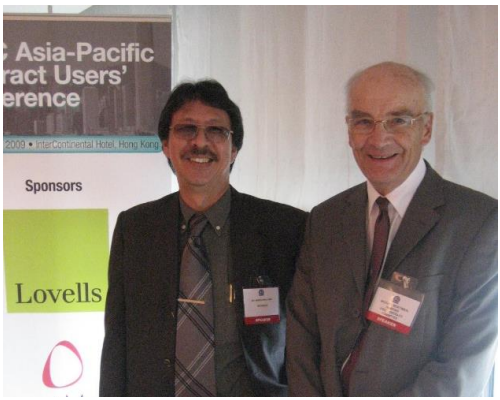
buildings, site developments, bridge, road, marine, and industrial facilities. In his FIDIC roles, he travelled extensively to meet with consulting engineers throughout the world, convened numerous FIDIC tak groups and committees and was influential in steering FIDIC in many new and innovative directions. Amongst many achievements, he helped FIDIC build strong relationships with Asian countries, including China and expanded the organisation's training programmes.

Former chairman of Cardno Group and past president (2003-05) of FIDIC, Dick Kell has been awarded the prestigious Louis Prangey Award, the highest recognition for outstanding service to FIDIC and the global industry. Recipients of the award are considered to be a role model for the consulting Receiving the award, during FIDIC's annual global infrastructure conference on 14 September 2021, Kell said that he was greatly honoured and humbled to be given such a prestigious award, adding that it was a "totally unexpected honour" for which he was truly grateful.

[13] PeterBoswell.com's senior partner is Dr. Peter Boswell who until 2011 was the General Manager of the International Federation of Consulting Engineers (FIDIC) that represents globally the consulting engineering industry's three million staff through national Member Associations in over 100 countries.
Peter was born in Kisumu, Kenya, brought up and educated in Kenya and received an MA and a PhD in materials engineering from Cambridge and MIT, respectively. His PhD research was in stress-stabilised metallic structures for fatigue resistant nuclear steels, automotive alloys, dental alloys, and high-temperature turbine blades.

He was a Rotary Fellow for Africa for graduate studies and before starting his professional career he worked for two years as a UK Volunteer Overseas for the UN High Commission for Refugees in Burundi and then as an assistant manager on Rukinga Ranch in Kenya

The experiences which I shared the three hydroelectric power plant projects may hopefully provide on three editions of FIDIC Conditions of Contract. Also the working knowledge for the hydroelectric power plant can be used for many variety of civil engineering structures from Dam, Power Plants (above or underground cavern), Tunnel (headrace tunnels, penstock tunnels, spillway tunnels and diversion tunnels), Surge Tank, Roads and Bridges, Quarrying etc., most all part of the Civil Engineering Works.



Sarwono and Michel Mortimer Hawkins
ASPAC Users Conference Hong Kong 2009.

I participated in Users' Conferences since the first one held in 2009 in Hong Kong where I met Michael Mortimer Hawkins, my first trainer on FIDIC Conditions of Contract back in 1993 in Sweden.

Sarwono and Nael Bunni.
MDB Conference, Brussels 2011

I also attended two FIDIC MDB Meetings in Brussels in 2011 and 2012, where I met Nael Bunni whose book has been used as my reference.

Outside the meeting on contractual matters, I had also joined the FIDIC World Annual Conferences which are the forum of Consulting Industries in the World. The conferences are good venues for networking with others coming from different

places for sharing different experiences. Short notes on the conferences also include in this book.

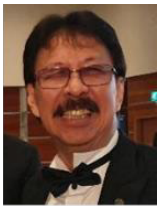
Bill Howard, Moncef Ziani, Kiran Kapilla, Reyes Juarez, Malith Mendis, Sarwono

My first attempt to become the FIDIC Executive Committee (now named FIDIC Board Member) was back in 2013 in Barcelona, along with other 5 candidates up for elections: William Howard (USA), Kiran Kapila (India), Malith Mendis (Sri Lanka), Moncef Ziani (Morocco), Reyes Juarez (Mexico). At the time the three elected were Bill Howard, Kiran Kapilla and Moncef Ziani as Board Member for the period from 2013-2017.

Sarwono, Edmond Mirzakhanian, Mark Pehlig, Ibikunie S. Ogunbayo

In 2018, I was again nominated as the candidate for Board Member alongside of Ibikunie S. Ogunbayo (Nigeria), Mark Pehlig (Netherlands), Edmond Mirzakhanian (Iran), and at the time only one person, Mark Pehlig, was elected as Boar Member 2018-2022.





Marcin Miculewics, Luis Villaroya, Sarwono

Finally in 2019 at Mexico City at the FIDIC General Assembly Meeting there were three pre-elected candidates Luis Villaroya (Spain), Marcin Mikulewics (Poland), and Sarwono Hardjomuljadi (Indonesia) where Luis Villaroya and I, Sarwono, were successfully elected as a Board Member for the 2019-2023 period.

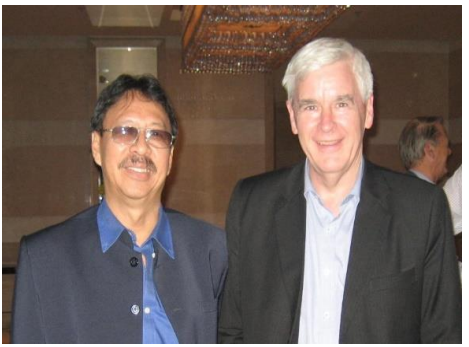
I was then appointed as a Board Liaison of Contract Committee together with Aisha Nadar, Bill Howard, Anthony Barry and then Catherine Karakatsanis.

Sarwono and Geoffrey Smith (2010)

In improving the knowledge of the users involved in the construction of the projects using FIDIC Contract forms in Indonesia I did some accredited trainings, since 2008, I was involved in delivering similar FIDIC training together with Geoffrey[14] Smith (France), in Jakarta and then in Manila 2009.

[14] Geoffrey Smith is a Chartered Civil Engineer with two postgraduate qualifications in Law and Accounting & Finance, Geoff Smith possesses a unique background in the legal and engineering world. Geoff is experienced in construction and infrastructure projects both at a national and international level.

Besides his expertise in civil engineering, law and accounting & finance, Geoff is also a recognized expert in mediation and dispute resolution. He and his partner James Perry of PA Consulting have been consulted numerous times in



Sarwono and Donald Charrett (2011)

Another training which I facilitated together with Dr. Donald Charrett (Australia)[15], Fellow of Melbourne Law School of The University of Melbourne, in Jakarta and then in Bandung. I also contributed in Donald's Book titling "*FIDIC Contract in Asia Pacific*" particularly for the Chapter titling "*FIDIC Contract in Indonesia*".

In following years, I conducted some FIDIC accredited inhouse training until 2023, as a FIDIC Accredited and Certified Trainer for FIDIC Conditions of Contract including Silver Book.

Referring to Clause 20 and Clause 21 in the FIDIC Conditions of Contract Rainbow Series Edition 1999 as well as Edition 2017 in the implementation of specifically stipulated Dispute Avoidance and Adjudication Board, I experienced working together with Toshihiko Omoto, Gordon Jaynes, James Booker, Volker Jurowich, Zhang Shuibo, Salvador Castro and others.

order to represent large contractors and companies during complex arbitration cases.

[15] Dr Charrett is a Barrister and practises in construction law as an Arbitrator, Expert Determiner, Mediator and Member of Dispute Boards. He is a member of the FIDIC President's List of Adjudicators. As Senior Fellow at the University of Melbourne, he co-presents a Master's subject on international construction law.

Prior to becoming a lawyer, he worked as an engineer for over 30 years. Dr Charrett has published widely and presented numerous conference papers and training courses.

He is the author/joint author/editor of five books on construction law, including the recently published "The International Application of FIDIC Contracts: A Practical Guide".

James Booker, Toshihiko Ohmoto and Sarwono

I work as Dispute Board Member for several international projects together with James Booker and Toshihiko Ohmoto[16], who said to me that I am "always chasing him", since we worked together in the Cirata HEPP project in nineteen eighties, when he was a contract manager in the contractor's side while I worked in the employer's side. He took his doctorate and then Professor which I took it too afterwards.

As Dispute Board members, we are very proud of the Patimban Harbour successful project, where the most of all different opinions can be resolved and the agreement can be reached toward completion of the project without any disputes within the employer and the contractor.

[16] Toshihiko Omoto is Dr of Engineering (Kyoto University, Japan) BSc & MSc in Civil Engineering (Kyoto University, Japan) MSc in Construction Law & Arbitration (King's College, University of London) First-Class Civil Engineer (Works Execution Managing Engineer), Japan Fellow, Chartered Institute of Arbitrators (FCIArb.), UK
Since completing MSc in Kyoto University in 1974 until June 2000, employed by a major Japanese international engineering and construction company. For the first ten years, the main assignments involved project management, i.e., work supervision, cost control, quality control, and schedule control. In July 2000, established himself as an independent consultant on construction management and dispute resolution in engineering and construction projects, advising owners, contractors, consultants, governmental bodies, manufacturers, insurers and other professionals. Also, have served as Neutral such as Arbitrator, Mediator and Dispute Board Member. As of April 2006, became a full time Professor at Kyoto University. Since April 2010, Adjunct Professor at Kyoto University.

As Dispute Resolution Board Foundation (DRBF) Director of Region 2 Responsible for Asia, and also Country Representative of Indonesia, I was awarded Al Mathews Award on May 7, 2022 presented in London. Some conferences on dissemination of the use of Dispute Board as stipulated in the Law No 2 Year 2017 of Indonesia and also mentioned in Clause 20 and 21 of FIDIC Conditions of Contract was conducted in 2017 in Bali, 2018 in Yogyakarta, 2020 in Jakarta, 2022 in Bogor and the latest 2023 in Jakarta, attended by more than 10 countries with more than 200 participants.

Al Mathews Award Presentation, London 7 May 2022
Sarwono and Nicholas Gould.

In relation with the use of FIDIC Conditions of Contract, after the term as FIDC Board Member in September 2023, I will always encourage to the stakeholders of the FIDIC Contract, nationally, regionally and internationally, that are Employer, Engineer, Contractor, Government, Auditor, Anti-Corruption Commission, Parliament and other Government Supervisory Board and Auditors, especially from Civil Law Countries to understand the philosophy of FIDIC Contract so their effort will support the project completion not only physically but also administratively.

FIDIC General Assembly Meeting
Geneva, 13 September 2022

Sarwono as Member of FIDIC Board of Director &
Ennie Moeliati Sutanto as Chair of FIDIC Membership Committee

Sarwono with Nelson Ogunshakin, FIDIC CEO;
Anthony Barry[17], FIDIC President and Nguyen Nam Trung

[17] Anthony is President of the International Federation of Consulting Engineers (FIDIC), senior consultant with Aurecon and a non-executive director of the Viridian Financial Group Ltd and a member of the Artelia Group (France) International Advisory Board.

He is a Chartered Professional Engineer, Australia, APEC Engineer IntPE(Aus), a Fellow Institution of Engineers Australia, FIEAust, a Fellow Australian Academy of Sciences and Engineering and a Fellow of the Australian Institute of Company Directors.

Awarded Sydney Professional Engineer of the Year in 2006, he was President, Association of Consulting Engineers of Australia 2004 – 2006 and an Executive Director of Aurecon 2000 – 2016, where he held senior positions as Managing Director Asia, Chief Executive Asia Pacific and Chief Business Development Officer.

Tony chaired the Cooperative Research Centre Taskforce which produced the "Guide to Leading Practice for Dispute Avoidance and Resolution" in 2009.
He is a civil engineer, a Chartered Professional Engineer, Australia, a Fellow of Engineers Australia, a Fellow Australian Institute of Company Directors and a Fellow of the Australian Academy of Sciences and Engineering.

Tony was involved in the recovery operation for Granville Rail Disaster in 1977 and was awarded a NSW Outstanding Service Medal.

He led the project and received Engineers Australia's most outstanding entry in the 1998 National Excellence Awards – The Sir William Hudson Award. He was awarded the Engineers Australia – Sydney Division's Professional Engineer of the Year Award in 2006 and in 2009, the ACEA Presidents Award. He has also been listed a number of times by Engineers Australia among the 100 most influential engineers in the country.

"The only thing that you absolutely have to know is the location of the library".
Albert Einstein

Notes on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 2nd Edition, Year 1967. (Saguling HEPP, West Java, Indonesia, 1980 - 1983)

My first experience in using the general conditions of contract in English was for the implementation of a project I was handling, which used the FIDIC Conditions of Contract for Works of Civil Engineering Construction, in this project the 2nd Edition, published in 1967.

The Saguling Hydropower Plant was inaugurated on 24th July 1986 by President Soeharto. The implementation of the infrastructure works began in 1980 where I worked as a Project Engineer for an International Contracting Company who was appointed to deliver several project packages for the infrastructure of the Saguling Hydropower Plant Project e.g. access road, access and the quarry site operation, bridges and other preparation works. It was really interesting to work with a big national contractor working on a project financed under an International Financial Institution which in this case was using the Japan International Cooperation Agency (JICA) loan using standard form of international contract. It was a very challenging job. The field implementation of work supervision was carried out by a foreign consultant from Japan, the New Japan Engineering Consultants Inc. (NEWJEC), but using English as the contract language and the language of communication. The implementation of the project was using FIDIC Conditions of Contract for Works of Civil Engineering Construction, 2nd edition which was published in 1967.

From studying about the FIDIC contracts, I gained an understanding that if the contract implementation carried out

properly and no contract provisions are violated by either the first or second party, then the project will be completed properly in a timely manner, with good quality and no cost overrun.

One memorable example was during one of the weekly meetings the Engineer said that there had been a potential delay in project's time for completion, because the contractor could not commence some parts of the works in a timely manner, and at the time the Engineer requested an updated programme to catch up with the delay in the completion of the work. The Employer, which in this case was PT PLN (Persero), also blamed me who worked as part of the Contractor's project team and even the Contractor's management company also pressured the team by reminding them that if there is delay in the completion of the project the Contractor will be subjected to penalties, which will be put the contracting company in a very difficult position.

The pressure coming from all directions forced me to think and find a solution, in terms of implementation, by developing a realistic work schedule which can be achieved by working more intensively if overtime is required. From the results of the analysis that I did, thank God, based on the book on the implementation of contractual work "Digest of contractual relationships and responsibilities" [18] that I obtained, I realised that if there is a delay due to the fault of the contractor, liquidated damages will be applied where the contractor must pay compensation for the losses suffered by service users as a result of such delays in the project operation, conversely if the delay in carrying out work is caused by an unforeseen event, the contractor can be exempted from imposition of liquidated damages and it can even get compensation from service users, among others due to the costs associated with idle work equipment that is already in the field but cannot be operated. After I learned this, it turned out that the

[18] Sawyer, John G. and Gillot, C. Arthur, The FIDIC CONDITIONS, Digest of contractual relationships and responsibilities, 1981, Thomas Telford Ltd, London, UK.

cause of delays that are claimed by contractors, namely inefficiency and disruption.

High pressure from Employer and Engineer by emphasizing the obligation to the contractor to start work in accordance with FIDIC CC Edition 2 Clause 41 encourages me to study the contract clauses in more depth, in accordance with the young soul of mine who does not want to lose.

> ***Clause 41***
> *The Contractor shall commence the Works on Site within the period named in the Tender after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay except as may be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control.*

As a contractor's officer who has never experienced handling international contracts using FIDIC Conditions of Contract, of course I who at that time served as a Project Engineer was not much powerless in dealing with contract experts who were on the Engineer's side, who had an expert on call, Masaru Takei, an expert who understand well the FIDIC Conditions of Contract. It is noteworthy that in 2006, Mr. Masaru Takei and Prof. Ariono Abdulkadir published a book entitled "Construction Claim Strategy Based on FIDIC Conditions of Contract".[19]

In these general conditions of contract, changes to the clauses in the contract are not made by utilizing the Particular Conditions of Contract, but directly removing and adding to the contents of the clauses according to the wishes of the engineer and/or service user. So that the FIDIC Contract on this project becomes a "mutilated contract".

[19] Sarwono Hardjomuljadi, Masaru Takei, Ariono Abdulkadir: Strategi Klaim Konstruksi Berdasarkan FIDIC Conditions of Contract, Polagrade, 2006

Later I got the full text of the 2nd Edition of the book from Prof. Ariono Abdulkadir and saw that if this work contract does not remove Clause 42, then there is an opportunity for the contractor to submit a claim for an extension of time and if the contractor has complete records, which is a contemporary record, then it is possible a large number of contractors will receive compensation for delays in starting work that are not caused by the contractor's fault.

> ***Clause 42 (1)***
> *……. If the Contractor suffers delay or incurs expense from failure on the part of Employer to give possession in accordance with the terms of this clause the Engineer shall grant an extension of time for the completion of the Works and certify such sum as in his opinion shall be fair to cover the expense incurred which sum shall be paid by the Employer.*

At that time, I did not understand that part of Clause 42, namely Clause 42 (1), was deleted, while Clause 42 (2) was left intact with a change of name to Clause 42 only.

> ***Clause 42***
> *The Contractor shall bear all expenses and charges for special or temporary way leaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the Site required by him for the purpose of the Works.*

With the mutilation of Clause 42 mentioned above, the contractor cannot get compensation or compensation for the failure of the service user in providing work area for the contractor to carry out his work activities in accordance with his work plan by giving ownership of work area or possession of site.

The additional burden of expenses from the contractor in addition to the delay to start which resulted in idle equipment at the start of the project, in practice due to the addition of equipment instructed by the Engineer caused the use of equipment to be inefficient, because the equipment used in making roads by PT Sekayu International was really following what is said in the path making theory. I knew almost all the equipment for road construction work, starting from making cut and fill, subgrade, subbase to surface course work on this project. That is a good lesson learnt for me. Project administration work can also be learned from the many lessons provided by the Technical Director of PT Sekayu International Mr. Harjadji, former Director of Hutama Karya. I understand the importance of project administration at the first opportunity to work in the field which is fortunate.

Then at the end of 1981 I moved to work at PT PLN (Persero) as a service user and owner of the Saguling hydropower project after going through one incident after another which according to I was not a coincidence but had become my will. At first it was one cold night where I had to work on finishing paving the road which the next day would be used by the Minister of Mines and Energy at that time, Prof. Subroto to lay the first stone for the construction of the Saguling Hydroelectric Dam. Apparently, the West Java Hydro Power Plant Project leader, Mr. Husni Sabar, was carrying out an inspection at 3.00 in the morning and saw me supervising the implementation of the final paving by wearing a blue overalls, which of course was full patches of asphalt with messy hair after the work helmet was opened, made him interested and said :"You wrote a letter asking for compensation for PT Sekayu International, right? Your claim is quite sharp, where did you learn FIDIC, how much is your salary, etc.?". This made me a little proud and he replied that I had studied more thoroughly because he didn't want to blame everyone. Somehow later, I have forgotten, what is clear is that he said, I like your enthusiasm. This is an opportunity to recruit PT PLN (Persero) new employees for PLTA projects that will be built a lot, and this requires civil graduates who are willing to study contracts, try to register and if

you pass you can join us and we will send them immediately to take part in training FIDIC Conditions of Contract at NEWJEC in Osaka, Japan. Until the sun came out, I could not sleep and without thinking about it the next day, I faced Mr. Husni Sabar and expressed my intention to try to take the PT PLN (Persero) new employee acceptance test.

In the last quarter of 1981, I was announced that I had passed the selection after following a fairly tough selection process and in early 1982 I joined PT PLN (Persero) with my first activity as an employee being sent to attend special training on FIDIC Conditions of Contract given by an expert at the time it's in Japan, is MR. Goro Ofuji. For one month I learned by observing closely the implementation of the Okuyoshino and Okutataragi hydropower projects owned by Kansai Electric Power Company, the power company that handles the Kansai area (Kyoto, Osaka and its surroundings) which is the mother company of NEWJEC. The book used in the implementation of the training is the training material which was also given to the Association of Japanese Consulting Engineers which I still keep well, the training material which was prepared by D.R. Wilshere and D.W. Graham with the title "Use of FIDIC Conditions of Contract for Works of Civil Engineering Construction".

Here I learned a lot about the terms used in construction contracts, especially FIDIC, including the use of the term Employer (service user), which at that time was more popular in Indonesia, the term Owner or project owner was also used, as well as the term Engineer (engineer), which at that time was using the term supervisory consultant in Indonesia. The job of an engineer is actually very broad, because it does not only oversee technical issues but includes project management including analysing contractor claims and making an engineer determination, which is a decision to resolve differences of opinion between service users and contractors including making engineer's justification where the engineer must be neutral and impartial.

Upon returning from studying in Osaka, I was assigned to help oversee the project at the Saguling hydropower plant. One thing that can be noted while on duty before being assigned to the Cirata hydropower plant in mid-1982 there were many claims at the Saguling hydropower plant for time extensions and additional works that occurred more due to delays in handing over work land in addition to the design change work that occurred due to adjustment to geological conditions which according to the contractor include adverse physical conditions. Another problem is the occurrence of differences in interpretation which causes the submission of contractor claims related to additional expenses for work on the ground, tunnel work and acceleration. Requests for additional overhead were also noteworthy.

The first lucky thing for me was that the end of the main civil works in Saguling HEPP, which were carried out by Lot 1 Dumez Travaux Public – Mercu Buana Raya Contractors and Lot II Spie Batignoles Travaux Public – Pembangunan Jaya – Citra Indonesia – Pembangunan Perumahan – Adhi Karya, the contractor submitted a very comprehensive claim submission which in turn can improve my knowledge on it as young engineer at that time.

The next lucky thing was that even though I have been assigned to other project, the Cirata HEPP, another new project located also in West Java, I could still get all the information about the claims for the Saguling Hydropower Plant and sometimes even asked to attend meetings at the Saguling HEPP by the Project Head, Mr. Soetomo Siswowidjono, who has concern about the knowledge improvement of his staff, so we can follow and analyse what is happening in Saguling HEPP so then we don't repeat the same mistakes in the Cirata HEPP.

In carrying out the work, it turned out that the claims submitted by the Lot 1 contractor were an extension of time and additional costs, related to delays in starting work, geological conditions that were different from the information provided during the tender, changes to the design of the downstream cofferdam and other design changes caused by differences in geological conditions

qualify as Clause 12. Claims submitted by the contractor included, among other things, acceleration due to the late start of work on the start date of work which should have been 6 months late. Here I learn something that is very valuable for a novice engineer, that a delay in the implementation of a diversion will result in a postponement of the implementation of a diversion for one season.

The Lot 2 contractor's claims were not much different, namely the extension of time and additional costs as well as acceleration, due to the availability of working land and underground geological conditions.

"Knowledge is the result of hunting; writing is the bond".
Imam Muhammad bin Idris Asy-Syafi'i

Notes on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 3rd Edition, Year 1977. *(Cirata HEPP, West Java, Indonesia, 1983 – 1988)*

Advance field experience regarding the use of FIDIC Conditions of Contract was obtained by me during the implementation of the Cirata Hydropower Project (500 MW) between 1983 – 1988 starting from the Head of the Dam Section and the Spillway Tunnel to the Head of the Civil Section.

During the implementation of this project, where more than half of the work sites were underground, additional knowledge about the underground works gained by me are valuable on writing two books for underground and tunnel work, namely, "Tunnelling, from Construction Method till Construction Claim Cases" ISBN 978-979-120-3-08-1 and "*Terowongan dengan NATM* (New Austrian Tunnelling Method)[20]" ISBN 978-602-97499-0-8.

As is well known, the construction of a hydropower plant involves almost all types of engineering work, such as civil, environmental engineering, mechanical engineering and electrical engineering in addition to other fields of knowledges, including management and legal/law.

[20] NATM is both a construction method and a design philosophy. The philosophy looks to use the strength of the surrounding soil to the greatest extent possible to strengthen the tunnel structure. In other words, ground conditions drive the tunneling operation. The NATM philosophy also promotes constant monitoring.

The NATM construction method is about flexibility—drilling and designing depending on the results of the ongoing monitoring. The operation occurs sequentially to take most advantage of the ground conditions. Additionally, NATM installs ground support on the go and on an as-needed basis, adding reinforcement to the shotcrete where necessary.

I began to be interested in the field of legal/law as a support for hydropower development, because the implementation of a hydropower project involved a very large initial cost is usually carried out using a funding loan from the International Financial Institution (IFI) which requires that the development project must comply with the requirements of general conditions of contract which is fair and balance.

In reading and studying a construction contract an understanding of legal/law knowledges in general, it was found that the interpretation of a contract's wording is very important for smooth communication to support the implementation of projects that are on time, on cost and on quality. At the time and until now the general terms of the general conditions of contract that are recommended to be used is the FIDIC Conditions of Contract.

Sarwono in front of Diversion Tunnel Inlet.
Cirata HEPP 1982

The Cirata HEPP used the 3rd Edition of the FIDIC Conditions of Contract.

My interest in reading and interpreting many construction contracts have received support from my late wife Susan who supported me to begin studying contracts in more depth by lending books borrowed from the NEWJEC consulting library where she worked as contract engineer. NEWJEC is a Japanese company that was re-appointed as Engineer for the Cirata HEPP which was being carried out in parallel with the Saguling HEPP which located in the same river basin, Citarum River together as a cascade with the previous Jatiluhur HEPP.

Books that supported my knowledge on the use of FIDIC Conditions of Contract and all notes on the contractor's claims during the implementation of the Cirata HEPP still were stored properly in my personal library include:

FIDIC CC Edition 2 & FIDIC CC Edition 3 which the original could not be found in the FIDIC Library in Geneva.

Sarwono with George F Sowers together with Contractor and Engineer Staffs.
Cirata HEPP 1982.

Several things noteworthy points in the implementation of the Cirata hydropower project since being appointed as the field supervisor for the implementation of the access road to the project site and the heavy-duty working road to the quarry site which was located not too far from the location of the dam. The dam body embankment material were andesite material from the Mount Aseupan Andesite Quarry location in Purwakarta Regency. The problem in the access road construction of Rendeh – Pasir Cirata route was a conventional problem that is usually occurred during the implementation of a project in Indonesia, which is the delay in land acquisition that become conventional causal factor of the claim.

With the experience in Saguling HEPP, Cirata HEPP and Renun HEPP, I have made a study of Factor Analysis on Causal of

Construction Claims and Disputes in Indonesia (with Reference to the Construction of Hydroelectric Power Project in Indonesia), published in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 9, Number 22 (2014) pp. 12421-12445.

The contractor for the construction of the access road was the State-Owned Construction Company (BUMN) PT Brantas Abipraya while the construction of the bridge connecting Bandung Regency, Bandung Regency and Purwakarta Regency was executed by PT Waskita Karya.

This project was my first experience in dealing with the first problem that I faced as an officer of the employer's side, in this case the State-Owned Electricity Corporation, PT PLN (Persero). The Cirata HEPP involved local governments from 3 Regency that implemented different Regional Regulations that required harmonization, here I learned a lot from the late Mr. Hasan Basri Head of Administrative and Financial staff for the West Java Hydro Power Plant Project, a Unit designated as an Employer's Representative in the implementation of Cirata HEPP.

The availability of land for construction work since a long time requires the expertise in dealing with land-owning communities with a variety of different characters which until now has been a major problem in carrying out a construction project, especially for the Indonesian people who are generally sedentary people who are bound to their own land and their awareness of the law regarding their rights is getting higher.

The main civil works of this project were carried out by a joint operation of foreign and national contractors, PT Pembangunan Perumahan - Taisei Corporation - Mitsubishi Corporation Joint Operation.

The first claim submitted by the Contractor was regarding the availability of land (possession of site) for the construction of a working road to the quarry site, where I moved from the

contractor's side at Saguling HEPP to the side of the employer, at the Cirata HEPP.

The reference should be made to Edition 3, 1977:

> *Clause 41*
> *The Contractor shall commence the Works on Site within the period named* ***in the Appendix to Tender*** *after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without* ***delay,*** *except as may be expressly sanctioned or ordered by the* ***Engineer, or*** *be wholly beyond the Contractor's control.*

It seems no different, but the writer found the difference, because for Edition 2, 1967 written as below:

> *Clause 41*
> *The Contractor shall commence the Works on Site within the period named* ***in the Tender*** *after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without* ***delay*** *except as may be expressly sanctioned or ordered by the* ***Engineer or*** *be wholly beyond the Contractor's control.*

I tried to go deeper and find the difference between "Tender" and "Appendix to Tender" and some additional "comas" in Edition 3, 1977. The writer came to the understanding that there was not a significant difference, but only administrative that the period should be named not in the Letter of Tender but in the attachment of Letter of Tender. Also using the capital "C" and the common "c" still could be interpreted the same, but later it will become different meaning and may have significant effect, (reference to MDB Harmonised Edition Subclause 8.1 Commencement of Works which will be analyse further in the next Chapter).

The incident inspired me to study how to interpret the difference of "C" and "c". "*Commencement of Works vs commencement of Works Program"*, Journal of Applied Environmental Science, ISSN: 2090-4274, 5(8)55-69, 2015 © 2015.

This infrastructure development contract uses the FIDIC Conditions of Contract Edition 3 which is used in its entirety without changing the body of the general terms of this contract, in other words the contract was not mutilated, and the changes were made through the particular conditions of the contract.

The second claim relates to underground geological conditions which, according to the contractor's interpretation, are categorized as unpredictable or known as:

> ***Clause 12***
> *……. If, however during the execution of the Works the Contractor shall encounter physical conditions, other than climatic condition on the Site, or artificial obstructions, which conditions or obstruction could, in his opinion, not have been reasonably foreseen by an experienced contractor, the Contractor shall forthwith give written notice thereof to the Engineer's Representative and if, in the opinion of the Engineer, such conditions or artificial obstructions could not have been reasonably foreseen by an experience contractor, then the Engineer shall certify and the Employer shall pay the additional cost to which the Contractor shall have been put by reason of such conditions, including the proper and reasonable cost*.

After reading this clause slowly and carefully and trying to understand it, it turns out that clause 12 above contains many words which are difficult for people who do not have any law science knowledge to understand.

There is a short sentence "in his opinion":

> *……. If, however during the execution of the Works the Contractor shall encounter physical conditions, other*

> *than climatic condition on the Site, or artificial obstructions, which conditions or obstruction could, **in his opinion**, not have been reasonably foreseen by an experienced contractor, the Contractor shall forthwith give written notice thereof to the Engineer's Representative……..*

The short sentence "in his opinion" is a small sentence that opens an opportunity for the contractor to carry out obligations that must be carried out and must not be forgotten, namely, to deliver "notice" within the specified deadline, usually 28 days. "……which conditions or obstruction could, in his opinion, not have been reasonably foreseen by experienced contractor……". So, if the contractor thinks the same he can submit a notice of claim without having to prove it first.

Now, let us try if the "in his opinion" is omitted from the context, then the sentence becomes "……which conditions or obstruction could not have been reasonably foreseen by experienced contractor……". Or in plain language, "Conditions or obstacles that cannot be predicted in advance by an experienced contractor", this sentence becomes a sentence that still requires proof or the basis that the conditions that have occurred are proven to be unpredictable in advance.

> *……..and if, **in the opinion of the Engineer**, such conditions or artificial obstructions could not have been reasonably foreseen by an experience contractor, then the Engineer shall certify and the Employer shall pay the additional cost to which the Contractor shall have been put by reason of such conditions, including the proper and reasonable cost.*

Again "in the opinion of" provides an opportunity for the engineer to issue minutes of payment without having to prove it in detail. If we omit this short sentence, it will read "and if, such conditions or artificial obstructions could not have been reasonably foreseen by an experience contractor, then the Engineer shall certify, and the

Employer shall pay the additional cost". In this case the Engineer must first prove in full that the conditions that occurred were not predictable in advance.

In the Cirata hydropower project, claims were submitted by contractors related to the extension of time and additional costs due to delays in the availability of work land and changes in design due to differences in the current geological conditions submitted during the tender with what was encountered in the field during implementation. In this project, the submission of claims submitted by the PP-TC-MC Jo contractor is already more sophisticated than the claims on the Saguling hydropower project several years earlier, this is a very valuable experience for me because this project was when the contractor claims were submitted for extension of time and additional. Besides the costs caused by delays in starting work due to the late availability of work land, which was a claim that I had studied, namely regarding the commencement of works which developed into inefficiency etc. In addition to claims due to geological conditions which resulted in design changes and currently even starting to involve claims for rule changes. It was in this project that I learned about "inefficiency" which later became one of the studies in my dissertation in 2009. Once again it was fortunate for me that I had the opportunity to study on these two projects in addition to the third project, namely the Renun hydropower plant, which I will later explain in the next chapter.

> ***Clause 41***
> *The Contractor shall commence the Works on Site within the period named in the Appendix to the Tender after the receipt by him of a written order to this effect from the Engineer and shall proceed with the same with due expedition and without delay, except as may be expressly sanctioned or ordered by the Engineer, or be wholly beyond the Contractor's control.*

The clauses used by contractors in submitting claims are clauses 11 and clause 12.

Clause 11

The Employer shall have made available to the Contractor with the Tender documents such data on hydrological and sub-surface conditions as shall have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works and the Tender shall be deemed to have been based on such data, but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall also be deemed to have inspected and examined the Site and its surrounding and information available in connection therewith and to have satisfied himself, so far as is practicable, before submitting his Tender, as to the form and nature thereof, including the subsurface condition, the hydrological and climatic conditions, the extent and nature of work and materials necessary for the completion of the Works, the means of access to the Site and the accommodation he may require and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all the circumstances which may influence of affect this Tender.

Clause 12

……. If, however, during the execution of the Works the Contractor shall encounter physical conditions other than climatic conditions on the Site, or artificial obstructions, which conditions or obstruction could, in his opinion, not have been reasonably foreseen by an experienced contractor, the Contractor shall forthwith give written notice thereof to the Engineer's Representative and if, in the opinion of the Engineer, such conditions or artificial obstructions could not have been foreseen by experienced contractor, then the Engineer

shall certify and the Employer shall pay the additional cost to which the Contractor have been put by reason of such conditions, including the proper and reasonable cost.

Clause 51

(1) The engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be desirable, he shall have power to order the Contractor to do and the Contractor shall do any of the following:

(a) Increase and decrease the quantity of any works include in the Contract,

(b) Omit any such work,

(c) Change the character or quality or kind of any such work,

(d) Change the levels, lines, position and dimension of any part of the Works, and

(e) Execute additional work of any kind necessary for the completion of the Works

And no such variation shall in any way vitiate or invalidate the Contract, but the value, if any, of all such variations shall be taken into account in ascertaining the amount of the Contract Price.

(2) No such variations shall be made by the Contractor without an order in writing of the Engineer. Provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally, the

> *Contractor shall comply with such order and any confirmation in writing of such verbal order given by the Engineer, whether before or after the carrying out of the order, shall be deemed to be an order in writing within the meaning of this Clause. Provided further that if the Contractor shall within seven days confirm in writing to the Engineer and such confirmation shall not be contradicted in writing within fourteen days by the Engineer, it shall be deemed to be an order in writing by the Engineer.*

One more claim was made on the Cirata hydropower project, namely the delay on the issuance of construction drawings by the Engineer. The delay in publishing the construction drawings will have a double impact, not only the contractor will be entitled to compensation in the form of an extension of time (Clause 44) but also additional costs (clause 52).

When this project was implemented, I as a service user felt the importance of "interpretation" of the contract clauses.

> ***FIDIC 2nd Edition Clause 5 Extent of Contract***
> ***Clause 5***
> *The Contract comprises the construction completion and maintenance of the Works and except in so far as the Contract otherwise provides the provision of all labour materials Constructional Plant Temporary Works and everything whether of a temporary or permanent nature required in and for such construction completion and maintenance so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.*

> ***FIDIC 3rd Edition Clause 8, Contractor's General Responsibilities.***
> ***Clause 8***
> ***(1)*** *The Contractor shall, subject to the provision of the Contract, and with due care and diligence, execute and maintain the New Works and provide all labour, including the supervision thereof, materials, Constructional Plant and all other things, whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.*
>
> ***(2)*** *The Contractor shall take full responsibility for the adequacy stability and safety of all site operation and methods of construction provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or for the design or specification of any Temporary Works prepared by the Engineer*.

In the sentence that the author underlines it reads the same is specified in or reasonably to be inferred from the Contract. This sentence can be interpreted that the contractor is obliged to carry out all work according to the specifications or what is implied by the contract.

In relation to the above clause, I have tried when the engineer instructed the cutting of a rock cliff with an almost perpendicular slope and it turned out that toppling had occurred on the cliff, that it should have been implied that if the cliff excavation is close to perpendicular a support must be installed in the form of rock bolts so that toppling does not occur, adhering to Clause 8 (1)

above that this includes reasonably inferred from the Contract. This led to a prolonged debate because the contractor was adamant that the Engineer's Instruction (EI) issued by the Engineer did not write down the reinforcement as requested, so the contractor cannot be blamed for fully following what was written and described in the Engineer's Instruction earlier and the Engineer's Instruction was not mentioned this clause at all so that the contractor cannot be blamed because in EI the orders are very clear and clean. As a young engineer with work experience in handling contracts, my opinion was still very minimal, I learned much from the claim experts of Taisei Corporation, who are supervised by a senior claim engineer, Tetsuya Tanaka.
This setback triggered me to study and understand the FIDIC contract more deeply, with the understanding that in a contract the use and interpretation of a wording is very important.

The second case was still related to Clause 8, in this case 8(2) is related to the collapse of a temporary bridge (resulting in the fall of contractor JO's generator equipment). This bridge was under the management of another work package contractor, where temporary reinforcement which included temporary work on the existing bridge was carried out by and for the benefit of the other contractor and not designed by an engineer.
I conveyed that in accordance with previous cases where what was written (expressed term) is very important in interpreting a clause, so for this incident the responsibility was on the contractor, because in the contract it was clearly written that "for the design or specification of any Temporary Works prepared by the Engineer", while this bridge was not designed by the engineer even though the engineer had issued a "no objection" letter, the draft of which was made by the Engineer's Willie Powles Contract Engineer, upon request for permission from JO to cross it. The score became 1-1, this further boosted my confidence as well as

encouraging me to be more diligent in studying to get deeper into the FIDIC contract.

Another interesting example is:

> During the preparation for the tunnel excavation work to be carried out, there were differences in understanding between employers/engineers on the one hand and contractors on the other hand regarding differences in interpretation of the type of rock to be excavated.
>
> In the volume and price list (Bill of Quantities) there were several prices for different excavation units, namely hard rock, soft rock (weathered rock) and common excavation. The employers/engineer interprets the material to be excavated as belonging to the soft rock group, while the contractor with his strategies and tricks succeeds in obtaining and processing the definitions contained in the technical specifications, whereas the contractor with a tactical strategy made an interpretation based on the wording contained in the definition as follows, where weathered rock is defined as: "….. material that can be excavated efficiently after loosening by ripping or the use of power tools without drilling and blasting". So, if the material found is the opposite, namely the material cannot be excavated efficiently, then the rock can be interpreted as qualifying for a higher rock type, namely hard rock.
>
> In practice, excavation was carried out using a bulldozer equipped with a single claw ripper whose use has been approved by the engineer where the performance achievement (target rate of progress) is slightly below the

plan in the contract made by the contractor and approved by the engineer which was part of the contract.

In accordance with the Contractor's opinion, since the beginning the excavated material has been included as hard rock because the engineer has agreed to change the equipment from originally being a double claw to a single claw, which cannot be denied, the rate of progress will be lower. Finally, the claim submitted by the contractor can be accepted and approved.

The opinion of the contractor was that in this project it was clearly agreed in the contract that there were three work unit prices for the material that must be excavated in the tunnel construction, so that it can be interpreted that if the effort required by the contractor in carrying out a job is heavier or requires additional effort then can automatically be interpreted as having entered the rock type level with tougher qualifications and requiring more effort to excavate. The logical reasoning put forward by the contractor was: in several locations it turned out that the contractor had excavated using blasting approved by the engineer.

After going through a prolonged debate, the contractor's claim was finally accepted and granted.
The Engineer issues a Variation Order to the contractor as approval for the full price adjustment application with a written amount of USD 150,000.

After the contractor has completed the work according to VO within two and a half months, the contractor submits

a claim with the reason: "obstruction and delay due to Variation Order".

Claims and delays in work progress in carrying out work as ordered by the engineer cannot be rejected because the formal VO says: "cost amounting USD 250,000 payable to all works in the Variation Order". The contractor sees that due to the existence of this VO there is an opportunity to file a claim for "obstruction and delay" due to the work being carried out according to the engineer's order through the VO.
Claims were finally accepted and approved.

Lesson learnt.
Based on previous experience when handling contractual issues on the part of contractors, I see that efforts to make contractual requirements in such a way as to protect service users from all claims whatsoever from contractors will cause many new problems that can hinder the timely completion of work and quality. When the contractor cannot receive compensation due to an incident that is not his fault, it will encourage the contractor to find shortcuts in reducing losses, in terms of quality and so on. I am of the opinion that the working relationship between the service user and the contractor service provider in this case must be based on a fair and balanced contract, not hostile but mutually secure in achieving the goal of completing the project both physically and administratively.

"Learning never exhaust the mind".
Leonardo da Vinci

Notes on the use of FIDIC Conditions of Contract for Works of Civil Engineering Construction, 4th Edition, Year 1987 updated 1992.
(Renun HEPP, North Sumatera, Indonesia, 1994 -2001}

The first time I stepped into the Renun HEPP Project as Project Manager after 14 years working for State Electricity Corporation (PT PLN Persero) including the 7 years working at the PLN Headquarters for the Hydro Project Implementation Program Division, as the Project Officer from the Singkarak PLTA Project, Kotapanjang Hydropower, Bakaru Hydropower, Cirata 2nd Phase Hydropower, Tanggari 2 Hydropower, Test Hydropower Project and others whose work duties cover all projects in Indonesia, and another 7 years working at project sites, Saguling and Cirata HEPP, almost all of projects used FIDIC Conditions of Contract 3rd Edition and 4th Edition. A lot of experience was gained, and it turned out that the contractual problems that occurred were similar, namely availability of work land, unforeseeable physical conditions, design change, change regulation etc.

At the end of 1994 I became the Project Manager of Renun HEPP in North Sumatra, a hydroelectric power plant utilising water from 7 tributary intakes which discharge the weter to the famous Toba Lake. At the time I was presented with challenge because the project had been suspended for almost two years due to contractual problems, this is the third project where I was assigned at site after the PLTA Saguling and the PLTA Cirata.

Road infrastructure works that was funded by loan from JICA, used the FIDIC Conditions of Contract, the same as the main work that would be carried out by the main contractor, in this case a Joint Operation between Japanese and Indonesian company, as

required by JICA for projects funded by JICA, which at that time was still called JBIC.

The same mistake that PLN as Employer had made in the Saguling hydropower project 15 years earlier was being repeated again. The mutilated FIDIC contract documents which was used for national contractors, at first glance would greatly benefit the employer, because there were many deletions to existing clauses, but actually these will create a contractual problem which impacted the sustainability of the projects which need special effort to mediate between the contractors and employer to resolve.

The road infrastructure that has to be constructed with terrain was in the very difficult, because there were two difficulties in its implementation which caused me to think when for the first time going to the field and looking at the top of a steep cliff, where this road has to go through a cliff with has a slope of 75% slope, which means there will be many cuts, the strengthening of the cliffs and their construction cannot be seen only from the theoretical drawing by balancing the excavation and embankment; while the other part in the middle of the forest, where the excavated material cannot be used for backfilling because it was soil mixed with rotting plant residues and roots, so it will definitely require many piles of material after I studied had to be taken from other areas that were far away and more than 10 kilometres away. I was very grateful to God for giving these opportunities to work in two previous hydropower plants which trained me to analyse a situation and think of a solution, not only technical but also contractual matter in general and FIDIC contracts in particular.

I had to think about how to restart the project again after being suspended for two years by considering the contractual and legal point of views and the two contractors were no longer wanted to work on the project without being compensated for price adjustments as well as other compensation, both due to difficulties in cutting and backfilling a road on a cliff as deep as

400 meters from the top of Lae Pondom to Kampung Silalahi and Kampung Paropo which was far below and located on the edge of Lake Toba where later it will become the location of the Central Hydropower Building and another thing is how the contractor must complete the backfilling of the road body in parts where the cut material cannot be used as fill material, plus problems that will arise with the auditor who were generally accountants and lawyers who at the time have begun to actively participated in supervising project implementation.

After studying the existing contracts, and the progress of the project which has reached almost 30% for each project from correspondence documents and minutes of meetings, it turned out that many Engineer's instructions were given in the form of letters and there was also a written statements in the minutes of meetings which could be classified as instructions/ variations.

Finally, after going through a lengthy discussion, the project was restarted again and finally could be completed, and ready for used by the main contractor for the main HEPP project.

The hydropower project itself was being carried out by the Hyundai-MBRC JO as main contractor, which included a tunnel with a total length of 26 km using TBMs. The tunnel excavation faced a significant problem as it was found that a soft layer of 100 meters thick was found in the direction of the tunnel. So, I had to take critical decision with all risk contractually as well as financially where I have to suggest to the Engineer to make a kind of curtain grouting on the cross section of the tunnel which is located far underground as deep as almost 50 meters.

Again, the claims raised by the Contractor were the extension of time and additional cost related to the availability of workspace, design changes, variation orders, and delays in the issuance of construction drawings with the causes of differences in geological condition information provided to contractors during tender with actual conditions in the field.

It was very interesting to learn about the most famous clauses Clause 12 and Clause 40 and 41.

FIDIC Conditions of Contract for Works Civil Engineering Construction, 2nd Edition 1967,

> ***Sub-clause 41.1 Commencement of Works.***
> *The Contractor shall commence the Works as soon as is reasonably possible after the receipt by him of a notice to this effect from the Engineer, which notice shall be issued within the time stated in the Appendix to* ***tender*** *after the date of the Letter of Acceptance. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.*

Surprisingly at that time I found a mistyping of "Tender" become "fender" in the original copy of FIDIC, but it has been corrected in the 4th Edition 1987 with amendments 1992, before this correction the users just interpreted this word as "Tender" by the common sense. Recently when the wording of contract became very important since people consciousness of legal aspect are very high it may create a legal problem.

The sentence "as soon as reasonably possible", was not cause any problem at that time, whereas today when consciousness of the legal term is very high, this sentence cause different interpretation between the employer and contractor and may finally lead to prolonged dispute.

From the below comparison of clause related with the compensation to the contractor (if any), it could be seen:

FIDIC Conditions of Contract for Works Civil Engineering Construction, 2nd Edition 1967,

> ***Sub-clause 42 (1) Possession of Site***
> *……. If the Contractor suffers delay or incurs expense from failure on the part of Employer to give possession in accordance with the terms of*

this clause the Engineer shall grant an extension of time for the completion of the Works and certify such sum as in his opinion shall be fair to cover the expense incurred which sum shall be paid by the Employer.

FIDIC Conditions of Contract for Works of Civil Engineering Construction, 3rd Edition 1977,

Sub-clause 42 (1) Possession of Site

……. If the Contractor suffers delay or incurs cost from failure on the part of Employer to give possession in accordance with the terms of this Clause, the Engineer shall grant an extension of time for the completion of the Works and certify such sum as, in his opinion, shall be fair to cover the cost incurred, which sum shall be paid by the Employer.

The difference in the meaning of wording between 2nd Edition 1967 and 3rd Edition 1977, was actually very wide, but at that time less attention was given to the difference meaning from the accounting point of view between "expense" and "cost".

FIDIC Conditions of Contract for Works Civil Engineering Construction, 4th Edition 1987 amended 1992,

Sub-clause 42.2 Failure to give possession.

If the Contractor suffers delay and/or incurs cost from failure on the part of the Employer to give possession in accordance with the terms of Sub-clause 42.1, the Engineer shall, after due consultation with the Employer and the Contractor, determine:

(a) Any extension of time to which the Contractor is entitled under Clause 44, and
(b) The amount of such costs, which shall be added to the Contract Price.
and shall notify the Contractor accordingly, with a copy to the Employer.

The difference in wording of 2nd Edition 1967 and 3rd Edition 1977 compared to 4th Edition is more about the spirit , the word "shall grant" change by more collaborative wording "after due consultation with the Employer and the Contractor", and also notification become important "shall notify the Contractor, with a copy to the Employer" it shows that the parties should be involved in the determination process and let the parties be informed on the determination made by Engineer.

FIDIC Conditions of Contract for Construction, 1st Edition 1999 and MDB Harmonised Edition 2010.

Sub-clause 2.1 Right of Access to the Site
If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
(a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
(b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

> *After receiving this notice, the Engineer shall proceed in accordance with Sub Clause 3.5 [Determinations] to agree or determine these matters.*

FIDIC Conditions of Contract for Construction, 2nt Edition 2017 reprinted 2022 with amendments.

> ***Sub-clause 2.1 Right of Access to the Site***
> *If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to EOT and/or payment of such Cost Plus Profit*

The difference among all CC for Works of Civil Engineering Construction starting from 2nd 1967, 3rd 1977, 4th 1987 amended 1992 and CC For Construction 1st 1999, 2nd 2017 amended 2022 and MDB Harmonised Edition 2010 are:

a. If the Contractor suffer delay and/or increase the expenses/cost as a result of failure by the Employer to give any such right of possession within such time, in 2nd 1967 and 3rd 1977 "*the Engineer shall grant the EOT and additional contract price*", whilst in 4th 1987 amended 1992 "*the Engineer shall, after due consultation with the Employer and the Contractor, determine EOT and additional contract price, determine:….".* It could be seen that in the above three edition the action should be taken by the Engineer in case that there is a delay on giving possession of Site by the Employer.

b. In the CC for Construction 1st 1999 and MDB 2010:
If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time Contractor shall give notice

to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
It means that in case of the above, the Contractor should take action by submitting notice to the Engineer and the Contractor entitled to submit claims and, in case agreed will be paid on Cost plus reasonable profit.

c. In the 2nd 2017 amended 2022:
Stressing is in the entitlement of the Contractor to submit a claim of such Cost-Plus Profit.

From the above example it is shown that FIDIC Conditions of Contract standard forms are dynamic, and the development of such Conditions are in line with the people consciousness of the legal meaning of the wording in the contract.

The knowledge on legal and contractual matters as well as the experience in similar project are mandatory for somebody appointed as project manager in the construction contract using FIDIC Standard form of contract.

"You cannot open a book without learning something".
Confucius

Notes on the use of FIDIC Conditions of Contracts Rainbow Series 1999 and MDB Harmonised Edition 2010 (State Electricity Corporation Head Office, 2001-2008 and Ministry of Public Works and Housing, 2009-2020)

After working for a long time at the PLN Headquarters, in 1993 I was assigned to Sweden to take part in a training program on Hydro Power Plants and on FIDIC Contracts organized by Swedpower and Vattenfall in Stockholm, Alvkarleby, Jokkmokk, Vasteras and Sydkraft in Copenhagen. I am most interested in joining the training because of Michal Mortimer Hawkins who gives directions related to FIDIC Conditions of Contract.

On this occasion, many things were learned from the course given by Chris Wade and Michael Mortimer Hawkins and furthermore, many consultations were carried out between me and Michael Mortimer Hawkins until he passed away in 2017.

From the definition above, it can be seen that the most important thing in a contract for any field is an offer which is then agreed upon by the parties and finally becomes a contract agreement. Specifically for construction contracts, the general terms of a good contract are general terms that allow for changes to occur, but with minimum potential for differences of opinion to develop into disputes. In this case the general terms of the contract (FIDIC General Conditions of Contract) meet this criterion.

Differences in interpretation of the contents of a contract clause are not only faced by countries whose official language English or second language is not English but most of the different interpretation caused by a lack of ability to interpret the substances of a contract's clauses and/or legal terms, in addition

to differences in the interests of the parties, on one hand, the service user wants to maintain the contract price, while on the other hand, the contractor is trying to increase the contract price in order to maintain their profit and avoid loss.

The clauses of the FIDIC GCC provide room for change, but the parties must really understand the scope of work agreed upon by the parties during the tender which is then agreed upon and signed into a contract. If during construction there is no change in the scope of work and/or a change in the contract, then no change or extension of time is required. Conversely, if there is a change in the scope of work from what was agreed in the contract, there will be additional work or extra work and consequently will involve additional costs and prolongation of project's completion.

Based on my experience in using the FIDIC CC for Works of Civil Engineering Construction, since the 2nd Edition (1967) which was used in the construction of the Saguling HEPP (1981-1986), the 3rd Edition (1977) which was used in the Cirata HEPP(1983-1988), 4th edition (1987 amended 1992) used in the Renun HEPP hydropower project (1995-2000) and FIDIC GCC for Construction 1st edition (1999) used in several gas pipeline projects, from observations made , existing clauses are always being developed from time to time, so that they become more fair and balanced.

FIDIC GCC for Works of Civil Engineering Construction 2nd Edition (1967)

> ***Clause 5: Extent of Contract.***
> *The contract comprises the construction……. everything whether of a temporary or permanent nature required in and for such construction completion and maintenance so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.*

Case:
In the implementation of the Saguling HEPP, the Employer is of the opinion that the additional reinforcement of the nearly vertical cliffs with full column adhesive rock-bolt is "inferred" as necessary according to the shape of the excavation and the condition of the "weathered" rock, while the Contractor is of the opinion that full column adhesive rock- bolt is unpredictable and not stipulated in the contract. Differences in interpretation encourage contractors to submit claim which eventually develop into dispute, this proves that the use of dubious words can lead to disputes.

FIDIC GCC for Works of Civil Engineering Construction 3rd edition (1977)

> ***Clause 8: Contractor's General Responsibilities.***
> (*1) The Contractor shall, subject to the provision of the Contract……. whether of a temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.*
> (*2) The Contractor shall take full responsibility…… provided that the Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specification of the Permanent Works, or of the design or specification of any Temporary Works prepared by the Engineer.*

Case:
In the implementation of the Cirata HEPP, under clause 5 which later became clause 8 in the 3rd Edition (as an improvement to make it fair and more balanced), the Contractor is no longer responsible for temporary works whose designs and specifications are not prepared by the Contractor himself but by the Engineer (supervising consultant).

Differences in interpretation again occur. The Engineer refused to pay the bridge reinforcement for the mobilization of the

Contractor's equipment. Previously, the bridge was a temporary facility prepared by Employer for access of the infrastructure contractor (another contractor). The bridge was designed as a temporary bridge by the infrastructure contractor (not by the engineer) and the engineer assumed that at the time of the tender it had been stated that the condition of the bridge should be inspected by the Contractor, and it would be the Contractor's responsibility as part of his working method. This later became a dispute after a protracted discussion.

FIDIC GCC for Works of Civil Engineering Construction 4th Edition (1987 amended 1992)

Clause 8.1: Contractor's General Responsibilities

The Contractor shall, with due care and diligence, design (to the extent provided for by the Contract), execute and complete the Works…….whether of a temporary or permanent nature, required in and for such design, execution, completion and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

Clause 8.2: Site Operations and Method of Construction

The contractor shall take full responsibility……. Provided that the Contractor shall not be responsible (except as stated hereunder or as may be otherwise agreed) for the design or specification of Permanent Works, or for the design or specification of any Temporary Works not prepared by the Contractor.

Case:

During the implementation of the Renun hydropower project, clause 5 (2nd Edition) and clause 8 (3rd Edition) changed to clause 8.1 and clause 8.2 (4th Edition), as an effort to reduce the occurrence of disputes. Based on this clause, the contractor is only responsible for the designs and specifications prepared by

the contractor himself but is not responsible for the designs and specifications made by other parties.

FIDIC GCC for Construction 1st Edition 1999

Sub-clause 4.1: Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's Instruction, and shall remedy any defects in the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions: (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract; (b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs; (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and

The above clause is a revision that further clarifies the contractor's obligations. The contractor shall be responsible for the design of all contractor documents, temporary work and the design of each part of the machine and materials required to form the items in accordance with the contract, and the contractor shall not be responsible for the design and specifications of the permanent work. This means that everything that is not clearly specified in the contract is not the responsibility of the contractor, however, according to the contract the contractor is obliged to make the design of a part of the permanent work, so the contractor is responsible that the work must be "fit for such purposes".

FIDIC GCC for Construction MDB Harmonised Edition 2010.

Sub-clause 4.1: Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's Instruction, and shall remedy any defects in the Works.

No substantial changes in the substance of Sub-clause 4.1. from 1st Edition 1999 except additional sentence as follows:

All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by the Bank.

FIDIC GCC for Construction 2nd Edition 2017 Reprinted 2022 with amendment

Sub-clause 4.1: Contractor's General Obligations

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions: (a) the Contractor shall prepare, and submit to the Engineer for Review, the Contractor's Documents for this part (and any other documents necessary to complete and implement the

design during the execution of the Works and to instruct the Contractor's Personnel); (b) these Contractor's Documents shall be in accordance with the Specification and Drawings and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs. If the Engineer instructs that further Contractor's Documents are reasonably required to demonstrate that the Contractor's design complies with the Contract, the Contractor shall prepare and submit them promptly to the Engineer at the Contractor's cost; (c) construction of this part shall not commence until a Notice of No-objection is given (or is deemed to have been given) by the Engineer under sub-paragraph (i) of Sub-Clause 4.4.1 [Preparation and Review] for all the Contractor's Documents which are relevant to its design, and construction of such part shall be in accordance with these Contractor's Documents; (d) the Contractor may modify any design or Contractor's Documents which have previously been submitted for Review, by giving a Notice to the Engineer with reasons. If the Contractor has commenced construction of the part of the Works to which such design or Contractor's Documents are relevant, work on this part shall be suspended, the provisions of Sub-Clause 4.4.1 [Preparation and Review] shall apply as if the Engineer had given a Notice in respect of the Contractor's Documents under sub-paragraph (ii) of Sub-Clause 4.4.1, and work shall not resume until a Notice of No-objection is given (or is deemed to have been given) by the Engineer for the revised documents; (e) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purpose(s) for which the part is intended as are specified in the Contract (or, where no purpose(s) are so defined and described, fit for their ordinary purpose(s)); (f) in addition to the Contractor's undertaking above, the Contractor undertakes that the design and the Contractor's Documents for this part will comply with the technical standards stated in the

> *Specification and Laws (in force when the Works are taken over under Clause 10 [Employer's Taking Over]) and in accordance with the documents forming the Contract, as altered or modified by Variations; (g) if Sub-Clause 4.4.2 [As-Built Records] and/or Sub-Clause 4.4.3 [Operation and Maintenance Manuals] apply, the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with such Sub-Clause(s) and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part; and (h) if Sub-Clause 4.5 [Training] applies, the Contractor shall carry out training of the Employer's Personnel in the operation and maintenance of this part.*

The clause above is the latest revision which further clarifies the contractor's obligations. The contractor shall be responsible for the design of all contractor documents, temporary work and the design of each part of the machine and materials required to form the items in accordance with the contract, and the contractor shall not be responsible for the design and specifications of the permanent works. This means anything that is not clearly specified in the contract is not the responsibility of the contractor.

Besides the clauses on the design responsibilities, there is also one clause related with the Commencement of Works have a significant change from 1st Edition 1999 to MDB Harmonised Edition 2010.

FIDIC Conditions of Contract for Construction 1st Edition 1999

> ***Sub-clause 8.1 Commencement of Works***
> *The Engineer shall give the Contractor not less than 7 days' notice of the Commencement Date. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.*

The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

FIDIC Conditions of Contract for Construction MDB Harmonised Edition 2010

Sub-clause 8.1 Commencement of Works

Except as otherwise specified in the Particular Conditions of Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Engineer's notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:

(a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of the Country;

(b) delivery to the Contractor of reasonable evidence of the Employer's Financial arrangements (under Sub-Clause 2.4 [Employer's Financial Arrangements]);

(c) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works;

(d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor. If the said Engineer's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor]

FIDIC Conditions of Contract for Construction 2nd Edition 2017 reprinted with amendments 2022.

Sub-clause 8.1 Commencement of Works

The Engineer shall give a Notice to the Contractor stating the Commencement Date, not less than 14 days before the Commencement Date. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.

The Contractor shall commence the execution of the Works on, or as soon as is reasonably practicable after, the Commencement Date and shall then proceed with the Works with due expedition and without delay.

Case:

It can be seen that in the 1st Edition 1999, and 2nd Edition 2017 reprinted 2022 with amendments, the Contractor's time limit is 42 days after Letter of Acceptance (LA), with Notice should be given 7 days and 14 days before the Comment Date respectively. It is noteworthy that the Contractor's time limit to start as "expressed term" is 42 days after LA, but there is an "implied term" that the Employer should give access to the Contractor to commence the work with the right to receive compensation in case the site cannot be given to the Contractor.

"You must find time for reading or surrender yourself to self-chosen ignorance".
Confucius

Notes on Dispute Adjudication Board, Dispute Board and Dispute Avoidance and Adjudication Board as a mandatory requirement in the use of FIDIC Conditions of Contract.

Back to history, in the United States and Canada, the most common terms are "Dispute Review Board" or "Dispute Resolution Board." In Australia, there is a preference for the term "Dispute Avoidance Board." For projects using FIDIC forms of contract or institutional rules, the most common terms are "Dispute Adjudication Board" in FIDIC CC 1st Edition 1999; Dispute Board in FIDIC Harmonised Edition 2010 or "Dispute Avoidance and Adjudication Board" in FIDIC 2nd Edition 2017 reprinted 2022 with amendments. In Indonesia Law No 2 Year 2017 it names "Dewan Sengketa" or "Dispute Board", where the form of Dispute Board is emphasized as "Standing Dispute Board" with avoidance function also, considering suggestion of Gordon L Jaynes to highlight the Eastern Way of thinking on solving the problems.

How to utilize the Dispute Board (DB) we can refer to manual, where early publications providing guidance on DBs were published in 1989 and 1991 by the American Society of Civil Engineers. In 1996, McGraw-Hill published the "Construction Dispute Review Board Manual," by A.A. Mathews, R.M. Matyas, R.J. Smith and P.E. Sperry. DRBF now published the 2019 "Dispute Board Manual", which now emphasized the avoidance function.

My experience in the use of DB in Indonesia started in 2006 for the first project I handled together with Peter Chapman and Toshihiko Ohmoto, for the famous "Persero Case" where we just appointed and then stop because of no budget, the parties

decided to appoint single dispute board but finally the parties dissatisfied with the decision and filed the case to Singapore International Arbitration Court which was after more than 10 years they could just finalized such case.

It was during the construction of the Cirata Hydropower Project that I became acquainted with Toshihiko Omoto, the Contract Engineer, from Taisei Corporation who was then joined the construction law course and took the doctoral degree at King College. Today he is still working with me as Dispute Board for several international projects funded by IFI loans.

He always said "Sarwono, you are always chasing me", why not, when he started teaching at a university, I also become a lecturer at a university. When he specialized in construction contracts by taking his doctoral degree in the field of law and contracts, I also completed my doctoral degree in law and contracts. Omoto become Professor in the University, I also become Professor in the University.

He was the one who supported me for the Membership of Chartered Institute of Arbitrator and to become country representative of Dispute Resolution Board Foundation for Indonesia in 2013, where I now become the Board of Director Responsible for Asia. He was awarded the AL Mathews Award for Dispute Board Excellence a prestigious award given to those who have given significant service which can be used as model in the Dispute Resolution of other countries. Omoto was the first Asian getting the award in Year 2012, which finally I also got the award in year 2022.

Toshihiko Omoto's role in the development of my career is very high, after not seeing each other for a long time in 2012 when I attended an assessment of a JICA Dispute Board which was held in collaboration with the ADB Head Office in Manila, it turned out that Omoto was one of the assessors.

Together with Omoto, I am currently a dispute board for Patimban Harbour and Upper Cisokan Pumped Storage Power Plant.

Unlike FIDIC CC 2017 reprinted 2022 with amendments which regulates the procedure for providing "informal assistance" where parties are expected to be present unless otherwise agreed, then in JICA 2012 "informal opinions or recommendations" the procedure not described as well as in DRBF 2019 "informal, nonbinding advisory opinion" also does not describing a procedure. From the above three, it is clear that the opinion is nonbinding and more a recommendation with the condition that if both parties agree it will become binding. In Indonesia most of DB services only up to this stage and not filed to arbitration as well as court.

FIDIC 2017
21.3 Avoidance of Dispute
Such **informal assistance** may take place during any meeting, Site visit or otherwise. However, unless the Parties agree otherwise, both Parties shall be present at such discussions. The Parties are not bound to act on any advice given during such informal meetings, and the DAAB shall not be bound in any future Dispute resolution process or decision by any views or advice given during the informal assistance process, whether provided orally or in writing.

JICA DB Manual 2012
9 DB Informal Opinions
At any time, the Parties may jointly request the DB to give **informal opinions** or **recommendations**. The DB's informal views can be of much value to the Parties and the Engineer. They are not binding on anyone, including the DB. Simply, they are a way to acquire the experienced and expert views of the DB member(s) without the time and expense of obtaining a binding Decision. The Parties (and the Engineer) can continue negotiation based on the DB's informal opinion to reach an amicable settlement. No informal opinion forecloses the Parties from bringing the same

problem to the DB for further discussion or if necessary, making the matter a subject of a formal Referral of a Dispute.

DRBF Manual 2019
Chapter 4 Dispute Avoidance
Furthermore, before formally referring a dispute to the DB, the parties may seek an **informal**, **nonbinding advisory opinion** from the DB. The benefit of such an **advisory opinion** is it can often be provided by the DB on short notice and commonly results in the resolution of an issue that otherwise may have been formally referred to the DB for a recommendation or decision.

There is trend in some countries especially in developing countries where the anti-corruption movement are very massive, such as Indonesia and several countries in Asia and Africa there are involvement of Government Auditor who will sometimes visit the project site and give comments in relation with additional cost (if any) where they use the terminology “cost overrun” (a tendentious terminology) which may occur in the projects. It seems that the problems are not about “the techniques” of dispute settlement but mostly about the DB’s “track record” whether he or she is trustable and respectable. I suggest that its need dissemination before the project started to the auditor by conduct the coordination meeting and giving training to the Government Auditor.

It is difficult to issue the interim payment on the stage of “avoidance “, no legal basis to pay in advance without any decision from the adjudicator. Also, mostly impossible to take the money back in case that the formal decision will be in the contrary. By the regulation in some countries this payment in advance was not possible. So, the best way is to finalize the dispute and parties should make decision based on the “informal opinion” of the DB, considering whether DB trustable and respectable.

Based on my experience as DB, most of them finalized after "informal opinion", from 10 projects the disputes resolve and not filed neither to the court nor arbitration.
By the survey conducted my students, the key success factors of DB are the communication and the capability to convince parties where in Indonesia and most other ASEAN countries the DB also have to convince the Government Auditors.

The way to convince Government Auditors are as follows:
1. Based on the lesson learnt. We should be completely neutral and honest with a polite appearance. We should understand the law of the Country related.
2. Convince the auditor that the action taken is contractually required by the contract, because everything that is agreed upon in the contract must be carried out in the principal pacta sunt servanda.
Solely for the project to be completed according to plan and can be operated on time and with proper quality, and if the action is not taken it will create the bigger problem with higher expenses which could be categorized as harming the country, one of the corruption categories.
3. In order to establish a good relationship with the Government Auditor, before entering the service as DB, I always provide training to parties and auditors in order to obtain a common perception, especially about understanding the wording. In the east everything cannot be classified as black and white, but also pay attention to the grey area which is by discussion and responsible explanation can be brought black and/or white conclusion.
4. Should have deeper knowledge of technical matters of the project as well as the contractual matters.
5. Develop trust from the auditor.

The most important thing is once the auditor happy with the explanation and trust us, for the next project they will just trust and follow our opinion.

"The great aim of education is not knowledge but action"
Herbert Spencer

FIDIC World Annual Conferences from 2004 to 2022

After working at the PLN Head Office for the second time, namely after being assigned in North Sumatra, from 2004 onwards every year I have the opportunity to take part in the FIDIC World Annual Conference since the first time 2004 in Copenhagen and since then every year I have taken part in alI FIDIC World Annual Conference held from one country to another.

2004 FIDIC World Annual Conference
Copenhagen, Denmark.
Radisson SAS Hotel, 13-16 September 2004

. The Little Mermaid, Copenhagen

It was the first FIDIC World Annual Conference which I attended every year continuously without interruption.
The good networking opportunity, because by attending such conferences I can have colleagues in almost all FIDIC Member countries.
It was on this occasion that I was able to get to know Richard Kell, whom at the time was the President of FIDIC who initiated the Young Professional Management Training Program which was

held for the first time in 2004 with 16 participants from 9 countries.

. Sarwono and Trueman Goba (South Africa) and Richard Kell (Australia)

During FIDIC Annual Conference and General Assembly Meeting on 15 September 2004 Sarwono met Richard Kell, FIDIC President 2003-2005 and Trueman Goba[21], the respected African Engineer. It cannot be denied that the FIDIC World Annual Conference is an event for inter-professional meetings as well as opening Sarwono's discourse by visiting and then studying the local wisdom of the countries visited.

[21] Trueman Goba, chair of Hatch Africa. The Royal Academy of Engineering-UK named, an honorary fellow of the academy, recognizing him for his exceptional contributions, innovative leadership, and remarkable achievements. In 2014, Goba was awarded the Lifetime Achievement Award for Excellence in Engineering at the South African Professional Services Awards (SAPSA).

2005 FIDIC World Annual Conference
Beijing, China.
Beijing Hotel, 4-8 September 2005

The Second GAM attended by me was in Beijing 2005 which held at the Beijing Hotel, where I met Greg Thomopuolos[22] FIDIC President 2009-2011. In this occasion I visited one of the landmarks of Beijing the Tiananmen Square or Tien An Men Square[23]; Pinyin: Tiān'ānmén Guǎngchǎng which is a city square at the city center of Beijing, China, named after the eponymous "Gate of Heavenly Peace" located to its north, which separates it from the Forbidden City.

Tien An Men, Beijing

[22] Gregs is a long-time champion of integrity and ethics in global infrastructure and is a regular speaker on the subject. He has played a significant role in directing the focus of the consulting engineering industry through his involvement with American Council of Engineering Companies (ACEC) and the International Federation of Consulting Engineers (FIDIC), serving as chairman and president respectively of these organizations.

[23] The Tiananmen ("Gate of Heavenly Peace"), a gate in the wall of the Imperial City, was built in 1415 during the Ming dynasty. In the 17th century, fighting between Li Zicheng's rebel forces and the forces of the Manchu-led Qing dynasty caused heavy damage to, or even destroyed, the gate. Tiananmen Square was designed and built in 1651, and was enlarged fourfold in the 1950s

The square contains the Monument to the People's Heroes, the Great Hall of the People, the National Museum of China, and the Mausoleum of Mao Zedong. Mao Zedong proclaimed the founding of the People's Republic of China in the square on October 1, 1949; the anniversary of this event is still observed there.[2] The size of Tiananmen Square is 765 x 282 meters (215,730 m2 or 53.31 acres). It has great cultural significance as it was the site of several important events in Chinese history.

Sarwono with Greg Thomopulos, FIDIC President 2009-2011 (USA)

Beijing Hotel, 2005

2006 FIDIC World Annual Conference
Budapest, Hungary.
Hotel Intercontinental, 24-27 September 2006

In 2006, I joined the FIDIC Annual Conference in Budapest, Hungary. The name of this famous city which has two parts Buda and Pest. I visited the Fishermen Bastion which has special towers with special roof.[24] In the first time I was involved in the FIDIC Group of Asia Pacific was during this 2006 GAM. In this conference, for the first time I attended the meeting of Asia Pacific Group meeting where I met Kiran Kapilla[25] from India who

. Fishermen Bastion, Budapest

[24] The Halászbástya or Fisherman's Bastion is one of the best-known monuments in Budapest, located near the Buda Castle, in the 1st district of Budapest.
History suggests Fisherman's Bastion owes its name to a medieval fishermen's guild, who lived under the castle walls in Watertown (Vizivaros), and were held responsible for preserving this part of the city. Truly a case of "if these walls could talk", the castle walls were originally built to protect the castle and surrounding district from conquerors, and over the last 500 years have been destroyed and rebuilt many times, firstly by the Ottomans, then retaken by the Austrians, before the Nazi's and Russian's to their turn and destroying this iconic location, before it was finally returned to the Hungarians.

[25] Kiran Kapila is a Civil Engineer, a Fellow of the Institution of Engineers of India, a Chartered Civil Engineer, a Member of American Society of Civil Engineers and a Fellow of New York Academy of Sciences. During his 40-year career, Kiran has served the Municipal

would later be elected as the FIDIC Board Member in Barcelona 2013. I also had chance to have a dinner together with Jorge Diaz Padilla and Richard Kell. I also had the chance to take a photo with Jorge Diaz Padilla[26] (Mexico) who had passed away in 2022.

Sarwono with Jorge Diaz Padilla, FIDIC President 2005-2007 (Mexico)

Corporation of Delhi, the Airports Authority of India and thereafter set up in 1987 the Intercontinental Consultants and Technocrats Pvt. Ltd (ICT).
Kiran has profound knowledge of FIDIC Conditions of Contract and has guided a number of projects as Engineer. He is a member of FIDIC QBS Committee. He was President of Consulting Engineers Association of India (CEAI) between 2007-2010 and organized the FIDIC Conference 2010.

[26]Jorge Diaz Padilla was born in Mexico City in 1946, civil engineer Jorge was president of FIDIC from 2005-2007 and was the first and to date only president from Latin America since the organisation's foundation in 1913. In 1974 he started his consulting company, Systec, which has been involved in many leading engineering projects, including auditing the quality of housing financed by the National Housing Agency of Mexico and restoring the Metropolitan Cathedral of Mexico City. As president and CEO of Systec, Jorge became involved with Mexico's association of consulting firms, Cámara Nacional de Empresas de Consultoría (CNEC) and also FIDIC where he was elected to a two-year presidential term in 2005.
At FIDIC's Mexico annual conference in 2019, Jorge received the prestigious Louis Prangey Award, the highest recognition for dedicated service to FIDIC.

2007 FIDIC World Annual Conference
Suntec International Convention and Exhibition Centre, Singapore, 9-13 September 2007

In 2007, I came to Singapore to attend the FIDIC Annual Conference. In during that occasion, Erie Heryadi (now the President of INKINDO 2023-2028) and Ongkosucahyo, Senior from INKINDO conducted a discussion with Peter Boswell and finalised the payment of membership fee which for some reason was paused. Since then, INKINDO became an active member again.

. Thomas Stamford Raffles, Singapore

In this conference, which was also opened officially by the Minister Mah Bou Tan, was attended by more than 500 delegates from more than 100 Membership Associations from all over the world. I took a photograph with John Boyd[27] (Canada).

[27] Dr. John Boyd, P,Eng. of Canada has been elected to the one vacant seat on the FIDIC Executive. The election was hotly contested among three other candidates from Portugal, India and the United Kingdom. Dr. Boyd is a former ACEC Chair and is currently the Chair of the Steering Committee of the Canadian government-supported Career Awareness Project aimed at high school and university students. The project has receivedmajor funding from Human Resource Development Canada.

Sarwono with John Boyd, FIDIC President 2007-2009 (Canada)

Suntec, Singapore; 9-13 September 2007

Dr. Boyd has degrees in engineering with a specialty in rock mechanics from the University of Toronto and the University of London (England). He is a senior Principal and Vice President of Operations of Golder Associates Corporation, a consulting firm consisting of 2.750 staff located in more than 90 permanent offices in 20 countries throughout North and South America, Australasia, and Europe.
Project responsibilities have provided Dr. Boyd with the opportunity to work in South Africa, Canada and the United States, Bolivia, Pakistan, Ecuador, the United Kingdom, Ireland and Turkey. Both his personal experience and his role in a global engineering company make him a strong proponent for international cooperation and capacity development. He is also keenly interested in engineering education and in bringing young people into our industry

2008 FIDIC World Annual Conference
Quebec City, Canada.
Chateau Frontenac, Québec; 7-10 September 2008

The Chateau Frontenac Hotel

. The Niagara Falls, Ontario

The next FIDIC Conference was conducted in Canada, Quebec City a very beautiful city with French speaking residents. The conference was held at the French-inspired Chateau Frontenac Hotel which is a famous landmark of in Quebec City.

On my way home after attending the conference, I had the opportunity to visit the Niagara Falls from the Canadian side at Ontario.

Chateau Frontenac, Québec; 7-10 September 2008

2009 FIDIC World Annual Conference
London, UK.
Queen Elizabeth II Conference Centre, 13-16 September 2009

Tower Bridge of London

A huge challenge faced the City of London Corporation: how to build a bridge downstream from London Bridge without disrupting river traffic activities. To generate ideas, the Special Bridge or Subway Committee was formed in 1876, and a public competition was launched to find a design for the new crossing.

It wasn't until October 1884 however, that Sir Horace Jones, the City Architect, in collaboration with Sir John Wolfe Barry, offered the chosen design for Tower Bridge as a solution.

2010 FIDIC World Annual Conference
New Delhi, India.
Vigyan Bhawan, 19 - 22 September 2010

Sarwono at Taj Mahal, Accra, 2010

The Taj Mahal[28] mausoleum is a UNESCO World Heritage Site in 1983 for being "the jewel of Muslim art in India and one of the universally admired masterpieces of the world's heritage".

Sarwono at Vigyan Bhavan, 2010

Vigyan Bhawan is a premier conference centre of Government of India in New Delhi. Built in 1956, over the years it has been the venue of conferences of national and international seminars and award ceremonies attended by world leaders.

[28] The Taj Mahal is an ivory-white marble mausoleum on the right bank of the river Yamuna in Agra, Uttar Pradesh, India. It was commissioned in 1631 by the fifth Mughal emperor, Shah Jahan (r. 1628–1658) to house the tomb of his favourite wife, Mumtaz Mahal; it also houses the tomb of Shah Jahan himself. The tomb is the centrepiece of a 17-hectare (42-acre) complex, which includes a mosque and a guest house, and is set in formal gardens bounded on three sides by a crenellated wall.

2011 FIDIC World Annual Conference
Davos, Switzerland.
Davos Congress Centre, 2-5 October 2011

Sarwono and Enrico Vink, Geneva

Sarwono at Davos (2011)

This World Annual Conference 2011 first planned to be conducted in Tunis, but because some political and safety reasons moved to Davos Switzerland. This was my first visit to FIDIC Head Office at World Trade Centre in Geneva and met Enrico Vink, the FIDIC Managing Director.

In this conference I presented my presentation in the Workshop 4 together with Phil Jenkinson, titling:

"*Employer's New" Obstacle: Commencement Date and Related Clauses*".

2012 FIDIC World Annual Conference
Seoul, Korea.
COEX Convention and Exhibition Centre, 9 - 12 September 2012

COEX Convention & Exhibition Center located in Samseong-dong of Gangnamgu district, Seoul, is one of South Korea's convention and exhibition centers.

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Gyeongbokgung also is known as Gyeongbok Palace, the main royal palace of the Joseon dynasty. Built in 1395, it is located in northern Seoul, South Korea. built by the Joseon dynasty.

2013 FIDIC World Centenary Conference
Barcelona, Spain.
Palau de Congressos de Catalunya, 16-18 September 2013

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Sarwono in FIDIC 100 Years Conference, 2013

FIDIC 100 Years Celebration

Sagrada Familia, Barcelona

Sagrada Família is a large unfinished Roman Catholic church in Barcelona, which was designed by the Spanish architect Antoni Gaudí (1852–1926)

2014 FIDIC International Infrastructure Conference
Rio de Janeiro, Brasil.
Royal Tulip Hotel, 28 September – 01 October 2014

Sarwono at Cristo Redentor Statue, Rio de Janeiro 2014

Cristo Redentor, is an Art Deco statue of Jesus Christ in Rio de Janeiro, Brazil, created by French sculptor Paul Landowski and built by Brazilian engineer Heitor da Silva Costa, in collaboration with French engineer Albert Caquot. Romanian sculptGheorghe Leonida sculpted the face. Constructed between 1922 and 1931, the statue is 30 metres (98 ft) high, excluding its 8-metre (26 ft) pedestal.

Sarwono, Eivor Challet, Silvia Fossati, 2014

2015 FIDIC World Annual Conference
Dubai, UAE
World Trade Centre, 13-15 September 2015

Burj El Arab, Dubai, UAE 2015

Burj Khalifa, Dubai, UAE 2015

Sarwono in Arab Costum

2016 FIDIC World Annual Conference
Marrakesh, Marocco.
Palais des Congrès de Marrakesh, 25-27 September 2016

Gare de Marrakech, 2016

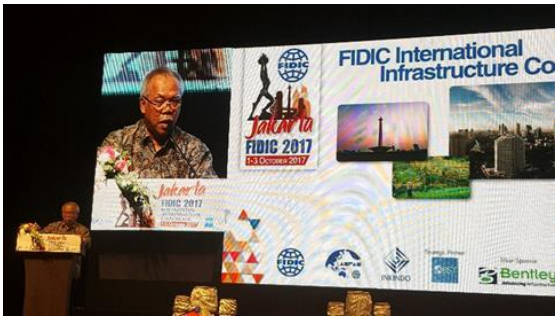
Sarwono, Marakesh 2016

Sarwono, Market at Marrakesh 2016

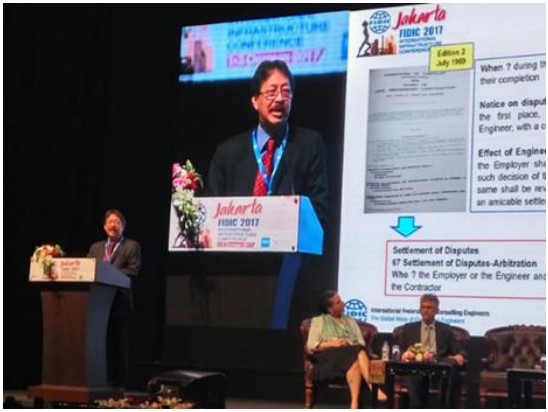
Nelson Ogunshakin, Helen; Sarwono;Jorge Diaz Padilla, Patricia. 2016, Marakesh

2017 FIDIC World Annual Conference
Jakarta, Indonesia.
Jakarta International Conference Centre, 1-3 October 2017

Minister of National Planning, Prof. Bambang PS Brodjonegoro, 2017



Minister of Public Works and Housing, Dr Basuki Hadimuljono, 2017



Prof. Sarwono Hardjomuljadi, in panel with Aisha Nadar and Zoltan Zohanji2017

Jimmy Sardjono, Liu Luobing, Moncef Ziani, Sarwono, Alain Bentejac, Nugroho, Endra Saleh, John P. Pantouw

Sarwono and Bill Howard (President 2019-2021)

National Monument (2017)

[29]

[29] William Howard is Executive Vice President of CDM Smith, a global consulting, engineering and construction company with over 100 offices around the world. He is currently President of the firm's Asia Pacific-Middle East Services Group. Bill has served in the past as ACEC's liaison to FIDIC; he has served on FIDIC's Strategic Planning Committee; chaired the Planning Committee for FIDIC's conference in Budapest Hungary. He also co-chaired the FIDIC Programme Committee for the Centenary Conference.

2018 FIDIC World Annual Conference
Berlin, Germany.
Hotel Inter Continental, 9 – 11 September 2018

Kaiser Wilhelm Memorial Church, Berlin, 2018

The original church on the site was built in the 1890s. It was badly damaged in a bombing raid in 1943. The present building, which consists of a church with an attached foyer and attached chapel, was built between 1959. The damaged spire of the old church has been retained and its ground floor has been made into a memorial hall.

The Memorial Church today is a famous landmark of western Berlin, and is nicknamed *"der hohle Zahn"*, meaning "the hollow tooth"tooth

Sarwono and Enrico Vink, 2018

Brandenburger Tor, 2018

The Brandenburg Gate is an 18th-century neoclassical monument in Berlin, built on the orders of Prussian king Frederick William II after restoring the Orange power by suppressing the Dutch popular unrest.

2019 FIDIC World Annual Conference
Mexico City, Mexico.
Hotel Inter Continental Presidente, 8 – 10 September 2019

Guadalupe, 2019

In 2019 I visited Mexico to join the FIDIC World Annual Conference and also for applying for FIDIC Board member the third time which in this time I was successfully win the election and become the Board Member together with Luis Villaroya (Spain). During this event Alain Bentejac handed over the president and chair role to William Howard. In this occasion I had chance to visit Guadalupe[30] as well as Teotihuacan[31].

Sarwono took a photograph with Alain Bentejac[32] who was the President of FIDIC 2017-2019.

[30] Our Lady of Guadalupe also known as the Virgin of Guadalupe, is a Catholic title of Mary, mother of Jesus associated with a series of five Marian apparitions, which are believed to have occurred in December 1531, and a venerated image on a cloak enshrined within the Basilica of Our Lady of Guadalupe in Mexico City. The basilica is the most-visited Catholic shrine in the world, and the world's third most-visited sacred site.

[31] Teotihuacán: "The City of the Gods" the most important and largest city of pre-Aztec central Mexico, located about 30 miles northeast of Mexico City. It encompassed some 8 square miles, at the time, one of the largest cities in the world. It was the region's major economic as well as religious centre. Teotihuacán was designated a UNESCO World Heritage site in 1987.

[32] Alain Bentéjac is Co-Chairman of ARTELIA, a firm that is the result of the merger between COTEBA and SOGREAH, and that specialises in the area of engineering and project management in the fields of construction, water, environment, urban development, and public transport systems. He has served as the Vice President of FIDIC since October 2014. He has been appointed as the President-Elect in September 2016 and began his two year-term as President of FIDIC in October 2017-2019. Bentéjac has been President of Syntec-Ingénierie,

Teotihuacan, 2019

Sarwono and Alain Bantejac
(President 2017-2019)

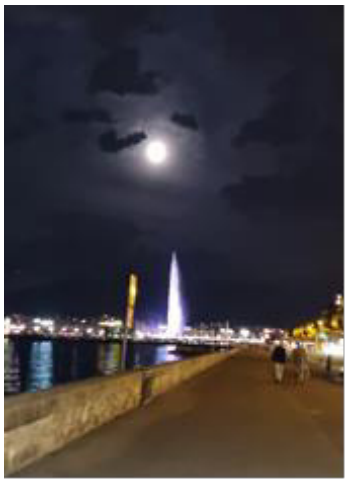
Sarwono and Enni at Indonesian
Embassy Mexico, 2019

the French engineering association, from 2005 to 2012. He has been a member of the Task Force which was implemented in 2008 to coordinate relations between FIDIC and EFCA.

2022 FIDIC World Annual Conference
Fairmont Grand Hotel, Geneva, Switzerland 2022

Jet d'Eau in the morning, 2022

The Jet d'Eau (Water-Jet)[33] is a large fountain in Geneva, Switzerland and is one of the city's most famous landmarks, being featured on the city's official tourism web site and on the official logo for Geneva. Jet d'Eau in the morning and Jet d'Eau in the night have a great image.



Jet d'Eau in the night, 2022

[33] Jet d'Eau, literally meaning '**water jet**', is the huge Fountain on the Geneva Lake, in the city of Geneva, Switzerland. Jet d'Eau is one of the tallest fountain in the world. Originally, in **1886** they built the fountain to control and release the excess pressure of a hydraulic plant at La Coulouvrenière. Shortly it became remarkable symbol of the city and so it was amplified and relocated to the center of the Lake.

Sarwono and Pablo Bueno
(President 2013-2015)

Sarwono and Jaewan Lee
(President 2015-2017)

In this 2022 FIDIC conference in Geneva Sarwono had chance to make photographs with Pablo Bueno[34] FIDIC President 2013-2015 and Jaewan Lee[35] FIDIC President 2015-2017.

[34] Pablo Bueno is the President and CEO of TYPSA, with headquarters in Spain and 47 offices across the world. He has been a member of the FIDIC Executive Committee since 2007, was President 2013 - 2015. He is also an executive member of the Spanish Tunnelling Association and Member of the Spanish Institution of Civil Engineers. He finished his MSc in 1988 and completed an Executive Management course at IESE Business School in Madrid. He accrued experience in design and construction supervision in Spain and the Middle East. He later become Managing Director and then CEO in 2004. TYPSA now has over 2000 employees working in the fields of civil engineering, buildings, water and the environment, mainly in Latin America and the Middle East, but with ongoing projects also in Spain, Europe, USA and Africa. of the European Federation of Consulting Engineers (EFCA) for 5 years.

[35] Jae-Wan Lee is Chairman and CEO of Sekwang Engineering Consultants Co., Ltd. in Korea. He concurrently serves as Visiting Professor of Yonsei University; Board Member of the Korea Institute of Ocean Science & Technology; President of Korea Maritime Foundation; and Chairman of Korea Engineering & Consulting Association (KENCA). Jae-Wan has been a Member of the Executive Committee of FIDIC since 2009 and is currently serving as the President of the Federation.

His educational background include a DHERS (Ph.D Equivalent) in transport and a DESS in transport and logistics from the University of Paris 1, France, a CES (M.Sc.) in Transport and Infrastructure from École Nationale des Ponts et Chaussées in Paris, France, and a B.Sc. in Civil Engineering from Yonsei University in Seoul, Korea.

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2019

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2023

"*Those who know, do it. Those who understand, teach*".
Aristotle

The FIDIC Asia-Pacific Contract Users' Conferences

Starting from 2008, some FIDIC Conditions of Contract Trainings coordinated by me in collaboration with INKINDO (Indonesian Consulting Companies Association) which is the Member Association of FIDIC were being conducted.

In the first activity in 2009, the FIDIC Module 1 Training Programme was officially opened by HE Djoko Kirmanto, the Minister of Public Works at that time and attended by more than 150 participants, ranging from contractor, employer, consultant, academician, and the lawyer. In this event Richard Kell FIDIC President 2003-2006 and Peter Boswell FIDIC General Manager representing FIDIC were also involved and attended the 2(two) days training.

Since then nearly every year similar trainings were conducted with involvement from senior FIDIC Accredited Trainers such as Donald Charrett from Australia and Geoffrey Smith from France who always attended also by Peter Boswell.

Besides the activities within the country, I actively participated by sharing the knowledge to the participant of the First FIDIC Contract Users' Conferences in Hong Kong, Shenzen, Singapore, Malaysia, Viet Nam until the latest in person conference in 2019 also in Hong Kong.

FIDIC Asia-Pacific Contract Users' Conferences from 2009 to 2022

2009

The First FIDIC Asia-Pacific Contract Users' Conference Hong Kong.

On 20-30th June 2009 the First FIDIC Asia-Pacific Contract Users' Conference was conducted at the Intercontinental Hotel, Kowloon, Hong Kong. In this conference I conributed in the session "FIDIC Construction and Plant and Design Build Contracts-Recent Experience" together with David YK Leung (Hong Kong), Rusli bin Idrus (Malaysia) and Paul Darling (UK), titling "**The metamorphosis of FIDIC GCC Clauses and the Main Causal Factors of Construction Claims in Indonesia".** I explained the problems faced when using the design-build contracts without understanding the philosophy of the design-build contract which is actually not the lump-sum contract as what is Employer's mind.


2009

Dates: 29 30 June 2009 •
Venue: InterContinental Hotel, Hong Kong

09:15 **FIDIC Construction and Plant and Design-Build Contracts – Recent Experience**

FIDIC's Construction and Plant and Design-Build Contracts are widely used in both the private and public sectors.

- Understand key aspects of the contracts including measurement and payment, the role of the engineer and variations
- Discuss why these conditions of contract are widely used in a variety of different jurisdictions and circumstances
- Adapt the contract to fit a particular project through appropriate drafting of specific provisions

Chair

Paul Darling QC, Keating Chambers, UK

Panellists

David Y K Leung, *Former Contract Adviser,* Major Works Office of Highways Department, LCP Lawyers, Hong Kong

Dr. Sarwono Hardjomuljadi, *Vice Chairman,* Indonesian National Board for Construction Services Development, Indonesia

Rusli bin Idrus, *Managing Director,* TNB Fuel Services Sdn Bhd, Malaysia


THE METAMORPHOSIS OF FIDIC GCC CLAUSES AND THE MAIN CAUSAL FACTORS OF CONSTRUCTION CLAIMS IN INDONESIA

by Dr.Sarwono Hardjomuljadi

FIDIC Asia-Pacific Contract User's Conference 2010, Intercontinental Hotel, Hong Kong, 29th & 30th June 2009


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FIDIC Asia-Pacific Contract Users' Conference

The essential review of the latest developments in FIDIC contracts brought to you by international FIDIC experts

29th – 30th June 2009 • InterContinental Hotel, Hong Kong

Register by 5th June 2009 to save USD200

Following 21 years of success in London, the premier FIDIC Contract Users' Conference is coming to Hong Kong!

Don't miss this unique opportunity to:

- Uncover best practice for the operation of FIDIC contracts in Asia-Pacific by sharing the recent experiences of contractors, lawyers and banks in the region
- Update your understanding of the full range of FIDIC contracts and the latest developments, including:
  - The Design-Build-Operate Form
  - MDB Harmonised Edition
  - The new draft Construction Subcontract
  - Construction, Plant and Design Build contracts
  - EPC/Turnkey contract
- Extend your international network of contacts involved in FIDIC contracts in the Asia-Pacific region
- Discuss the upcoming amendments to the FIDIC suite of contracts with the exclusive first opportunity to hear directly from those responsible for drafting the updated contracts
- Resolve disputes in a timely and cost-effective manner with an analysis of the DAB process and alternative dispute resolution tools
- Hear from 10 international FIDIC experts from 11 countries including Hong Kong, The Philippines, Japan, Singapore, Thailand, Indonesia and Malaysia

Your panel of international FIDIC experts includes:

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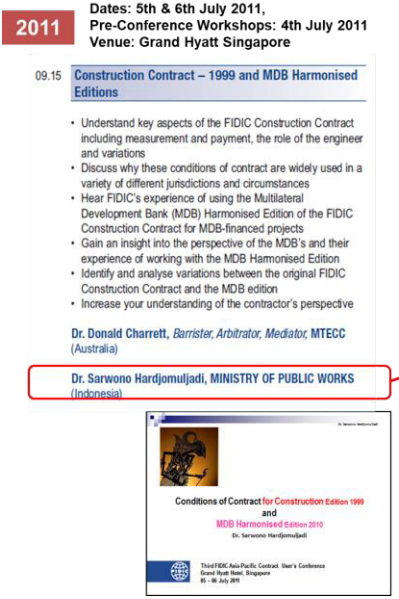
2010
The Second FIDIC Asia-Pacific Contract Users' Conference Beijing, China.

The Second Conference was held in Beijing, located at the JW Marriott Hotel, on 24th – 25th June 2010. I was involved in the Session on "*Effectively Using the FIDIC EPC/Turnkey Contract in Asia-Pacific*", together with William Godwin, and presented a paper titling "*FIDIC EPC/Turnkey Contract, understanding and its implementation in the power plant projects in Indonesia*". I shared the experience on using FIDIC EPC/Turnkey Contract the power plant projects in Indonesia, its contractual problems and how to handle it.

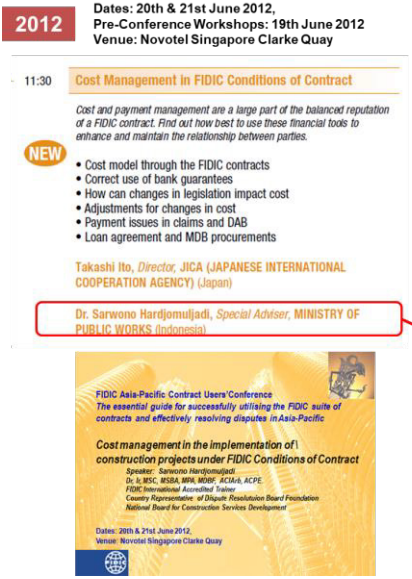
2011
The Third FIDIC Asia-Pacific Contract Users's Conference Grand Hyatt, Singapore

Conducted in 5-6 July 2011, at Grand Hyatt Hotel, Singapore. I was in the Session "*Construction Contract 1999 and MDB Harmonised 2010*", together with Donald Charrett, Australia presenting "*FIDIC Conditions of Contract for Construction 1999 and MDB Harmonised Edition in Indonesia*", analysed the differences between first edition of FIDIC Conditions of Contract for Construction 1999 (Red Book) and MDB Harmonised Edition 2010 (Pink Book).



2012
The Fourth FIDIC Asia-Pacific Contract Users' Conference
Novotel, Clark Quay, Singapore.

The fourth conference was conducted on 20-21 June 2012, at the Novotel Clark Quay, Singapore. I was in the session together with Takashi Ito (Japan) from JICA titling "*Cost Management if FIDIC Conditions of Contract*", with presentation titling "*Cost Management in the construction project under FIDIC Conditions of Contract"*. I shared my experiences on using FIDIC Conditions of Contracts, the way in handling the cost management on changing in legislation, cost and claims from the contractor.



2013
The Fifth FIDIC Asia-Pacific Contract Users' Conference
Sunway Resort, Kuala Lumpur, Malaysia.

The conference on 10-13 June 2013 was held at the Sunway Resort, Kuala Lumpur. I presented in three session, the first session was in the first day on Panel Discussion "The use of FIDIC Forms in the Southeast Asia Region" together with Michael Mortimer Hawkins, Sweden, one who gave deep understanding to me on FIDIC Conditions of Contract at the Hydropower Plant Construction Training in 1993 in Stockholm, Sweden; Dato Sri Dr, Judin Abdul Karim, CEO of Construction Industry Development Board (CIDB), Malaysia; Datuk Sri Azman Mohd, CEO Tenaga Nasional Berhad, Malaysia.


2013 Dates: 11th & 12th June 2013,
Workshops: 10th & 13th June 2013
Venue: Sunway Resort Hotel & Spa, Kuala Lumpur, Malaysia

09:05 Opening Panel Session - The Use of FIDIC Forms in the South East Asia Region

This presentation will take the form of a discussion on the introduction and use of the FIDIC forms of contract in the SE Asia region and why their use is spreading amongst the ASEAN nations, and will set the scene for the complete conference programme.

Moderator:
Michael Mortimer-Hawkins, *Special Advisor*, **FIDIC CONTRACTS COMMITTEE** (Sweden)

Panellists:
Dato' Sri Ir. Dr. Judin Abdul Karim, *Chief Executive*, **CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)** (Malaysia)

Datuk Seri Ir. Azman Mohd, *President/Chief Executive Officer*, **TENAGA NASIONAL BERHAD** (Malaysia)

Dr. Sarwono Hardjomuljadi, *Special Adviser*, **MINISTRY OF PUBLIC WORKS** (Indonesia)

Ir. Wong Loo Min, *President*, **THE ASSOCIATION OF CONSULTING ENGINEERS MALAYSIA (ACEM)** (Malaysia)

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The essential guide for successfully utilising the FIDIC suite of contracts and effectively resolving disputes in Asia-Pacific

Dates: 11th & 12th June 2013, Workshops: 10th & 13th June 2013
Venue: Sunway Resort Hotel & Spa, Kuala Lumpur, Malaysia

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Book by 17th May and get USD $201

Don't miss this unique opportunity to gain expert advice on how you can:
- Get the latest updates to the **FIDIC suite of contracts**
- Examine the **roles of the parties in FIDIC contracts**: Engineers, Employers and Contractors
- Keep abreast of the latest **litigation, arbitration** and **dispute resolution** techniques specific to the Asia-Pacific region
- Resolve the differences between the different FIDIC contracts and their **application in the Asia-Pacific region**

Also benefit from 3 **fully interactive workshop sessions**:
- **Workshop A** – Introduction to the FIDIC Suite of Contracts
- **Workshop B** – Construction Claims & Defence
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Your registration includes a free copy of:
- FIDIC Procurement Procedures Guide, 1st Edition 2011

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- DATUK SERI IR. AZMAN MOHD, *President/ Chief Executive Officer*, **Tenaga Nasional Berhad** (Malaysia)
- MICHAEL MORTIMER-HAWKINS, *Special Advisor*, **FIDIC Contracts Committee** (Sweden)
- CHRISTOPHER WADE, *Special Advisor*, **FIDIC Contracts Committee** (UK)
- SIOBHAN FAHEY, *Member*, **FIDIC Contracts Committee** (Ireland)
- ZOLTÁN ZÁHONYI, *Member*, **FIDIC Contracts Committee** (Hungary)
- AXEL JÄGER, *Consulting Engineer, Member, VBI, FIDIC, DBF; Special Advisor*, **FIDIC Contracts Committee** (Germany)
- RICHARD KELL, *Senior Consultant*, **Cardno**; *Past President*, **FIDIC** (Australia)
- SEBASTIAAN HÖK, *Partner*, **HÖK, Stiegtmeier & Kollegen; FIDIC Adjudicator** (Germany)
- IR. WONG LOO MIN, *President*, **ACEM** (Malaysia)
- DR. SARWONO HARDJOMULJADI, *Special Adviser*, **Ministry of Public Works** (Indonesia)
- NOR AZLI SHAH, *Head of Shared Purchasing, Group Procurement Dept*, **Tenaga Nasional Berhad** (Malaysia)
- DAVID BROWN, *Partner*, **Clyde & Co** (France)
- RUSLI BIN IDRUS, *Director*, **RBI Consultants** (Malaysia)
- SALVADOR P. CASTRO JR., *Chairman*, **SP Castro and Associates Inc.** (Philippines)
- TIA STAREK, *Senior Associate*, **Clyde & Co** (Singapore)
- DR. ERNESTO DE CASTRO, *CEO*, **ESCA Incorporated** (Philippines)
- DATUK SUNDRA RAJOO, *Director*, **Kuala Lumpur Regional Centre for Arbitration** (Malaysia)
- PATRICIA-ANN PRODIGALIDAD, *Partner*, **ACCRALAW** (Philippines)
- PETER VAN ROOIJ, *Director*, **International Labour Organization (ILO)** (Indonesia)
- SHAMILA NEELAKANDAN, *Operations Director & Country Manager*, **HII International** (Malaysia)
- JUSTIN MORT, *Barrister*, **Keating Chambers** (UK)

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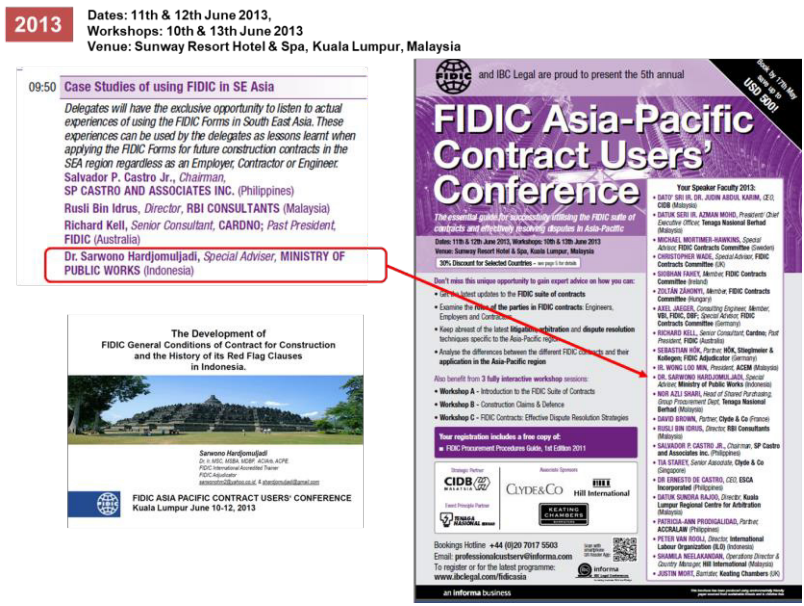
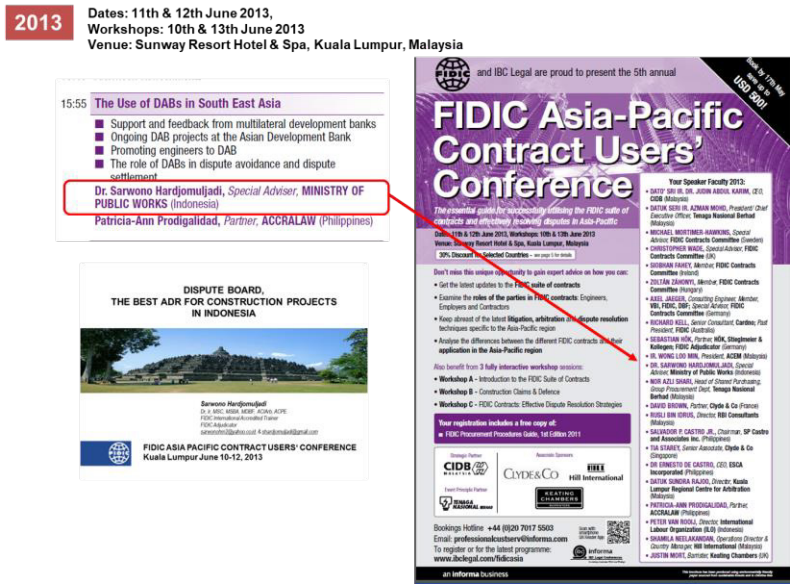
On the second day I presented in the session "*Case Studies of using FIDIC in Southeast Asia*", together with Salvador Castro, SP Castros Associates Inc., Philippines; Rusli bin Idrus, RBI Consutants, Malaysia and Richard Kell, Cardno, Australia, the former FIDIC President, with paper titling "T*he Development of*

FIDIC General Conditions of Contract for Construction and the History of Red Flag Clauses in Indonesia". I explained the developments on the use of FIDIC Conditions of Contract in Indonesia and its problems related with the so-called red flag clauses.

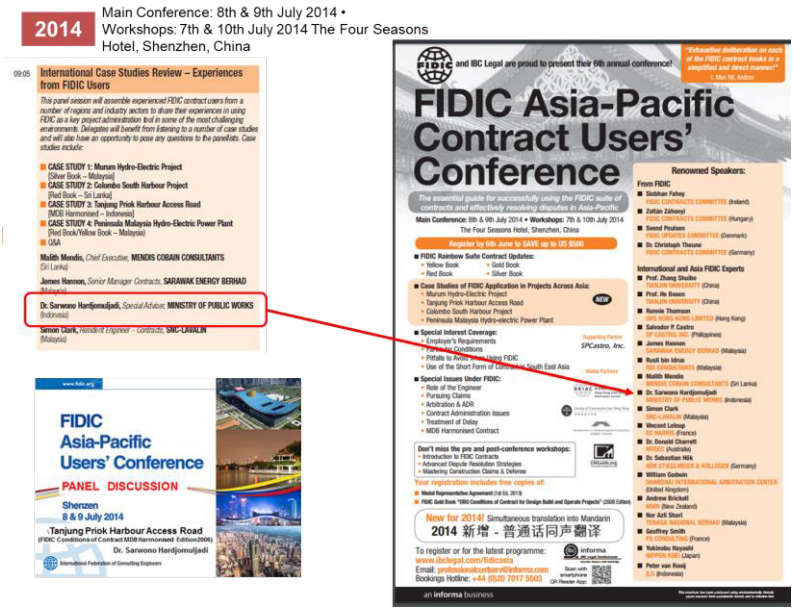


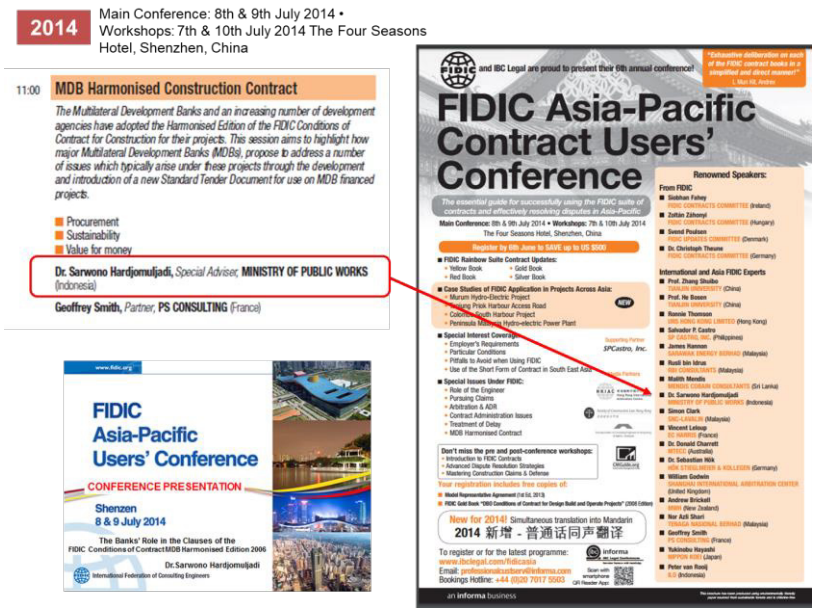


Third session on the same day, I presented in the session on "*The use of DABs in Southeast Asia"* together with Patricia Ann Prodigalidad, Accralaw, Philippines, one who was my classmates in the training of Dispute Adjudication Board in 2012 conducted by FIDIC together with Japan International Cooperation Agency (JICA) in Asian Development Bank Head Office in Manila. I presented a paper titling "*Dispute Board, The Best ADR for Construction Projects in Indonesia*". This was the first paper after I joined as a member of Dispute Resolution Board Foundation in 2012. Where I explained my experience on the use of DABs before its officially supported by the law of Indonesia no 2 Year 2017.

2014
Sixth FIDIC Asia-Pacific Contract Users' Conference
The Four Season Hotel, Shenzen, China

The conference was conducted on 8-10 July 2014 in Shenzen, China. I was involved in 3 sessions. The first session was a discussion panel on "*International Case Studies Review-Experiences from FIDIC Users*", the panellists were Malith Mendis, Mendis Cobain, Sri Lanka; James Hannon, Sarawak Energy Board, Malaysia; Simon Clark, SNC Lavallin, Malaysia. I shared my experience on using MDB 2010 for Tanjung Priok Harbour Access Road.

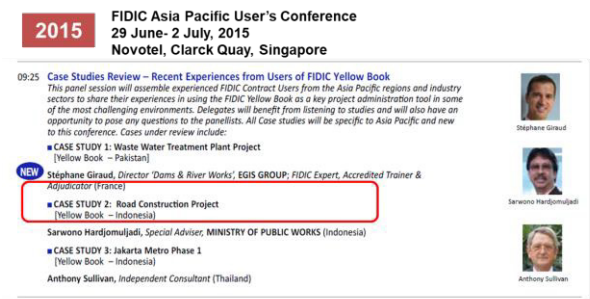




On the second day, I was involved in the session "*MDB Harmonised Construction Contract*" together with Geoffrey Smith, PS Consulting, France with the paper titling "*The Use of MDB Harmonised Edition 2010 in Indonesia*", and shared my experience on using MDB Harmonised Edition 2010 and its contractual disputes occurred during construction.

2015
Seventh FIDIC Asia-Pacific Contract Users' Conference
Novotel Clark Quay, Singapore.

The conference was held on 29 June-2 July 2015 at the Novotel Clarck Quay, Singapore. I was involved in two sessions, the first was a panel discussion on "*Recent Experiences from users of FIDIC Yellow Book"* together with Stephane Giraud, EGIS Group, France; Anthony Sullivan, Independent Consultant, Thailand, with the panel's topic of discussion "*The FIDIC Plant and Design Build 1999*",



On the second day I was at the session "The FIDIC Silver Book in Practice" together with Zoltan Zahonji, FIDIC Contract Committee, Hungary with the paper titling "FIDIC Silver Book in Practice" and shared the use of FIDIC Silver Book including the potential problems that may face contractually.


2015
FIDIC Asia Pacific User's Conference
29 June- 2 July, 2015
Novotel, Clarck Quay, Singapore
12:40 The FIDIC Silver Book in Practice
Discuss latest developments and the special features of the EPC/turnkey contract. How are the possibilities for the contractor to claim extensions of time and additional payment more limited than under traditional contracts? These and other key aspects of design-build contracting will be discussed, including:
Managing cost, time and performance risks on EPC projects
Employer's base design risk and Contractor design development risk
Allocation of site condition risk to the Contractor
Project finance requirements
Employer's strategies for managing risk
Contractor's responses to risk burden
The impact of force majeure on international projects
Case study
Questions & answers
Zoltán Záhonyi, Member, FIDIC CONTRACTS COMMITTEE (Hungary)
Sarwono Hardjomuljadi, Special Adviser, MINISTRY OF PUBLIC WORKS (Indonesia)
Zoltán Záhonyi
Sarwono Hardjomuljadi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The FIDIC Silver Book in Practice
Singapore
30 June/01 July 2015
Sarwono Hardjomuljadi
FIDIC Affiliate Member, FIDIC Accredited Trainer
sarwonohm2@yahoo.co.id
International Federation of Consulting Engineers


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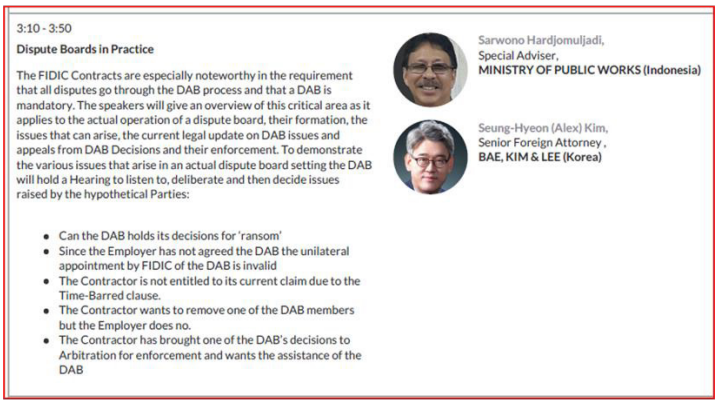
The Essential Guide for Engineering & Construction Law Professionals to Successfully Use the FIDIC Suite of Contracts, Manage Major Projects and Resolve Disputes
20+ Speakers, including:
Debevoise & Plimpton

2016
FIDIC Asia-Pacific Contract Users's Conference
Novotel Clarke Quay, Singapore

This conference was held in Singapore at the Novotel Clarke Quay, on 26-27 July 2016. I was involved in the session "*Dispute Board in Practices* "with Seung Hyun Kim, Bae-Kim and Lee, Korea, presented paper titled "*Asian Philosophy and Dispute Resolution Practice in Indonesia*". I put forward the eastern way of thinking which prioritizing the avoidance of disputes before it become formal disputes.

2016 Main Conference
26-27July, 2016.


3:10 - 3:50

Dispute Boards in Practice

The FIDIC Contracts are especially noteworthy in the requirement that all disputes go through the DAB process and that a DAB is mandatory. The speakers will give an overview of this critical area as it applies to the actual operation of a dispute board, their formation, the issues that can arise, the current legal update on DAB issues and appeals from DAB Decisions and their enforcement. To demonstrate the various issues that arise in an actual dispute board setting the DAB will hold a Hearing to listen to, deliberate and then decide issues raised by the hypothetical Parties:

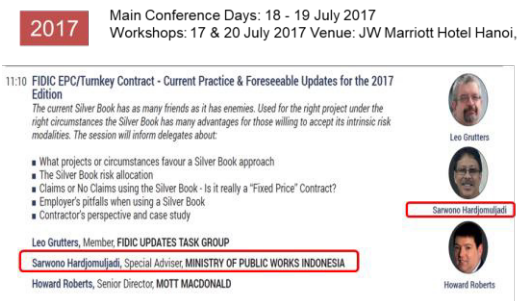
- Can the DAB holds its decisions for 'ransom'
- Since the Employer has not agreed the DAB the unilateral appointment by FIDIC of the DAB is invalid
- The Contractor is not entitled to its current claim due to the Time-Barred clause.
- The Contractor wants to remove one of the DAB members but the Employer does no.
- The Contractor has brought one of the DAB's decisions to Arbitration for enforcement and wants the assistance of the DAB

Sarwono Hardjomuljadi,
Special Adviser,
MINISTRY OF PUBLIC WORKS (Indonesia)

Seung-Hyeon (Alex) Kim,
Senior Foreign Attorney ,
BAE, KIM & LEE (Korea)

2017
Ninth FIDIC Asia-Pacific Contract Users' Conference
JW Marriot Hotel, Hanoi, Vietnam

The conference and workshop were conducted on 17-20 July 2017 at the JW Marriot Hotel, Hanoi, Vietnam. I was involved in three sessions this time. The first was on "*FIDIC EPC/Turnkey: Current Practice and Foreseeable Updates for the 2017 Edition*", together with Leo Grutters, Germany; Howard Roberts, UK, with the paper titling "*Current Practices of EPC Turnkey Project, Employer's pitfalls when using Silver Book*". I explained the Employer's pitfalls when using the Silver Book without understanding the correct principles.



In the new most popular Q & A Session, "*Ask the FIDIC Experts*". In Day 1 I was together with Jeremie Witt, Partner CMS, Malaysia and at Day 2 together with Donald Charrett, Australia and Sebastian Hoek, Germany, and presented the Case Study Example on "*Current Practice of FIDIC EPC/Turnkey Contract*".

12:25 **Ask the Experts Q&A Session**

Our "Ask the FIDIC Experts Q&A" session has become one of our most popular perennials with contract users from across the globe. Put simply, the FIDIC Contract Users' conference is your conference and this is therefore your opportunity to put your questions directly to acclaimed FIDIC experts and advisers for cutting edge and authoritative advice on any aspect of FIDIC. Our experts will try to address as many of your questions as possible during the two days of the event and these can be submitted to the experts panel in a number of ways. You can:

Jeremie Witt, Partner, **CMS**
Sarwono Hardjomuljadi, Special Adviser, **MINISTRY OF PUBLIC WORKS INDONESIA**


Jeremie Witt


Sarwono Hardjomuljadi

17:35 **Ask the FIDIC Experts Q&A Session**

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- Ask for the microphone and put your questions live to our panel on stage
- Submit a question through Slido and have this answered in real time
- Tweet us your question using the hashtag #FIDICQ&A
- Email a complex question in advance to michele.costa@informa.com so this can be addressed by our experts at the event havinggiven it careful consideration in the run-up to the event


Donald Charrett


Sebastian Hök


Sarwono Hardjomuljadi

2018
FIDIC Asia-Pacific Contract Users's Conference
Novotel Clarke Quay, Singapore

The conference was held in Singapore at the Novotel Clarke Quay, Singapore. I was involved in the session "*Identifying & Addressing FIDIC Challenges in Asia*" with Donald Charrett, Australia, by presenting paper on "*Dispute Board in the Indonesian Law No 2 Year 2017*". And also gave one presentation on "*Alternative Dispute Resolution and The Asian Culture (Dispute Board in the Indonesian Law No 2 Year 2017)".* Indonesia was the first country in the World introducing the law on Dispute Avoidance and Adjudication Board.

2019
Eleventh FIDIC Asia-Pacific Contract Users' Conference Hong Kong

The latest conference in person just before the Covid 19 pandemic, was conducted at the Novotel Century, Hong Kong. I presented the paper titling "*DAAB's Role Under FIDIC Conditions-Current Practices and The New rules*" together with Nicholas Brown, Pinsent Mason, UK and Siobhan Fahey, FIDIC Contract Committee, Ireland. I also shared my experience on using DAAB after the issuance of Indonesian Regulation No 2 Year 2017.

In June 2019 a further step was taken by FIDIC at the FIDIC Asia Pacific Contract Users' Conference where the first edition of Golden Principles was launched. The FIDIC Golden Principles (First Edition 2019) is a 12-page guide setting out reasons to the same five Golden Principles and guidance on how to modify the General Conditions in the Particular Conditions to comply with FIDIC standards.

The said five Golden Principles are:
GP1: The duties, rights, obligations, roles and responsibilities of all the contract participants must be generally as implied in the General Conditions, and appropriate to the requirements of the project.
GP2: The Particular Conditions must be drafted clearly and unambiguously.
GP3: The Particular Conditions must not change the balance of risk/reward allocation provided for in the General Conditions.
GP4: All time periods specified in the contract for contract participants to perform their obligations must be of reasonable duration.
GP5: Unless there is a conflict with the governing law of the contract, all formal disputes must be referred to a Dispute Avoidance/Adjudication Board (or a Dispute Adjudication Board, if applicable) for a provisionally binding decision as a condition precedent to arbitration.

"Ask not what your country can do for you – ask what you can do for your country."
John F. Kennedy

CONCLUSION

I am proud of my efforts which resulted in the following achievements:

The use of FIDIC Conditions of Contract
Previous:
FIDIC Conditions of Contract is not applied fully as per original but has been mutilated to the benefit of one of the party.

Now:
Use the FIDIC Conditions of Contract fully as original and keep unchanged, where the Government of Indonesia adopted FIDIC Principle and only add some in the Particular Conditions

Government encourages the use of FIDIC Conditions of Contract as a General Conditions for their project using FIDIC Conditions of Contract unchanged for the international project and using National Standard form of contract which also adopt the FIDIC contract principles.

Project Risks
Previous:
All project risks to be borne to the Contractor especially for national lump sum fixed price contract agreement.

All obligations of employers without any time limit for compensation to the contractor if they delay on issuing payment to contractor etc.

Now:
The contract agreement of national projects follows the balance risks of principal responsibility of both parties.

All obligations of users and service providers have time limit based on the contract agreement and apply sanctions if they are not fully comply stated in the agreement.

Contract agreement for national projects
Previous:
The clauses of contract agreement for national project are a burdensome to contractors.

Now:
The contractors will get some compensation for the delay in the provision of work land, compensation for delays in payment, etc.

Consultant's services
Previous:
The consultant provides supervision services in lumpsum contract without any additional cost for the delayed project due to Contractor's fault.

Now:
The consultant provides supervision services based on duties "Skill and Care" instead of 'Fit for Purpose", means that the consultant will get additional payment if any delayed project due to contractor's fault.

Understanding of FIDIC Conditions of Contract
Previous:
No training about FIDIC Conditions of Contract to government staff, auditors

Now:
The government request the training for understanding of FIDIC Conditions of Contract including stakeholders such as auditors:

State Development Audit Agency (BPKP) and Corruption Eradication Commission (KPK)

Because FIDIC GCC is always evolving from time to time, continuous training is needed to increase the knowledge and understanding of users and the ability to interpret requirements is very necessary in handling a construction contract.

Using Dispute Avoidance Principle

Previous:
FIDIC Conditions of Contract 1999 stated about dispute avoidance, but all contract agreements do not implement the avoidance, and delay on appointing dispute board.

Now:
After the issuance of Law No 2 Year 2017, Dispute Avoidance and Adjudication Board (DAAB) has been following up for international project funded by International Financing Institutions and for National Project using the Government owned budget as well as State Enterprises Budget.

They appointed the Dispute Board starting of the project (Standing Dispute Board) but several projects still use ad-Hoc Dispute Board due to less understanding of the benefit using standing Dispute Board.

There is awareness on the part of the government that the main purpose of a contract is to finish the work not only to “physical completion” but also not to leave prolonged “administrative problems”.

Translation of FIDIC Conditions of Contracts

Previous:
Translation being made by everybody who needs the translation without considering the expertise of the translator.

Now:
Government of Indonesia give endorsement to Indonesian language translation of FIDIC Document by me under license of FIDIC and also realise the importance of Indonesian translation for education of the stakeholder of the construction activities on having the same understanding and interpretation.

Besides FIDIC Rainbow Series 1st Edition 1999 and MDB Harmonized Edition 2010, currently I am translating FIDIC Red, Yellow and Silver Book 2nd Edition 2017 reprinted 2022 as well as White Book 2017, Green Book 2021. Many books on Construction Contract, Management of Claim and Dispute Resolution in Indonesian Language by myself also acknowledged by Directorate General of Higher Education of Indonesia as textbook for Graduate Student of Construction Management as well as Graduate Student of Construction Law in Indonesia.

Inhouse training

Previous:
Many trainings and seminars conducted by many peoples and institutions who are not competence.

Now:
Government Institutions realize the importance to have seminars by competence experts and some request for several inhouse training to be conducted by myself as accredited trainer acknowledged by FIDIC and dissemination by the competence expert to the Employer, Contractor, Engineer, Auditor and most importantly Government Official, the Government support to adopt the FIDIC philosophy as fair and balanced contract.

Education

Previous:
No education related to Construction Law in Indonesia.

Now:
I established the first master's degree program of Construction Law in Indonesia in my Pekalongan University (UNIKAL), to support the use of FIDIC Conditions of Contract in Indonesia. This program is supported by lecturers who are international practitioners and experienced in FIDIC Conditions of Contract i.e., Toshihiko Omoto, Donald Charrett, Nicholas Gould, Jeremy Glover, Murray Armes, Giorgiana Teccuci, Giovanni Di Folco, Barry Tozer, Malith Mandis, James Booker, Zhang Suibo, Salvador Castro, Husni Madi, Anil Changaroth, Nguyen Nam Trung.

Publication

Previous:
No publication related to FIDIC Conditions of Contract in Indonesian Language.

Now:
There are many publications related with FIDIC Conditions of Contract and the latest is a book of Construction Contract Dictionary with reference to FIDIC Condition of Contract by Sarwono Hardjomuljadi, which is published by the first rank publisher BALAI PUSTAKA, endorsed by Minister of State-Owned Corporation and Minister of Public Works and Housing as well as Director General of Higher Education. Beside that I support as reviewer many articles in national and international journals by practitioners and students.

Prof. Sarwono Hardjomuljadi

Dr, Ir, MSc (Civ); SH, MH (Law); MCIArb, FIIArb, FICArb, FIDSK (ADR); PE-MASCE, IPU, ACPE (PEng)

Sarwono born in Pekalongan 6 Juni 1953, at present he is *Board of Director of Fédération Internationale des Ingénieurs-Conseils, Switzerland* (FIDIC) (2019-now); *Director of Region 2 (Europe-Asia-Africa) Responsible for Asia of Dispute Resolution Board Foundation,* USA (DRBF); DRBF *Country Representative* for Indonesia (2012-now); President, Society of Construction Law of Indonesia (2023-now).

As professional he is Affiliate Member of FIDIC, Member of ASEAN *Chartered Professional Engineer* (ACPE); *Professional Engineer-Member of American Society of Civil Engineer* (PE-MASCE); Principal Professional Engineer of Indonesian Institute of Engineer (IPU); Chair and Fellow of Institute of Dispute Board for Construction (FIDSK); Board and Fellow Indonesian Institute of Arbitrator (FIIArb), Fellow of Indonesian Construction Arbitrators (FICArb), President and Fellow Society of Construction Law Chapter Indonesia (SCLI).

Formerly he worked as Special Adviser to the Minister of Public Works and Housing; Deputy Director and then Vice President of State Electricity Corporation/PT PLN (Persero), before he works at project site as Project Manager and Project Engineer at Renun HEPP under JICA Loan, North Sumatera; Cirata HEPP and Saguling HEPP under World Bank Loan, and OECF (JICA), West Java.

In Higher Education he is a Professor on Construction Contract Management at some Universities; Chair of DKI Jakarta, Indonesia Professors' Association (2016-2023); Board of Trustee Pekalongan University (2007-now).

His latest notable publication is (2020) *"Use of Dispute Avoidance and Adjudication Board"* as the Most Read Paper 2021 (downloaded more than > 3000 times, now 4800 times) at Journal of Legal Affairs and Dispute Resolution from American Society of Civil Engineers, he is also a reviewer of LADR-ASCE; and (2021), a Book Chapter of FIDIC Contracts in Asia Pacific by Donald Charrett: *"Applying FIDIC Contract in Indonesia".* In (7 May 2022) he was awarded the ***Al Mathews Award for Dispute Board Excellence (www.drb.org).***