Dear Friends,

Welcome to our fourth issue of Dispute Perspectives – a periodic newsletter that will provide you with a focused analysis of ongoing trends in dispute resolution in India and update you with the ongoing events in this regard.

In this issue we will look at quantification of damages in oil and gas disputes through discussion on two critical arbitration cases. Please also check out our events update section and we seek your active participation in the symposium.

We, of course, look forward to hearing from you. I believe that we should be able to assist you or at least guide you in your pursuit of finding the most efficient and effective way to resolve disputes.

Should you have any questions, concerns or suggestions for future topics, please feel free to write to us.

Warm Regards,

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Why are oil & gas disputes so common?

The energy industry is among the most dispute-prone industries in the world economy and within the conflict-laden energy industry, oil and gas contracts generate a high volume of disputes. This is evident in the case load reported by the International Centre for Settlement of Investment Disputes ("ICSID") for the fiscal year ended June 30, 2012, according to which 25% of disputes registered pertained to the oil, gas and mining sector.

The frequency of energy disputes is not surprising given the large and complex investments by international oil companies and governmental agencies in this sector. In addition, due to the strategic importance of oil and gas to both consumers and producers, agreements have always been politically charged. The internationalisation of the industry has only heightened its vulnerability to cross border disputes. Likewise, structural features of this industry – a combination of significant capital investment, political instability in emerging markets, fluctuations in the world economy, sharing of risks by means of partnerships, joint ventures and consortia, make it a fertile ground for disputes, as discussed in this article.

- **Long Gestation Period:** The considerable upfront investment in the exploration and construction phase is typically recovered from the production of oil and gas over the lifetime of the reserves. Depending on the size of the reserves, this may span several economic cycles, leaving the contracting parties exposed to swings in energy prices as a result of fluctuating demand. Such price swings may lead to disputes as parties may try to reassess their investment and seek to renegotiate contract terms.

- **Risk Sharing:** While sharing the burden of the project risks may be an attractive investment proposition, investors may have divergent views regarding the operation of the venture. Given the long project lead times, interests and objectives which were closely aligned at the inception of the venture may deviate over the life of the project.

- **Impact of Crude Oil Price Swings:** When crude oil prices change, some parties that are engaged in long-term contracts might have strong incentives to renegotiate the original contract terms. When renegotiation is not feasible, disputes arise.

- **Government Interference:** Direct or indirect involvement of governments, particularly in politically instable countries may lead to disputes. Since oil and gas resources are viewed in most countries as strategic, there is always a tendency to use public policy such that energy prices become a tool for income redistribution policies or other national policies that require alteration of existing long-term contracts. This provides a window of opportunity to produce large transfers of wealth in a short period of time, which unsurprisingly, will tend to generate conflicts that end up in international arbitration or domestic litigation.

It is a well-accepted theory that damages should equal the amount that would place the claimant in an economic position as close as possible to the position it would have been in, had the event causing the damage not occurred. Estimating damages in international arbitration in the oil and gas industry poses several challenges; chief among them is the selection of a damage methodology that will appropriately account for uncertainty in the value of future expected revenues.

Valuing future revenues is essential in oil and gas companies since future expected profits are fundamentally affected by the estimated ability of the company to produce crude oil and gas from existing reserves (proven and probable), and sell it at future prices, which are volatile. This leads to sizeable uncertainty as regards pricing and expected production quantities that would form the basis of a damage calculation.

Damage calculation approaches, primarily the asset-based approach utilising either replacement values or book values of assets, is not likely to be very useful in determining damages in oil and gas cases if they pertain to calculation of loss of profit, which is a revenue-driven calculation. An Income-based approach, on the other hand, such as the Discounted Cash Flow (“DCF”) is more suitable because it provides a more direct way to measure expected revenues (and corresponding cash flows) in the future.

The DCF Method in Brief

Discounting is used to take into account the time value of money (the widely accepted preference for money today rather than money in the future) as well as of certain risks associated with realising the cash flow forecasts. For example, Indian Rupees (INR) 100 that is forecast to be received in one year’s time is attributed a lower economic value than INR 100 received today. The difference between the two is known as the discount.

The DCF method requires the expert to model the future cash inflows and outflows over the remaining economic life of the oil and gas venture to calculate its present day value. In doing so, the most critical assumptions are usually related to the following areas:

- **Estimated Future Production**: The reserve quantities and the associated production profile must be estimated by qualified reserve engineers. The process of forecasting production volumes would potentially include an analysis of (i) available engineering data to estimate the quantities of reserves in place; (ii) estimates of the quantities of reserve that are economically recoverable; (iii) the timing of investments and production based on the investment plan etc.

- **Forecast capital expenditure**: The guidance and standards most commonly used by reserve engineers require them to assess reserve quantities in conjunction with their economic recoverability. This means that there is a link between the estimated production volumes and the capital expenditure required to develop the reserves. It is therefore important to ensure consistency between the two forecasts.

- **Forecast oil and gas prices during the project life**: Keeping in mind the significant volatility of oil and gas prices, a DCF-based valuation is usually sensitive to the date at which the assessment is performed. Forecasting oil and gas prices although difficult, may be achieved by using historical oil price averages over a number of years or, using the oil price forward curves quoted by the oil futures exchanges (e.g. NYMEX) for the medium-term and extrapolate for the later years.
• *Discount rate:* The discount rate must take account of the time value of money and it may also include components for certain types of risks associated with the cash flow forecasts. It is usually derived from yields on government bonds which are regarded as a proxy for a long-term riskless investment.

**Valuation Dates and the Use of Hindsight Information**

The selection of valuation dates, and to what extent the damage expert should use the benefits of hindsight information in performing a valuation is of considerable importance in oil and gas cases, given the volatility of crude oil prices.

A valuation date close to the date of award may be said to put the aggrieved party back in the position it would have occupied had the event causing the damage not occurred. Such an exercise relies upon the use of hindsight and the substitution of known outcomes for uncertainty.

The question arises as to whether valuation at the time of breach or expropriation means that the Claimant has been fully restored to the position it would have been in but for the breach. There is a risk that events after the valuation date may result in a greater or lesser loss. This is particularly the case in oil and gas disputes where the principal uncertainty is nearly always the post breach movements in oil and gas prices. While the starting point for any valuation exercise should always be the forecasts available for the oil and gas venture at the date of breach, it is hindsight that inevitably provides the most accurate picture.
El Paso Energy International Company v. Argentine Republic

El Paso, an international energy company invested in the Argentine companies CAPSA, an oil producer, and CAPEX, an electric power generator (collectively, the “Companies”). El Paso alleged that from December 2001 onward, the Government of Argentina took measures that breached undertakings it had assumed when the investments were made, which rendered the investments largely worthless and prevented the Companies from functioning independently. In June 2003, El Paso sold its shares in the Companies, citing the Government’s ongoing measures and the dim prospects for a return to a stable investment environment. El Paso subsequently initiated ICSID arbitration, alleging that the measures violated several provisions of the US - Argentina Bilateral Investment Treaty. In its final award on October 31, 2011, the Tribunal ultimately found Argentina liable for breach of the fair and equitable treatment standard under the Bilateral Investment Treaty.

El Paso claimed for the loss in value of its Argentine assets as a result of the government’s measures. El Paso’s experts estimated the compensation owed using two valuation methodologies: the DCF method and “transactions” method. The former sought to measure damages as the difference between the value of El Paso’s stakes in the Companies with and without the measures, while the latter sought to measure damages as the difference between the hypothetical “but for” sale price of El Paso’s stakes in the Companies in the absence of the measures, as compared to the sale proceeds that El Paso actually obtained from its divestiture in 2003. The Tribunal chose the DCF which was confirmed by the Tribunal’s appointed damages expert.

Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. (“PDVSA”)

The dispute arose out of a joint venture between the Claimant, Mobil Cerro Negro (“Mobil”), and one of the Respondents, PDVSA Cerro Negro, to exploit heavy oil resources located in the Orinoco Belt in Venezuela. With a change in government policy, in April 2007, the Venezuelan Government seized the project’s assets without offering any form of compensation.

Mobil took the claim to arbitration, seeking indemnification under the terms of its joint venture agreement with PDVSA which required PDVSA to indemnify Mobil against the effects of any expropriation, seizure of assets, or discriminatory measure imposed by the Venezuelan Government causing a “Materially Adverse Impact” on Mobil’s cash flows from the project. On December 23, 2011, the ICC International Court of Arbitration ruled in favor of Mobil, determining that PDVSA owed damages as determined below.

The joint-venture agreement provided for a set of complex formulas based on crude oil prices and actual cash flow to calculate the indemnity on a year-by-year basis and then provided for limitations to the calculated indemnity which was considered by the Tribunal instead of awarding general damages. The Tribunal went on to use the 2007 budget to calculate the future indemnity, considering it would constitute the most accurate reflection of the parties’ intent and expectations for the project’s future production.

Further, in the absence of provisions in the joint-venture agreement or the parties’ agreement, the Tribunal applied an 18% discount rate proposed by PDVSA to calculate Mobil’s indemnity for the remainder of the agreement (2008-2035).

Pursuant to this analysis, the Tribunal set the damages for 2007 at US$12.681 million, taking into account the limitations on liability contained in the joint-venture agreement. For the remaining life of the agreement (2008-2035), the Tribunal awarded damages of US$894.9 million.

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3. Ibid.
The oil and gas industry has proved to be a fertile ground for disputes and in particular for practitioners of international arbitration, given the cross border aspects of exploration and production. Of predominant importance in estimating damages in international oil and gas disputes is selecting a damage calculation methodology that appropriately accounts for uncertainty of the value of future revenues, either related to volatile crude oil prices or the extent of reserves. Among different alternatives, an income-based approach such as the DCF analysis is found to be widely used for damage computation in oil and gas disputes.

In our experience, the most robust and credible damages assessment requires a combination of forensic expertise together with industry knowledge and experience. Further, persuading the arbitral tribunal regarding the quantum of damages requires a clear evidentiary path from origin of the oil and gas project up to the event resulting in damages. The claim must be well supported in terms of facts, assumptions and formulae adopted in the calculation of damages.
In focus: Dispute resolution in infrastructure and construction sector

**Gurgaon**

**Date:** Tuesday, December 4 2012  
**Time:** 2 pm to 5 pm  
**Venue:** Boardroom, Tower 8B, DLF Cyber City, Gurgaon  
**Ms. Prerna Gulati**  
Email: prerna.gulati@in.pwc.com  
Phone: +91 124 330 6403

**Mumbai**

**Date:** Wednesday, December 5 2012  
**Time:** 9:30 am to 12:30 pm  
**Venue:** Training room, 5th floor, PwC house, Plot no. 18/A, Gurunanak Road, Station Road, Bandra (west)  
**Ms. Recha Fernandes**  
Email: recha.fernandes@in.pwc.com  
Phone: +91 98 2168 2504

**Hyderabad**

**Date:** Friday, December 7 2012  
**Time:** 9:30 am to 12:30 pm  
**Venue:** Training room, PwC, 8-2-293/82/A/1131A, Road, No. 36, jubilee Hills, Hyderabad - 34.  
**Ms. Laetitia Rolands**  
Email: laetitia.rolands@in.pwc.com  
Phone: +91 80 4079 7011

**Programme**

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<td>Gerlando Butera, Partner, Nabarro LLP and Emerson Holmes, Senior Partner – Nabarro LLP.</td>
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| Delay analysis and calculation of damages. Effective use of experts in construction disputes. | Alok Das, Engineer – Construction projects, PwC (Gurgaon, Mumbai and Hyderabad)  
Kunal R Gupta, Associate Director – Forensic Services, PwC (Gurgaon)  
Darshan Patel, Executive Director – Forensic Services, PwC (Mumbai)  
Vidya Rajarao, Leader - Forensic Services, PwC (Hyderabad) |

**Panel discussion**

Resolving construction disputes and effectiveness of mechanisms (arbitration vs. mediation)  
**Moderator: PwC or Nabarro**

**Industry insights**

Sumant Nayak, Chief Legal Officer and Vice President – Airport sector, GMR (Gurgaon)  
Sumit K. Mukherjee, General Manager - Strategic initiatives - Larsen & Toubro Limited (Mumbai)  
Mohan Reddy - Corporate finance and strategy - Soma Enterprises Limited (Hyderabad)  
Other industry panelists in each city to be confirmed

**Closing address**

Nabarro LLP representative