THE INTERNATIONAL JOURNAL ON HYDROPOWER & DAMS

www.hydropower-dams.com

Volume Twenty One, Issue 6, 2014

HYDRO AND DAMS IN CENTRAL ASIA ~ SPILLWAYS, GATES AND VALVES

ENVIRONMENTAL PROTECTION ~ HYDRO 2014 REPORT

Hydropower in Afghanistan: opportunities, challenges, and the legal framework

D. Doran and M. Christensen, DFDL (Mekong) Legal & Tax, Thailand
T. Rosenstock, Rosenstock Legal Services, Afghanistan

Following nearly three decades of political instability and civil war, during which time the vast majority of hydropower infrastructure was either destroyed or suffered significant decay, Afghanistan once again finds itself in a period of nation-building. Afghan policymakers are largely in agreement that large-scale hydro development represents a key ingredient for long-term economic development and sustainability. While Afghanistan certainly has the geographic resources for such large-scale hydropower development, it is less clear whether it has the legal or technical infrastructure to attract the private capital necessary for such development.

Most surface water in Afghanistan originates in the snow-capped Hindu Kush mountains, resulting in ephemeral rivers that flow for only three to four months during spring and summer, and dry up for the remainder of the year. Despite this seasonality, the country is reported to have more than 23 000 MW of hydropower potential waiting to be tapped, once the Government finds the political will to rebuild the institutional pillars of water management, and increase the viability of private investment into the energy sector. This will prove a considerable challenge, given that more than one-third of Afghanistan remains an active war zone, in which the traditional costs and complexities associated with large-scale hydro development take on an entirely new level of risks and challenges, and the fact that the rule of law is still very much a work in progress.

In the first half of the 20th century, the Afghan Government financed a number of dam projects alongside limited foreign investment in an effort to ensure year-round water supply. The initial phases of the Cold War saw the majority of Afghanistan's existing hydropower infrastructure built with funding from both America and the former Soviet Union.

According to the state-owned energy corporation, Afghanistan's total energy consumption stands at approximately 3000 MW, only about 300 MW of which is produced from domestic hydropower. This represents less than 2 per cent of the country's identified hydro potential, and is estimated to be 30 per cent lower than actual generating capacity because of poorly maintained equipment and significant transmission losses. One study cited in the Government's most recent Energy Sector Strategy puts these technical and commercial losses at about one-third of generated and imported power. The bulk of annual consumption is met through ever-increasing imports from neighbouring Tajikistan (hydro) and Uzbekistan (gas). These imports have resulted in almost all residents of Kabul now being connected to the grid, compared with only 7 per cent in 2001; many now enjoy 24-hour electricity for the first time ever.

Outside the capital, rural power supply continues to rely predominantly on stand-alone micro-hydro facilities, along with expensive diesel generators. The Ministry of Rural Rehabilitation and Development, in cooperation with the Ministry of Energy and Water (MEW), is promoting micro-hydro development in rural areas through various incentive mechanisms. In addition, MEW is managing the rehabilitation of existing medium and large-scale hydropower infrastructure in an effort to increase the 30 per cent national electrification rate. As a result of this strategy, national electricity supply has in fact doubled between 2009 and 2012. Although less desirable than new construction, rehabilitation for increased efficiency requires a smaller capital investment, and may present a lower risk opportunity for the private sector.

Limited institutional reform is still recent, while project financing for power sector development, which comes exclusively from foreign aid donors, remains elusive. Given these practical realities, the hydropower sector in Afghanistan appears to be resting on an unstable foundation that lacks strong domestic support. Yet, draft legislation such as the Electricity Act, in combination with a business-friendly Private Investment Law and a new administration calling for increased state support for domestic hydropower, may help to solidify Afghanistan's energy sector development as foreign actors begin to withdraw their presence.

Security challenges

During the Cold War, two huge river basin development projects were created by the contesting superpowers: the Helmand and Arghandab Valley Authority (HAVA), designed by the USA to provide electricity in western Afghanistan; and, the USSR's Nangarher Valley Development Authority (NVDA), to address the power needs of the east, including Kabul. NVDA is currently managing the rehabilitation of the 22 MW Sarobi dam, and is working together with MEW to rehabilitate the 100 MW Naghlu dam, both of which will provide even more electricity to power-hungry Kabul.

HAVA is not experiencing the same level of success in Helmand Province, which continues to be one of the Taliban's primary strongholds and is also the primary opium-growing region of Afghanistan. The largest hydro project managed by HAVA is the Kajaki dam; originally built by US companies in the 1950s to irrigate the surrounding farmland, while providing electricity to Lashkar Gah, the provincial capital, and Kandahar, the largest city in southern Afghanistan. The Kajaki dam is equipped with two 16.5 MW turbines, and was designed to have a third unit, which was never installed. USAID has since funded several

The Kajaki dam and powerplant, which supplies electricity to Kandahar. A major military excercise was required to bring a runner to the site for refurbishment in 2008.

rehabilitation projects, and has attempted to install the third turbine on three seperate occasions.

The most notable advance in this rehabilitation project took place in 2008, when the third turbine was transported from Kandahar airport to the Kajaki dam. Officially named 'Operation Eagle's Summit', by British forces, this was the largest operation of its kind since World War II. The 220 tonne turbine was, according to military sources, accompanied across one of the most hostile swathes of territory in Afghanistan by 2000 British and coalition soldiers in a convoy protected by air support, which saw firefights resulting in at least 100 insurgent deaths before reaching its destination. Even this routine equipment transport in Afghanistan required a major military operation, demonstrating both the importance placed on providing electricity to the region's population, and the enormous security costs associated with Afghan infrastructure development. The installation of the third turbine is now underway and, if successful, will increase the capacity of Kajaki to 52 MW, helping to replace financially unsustainable diesel generation.

Draft Electricity Act

Effective governance is the single most important issue for the long-term health of the energy sector. The Afghanistan Energy Sector Strategy cites the institutional, regulatory, and legal framework under which the country's energy market currently functions as "insufficient", and as a result, "virtually every aspect of sector operations [are] vulnerable to corruption". However, progress is being made; albeit slowly. After a five-year delay, the draft Electricity Act of Afghanistan is currently in its review process, and is expected to be submitted to Parliament for approval in 2015. According to the state energy company Da Afghanistan Breshna Sherkat (DABS), the Act contains a number of positive steps to align the Afghan electricity sector with international best practices and standards. Most notably, Articles 1 and 6 establish the Afghanistan Electricity Regulatory Authority (AERA), to regulate the provision of electricity services in an "open, objective, transparent, and non-discriminatory manner". The AERA will be organized within the framework of MEW, and will be funded by revenues from electricity service licensee fees and grants from donor agencies. The AERA is to remain an independent decision-making body in performing its defined functions, including the issuance of electricity sector licences, and the regulation of License activities (Article 7). Generation, transmission, distribution and all other licences are renewable for 25-year terms, except for supply licences, which are renewable for terms of 10 years.

The draft law suggests that rather than standardized tariff schedules being set at the national level, a more localized approach is to be taken, that will allow for regionalized electricity pricing structures. This provision can be viewed as a legal precondition for the establishment of market-based tariffs, which are designed to phase out costly government subsidies that too often create a vicious downward cycle in the marketplace. When a utility is unable to collect enough fees to recover its operational (let alone capital) costs because the retail price is set below the cost of production, maintenance, and reliability, suffer. This can lead to a decrease in consumer willingness to pay for the service, resulting in lower collections and the continuation of the spiral. The replacement of subsidies with locally tailored tariff schedules allows for the financial interests of both the utility and end-user to be taken into account, while improving the efficiency of electrical service.

The draft Electricity Act divides sector operations and management between MEW and DABS in accordance with their existing functions. MEW acts as the policy-making body and is responsible for engineering, supply, construction, and assembly of new projects. MEW will continue to exercise authority over the import of power. Since 2013, DABS has assumed responsibility for the management and maintenance of all power sector commercial affairs, along with the sale and transmission of electrical energy. As such, every relevant entity is to consult with DABS during each phase of the project development process. DABS is also responsible for the expansion of the Afghan distribution network and the procurement of fuel.

Dispute resolution under the draft Electricity Act is also in accordance with international best practices and standards. Afghanistan has been a signatory to the New York Convention on Arbitral Awards since 2004, and as such, an electricity sector investor or an Approved Electricity Enterprise may, in any contract with a third party, select a jurisdiction for dispute resolution outside Afghanistan. Although the results of foreign arbitral procedures are theoretically enforceable in Afghanistan, the Government acknowledges that corruption is an issue; including in the judicial sector. If a dispute arises between an electricity sector investor or an Approved Electricity Enterprise on the one hand and an administration or organization (including a state-owned enterprise) on the other, failing negotiation and in the absence of other contractual agreements, the dispute would be settled in the local courts of justice.

One primary concern, since drafting began in 2009 for the Electricity Act, has been the lack of official information released about it, which has left the private sector unable to prepare and thus hindering energy sector development efforts. Periodic updates from DABS do show significant policy advancements being proposed, with specific attention paid to small-scale hydropower as the most immediately feasible method to provide electricity for the 93 per cent of rural Afghans lacking grid access. Article 14 exempts electricity service companies not serving more than 1000 customers and not owning more than 2 MW of installed capacity from requiring a generation or distribution licence to operate. This promulgation, together with

other incentives reduces capital costs and the time between feasibility study and groundbreaking, resulting in a streamlined path for small hydro projects to become operational more quickly.

Private Investment Law

Once approved by Parliament and signed into law, the Electricity Act will join the 2005 Law on Private Investment (PIL) as another pillar of legislative stability on which the Afghan energy sector rests. As the PIL provides a framework within which the Electricity Act is being written, so too will the Electricity Act pave the way for future legislation that will bring Afghanistan closer to exemplifying fully the international practices and standards that exist in the energy sectors of its Central Asian neighbours.

The PIL most importantly gives foreign entities the right to invest in all sectors of the economy and, absent a narrow list of prohibitions, allows foreign businesses registered in Afghanistan 100 per cent ownership rights over their local Registered Enterprise (Articles 4 and 10). Although a foreign entity cannot own the land on which its business rests, Article 21 does provide for renewable land leases of terms up to 50 years. In addition, Article 19 allows for the right of a Registered Enterprise to open bank accounts in foreign currencies, and to use these accounts to receive loans and credit from outside the country. Foreign currency accounts can also be used to transfer profits from local business activities out of Afghanistan (Article 23), repay foreign loans (Article 24), and pay the salaries of expatriate employees (Article 19).

Although hydropower falls within the restricted category of 'Natural Resources', foreign investment is not prohibited. Under Article 5 of the PIL, hydropower is part of a special category of investment that may have additional requirements, such as approval by the relevant Ministry, which are set at the discretion of the Afghanistan Investment Support Agency (AISA). Furthermore, Article 5 is written in such a way as to anticipate that future laws, such as a specific hydropower law, will eventually 'step-in' and assume regulatory jurisdiction in those sectors; in which case the PIL would no longer apply. However, until such a law is in place, the PIL is the governing piece of legislation for the hydropower sector.

Once coupled with the PIL, the Electricity Act will go far in modernizing Afghanistan's energy sector legal framework, but it will not be a catch-all solution to fixing the fundamental problems, potentially leaving private foreign investors reluctant to undertake project development. The lack of an independent regulator to oversee the energy sector is a significant obstacle to efficient sector operation, and emphasis needs to be placed on the monitoring of state-owned enterprises, along with the development of modern production sharing agreements. In addition, the establishment of an office to coordinate public-private partnerships (PPPs) and to facilitate private sector involvement in energy infrastructure development would also be likely to help increase private investment. Such an office could also be tasked with drafting standard contractual commercial instruments and the structuring of a tendering system, to promote competitive project bidding. These efforts would be especially attractive to the private sector if they specified a clear policy and an array of incentives along with standardized security packages including government guarantees to reduce risk.

Lessons from privatization in Kazakhstan

Draft legislation aside, Afghanistan's energy sector remains predominantly state-owned and operated, with little of the private sector participation that many policymakers think is necessary to achieve the country's long-term energy objectives. Sector governance should be aimed at consolidating inter-Ministerial functions, with the objective being to rebalance the energy sector away from an overreliance on direct government involvement. Twenty years ago Kazakhstan, Afghanistan's Central Asian neighbour to the north, found itself in a similar phase of energy sector development. During the following two decades, Kazakhstan moved away from a centralized market into a more competitive structure that included unbundling the electricity sector according to activity types and establishing wholesale and retail electricity marketplaces. These fundamental shifts led to the entry of numerous foreign development entities into the Kazakh energy sector, along with increasing foreign direct investment. Today, the Kazakh electricity sector is primarily regulated by the 2004 Law on Electricity, which was amended in 2011 to include articles that increase investment activity transparency by mandating that it is obligatory to publish all information on investment programmes for public review to increase investment accountability. Provisions were also introduced with regard to public funds, to strengthen regulatory compliance and ensure the effective use of national resources.

Kazakhstan designed and implemented a multi-stage privatization strategy that began shortly after its independence. The Program of Denationalization and Privatization of State-Owned Property was introduced in two stages between 1991 and 1995. During this period, corporatization, public auctions, and the introduction of competition for Kazakh citizens helped pave the way for the introduction of foreign investment competition in 1993, resulting in the transfer of a number of state-owned interests into holdings and joint-stock companies (JSC).

Beginning in 1996, the third phase of privatization was implemented to achieve and cement the dominant position of private sector enterprises into both the power sector and broader national economy. This involved the privatization of strategic sectors, including hydropower generation, which resulted in American Energy Services Inc. acquiring ownership over a group of large-scale hydropower facilities including the 331 MW Ust-Kamenogorsk hydro plant and the 702 MW Shulbinsk hydro plant, Kazakhstan's second largest.

The fourth stage, from 1999 to the present, has resulted in autonomous authorities being given more control over the management of state assets, since the adoption of the Law on Public Monitoring of Assets in Strategic Sectors of Economy in 2003. Under this law, and within the framework of Kazakhstan's Strategy of Industrial and Innovation Development, the JSC Bank for Development of Kazakhstan, JSC Investment Fund of Kazakhstan, JSC National Innovation Fund, and the JSC State Corporation for Insurance of Export Credits and Investments were all established with a mandate to provide more transparency and public regulation over the State.

What could be considered the fifth stage of decentralization and privatization began in 2012, with the People's Initial Public Offering (IPO) Programme. This programme provides the opportunity for Kazakh citizens to become shareholders in previously wholly

state-owned enterprises, thus redistributing national wealth. One of the overlying goals of the People's IPO Programme is to increase the number of minority shareholders in state companies, thereby forcing an increased level of public accountability. The first company undertaking partial privatization in 2012 was the national electricity grid operator JSC KEGOC. Subsequent rounds of privatization under the People's IPO Programme took place in 2013 and 2014, with an estimated US$500 million being transferred to Kazakh citizens through the acquisition of shares.

Regional cooperation

Development of both the power sector legal framework and physical infrastructure in Afghanistan lags behind other Central Asian countries. However, rather than seeing its geographical neighbours as competitors, Afghanistan is reaching out across the region to find its place among the existing Central Asian cooperation agreements, while simultaneously forging ahead bilaterally. In 2013, Afghanistan imported around two-thirds of its total electricity from neighbouring Iran, Tajikistan, Turkmenistan, and Uzbekistan, compared with only 34 per cent in 2006, according to the Afghanistan Energy Information Center. This steady increase is a result of significant improvements having been made in the transmission infrastructure along the North East Power System, which connects Afghanistan's main urban centres to the Uzbek electrical grid, supplying more than 55 per cent of total electrical imports in 2013. This imported power is critical to the base-load until domestic generation can be rehabilitated. Imported power costs significantly less than diesel-generated power, resulting in considerable savings to the government in fuel costs, which have spurred local investment into industry.

Since 2007, Afghanistan has also been a signatory to the CASA-1000 agreement, which is a proposed transmission system that will provide an additional 300 MW of power to Afghanistan from excess summer generation in Kyrgyzstan and Tajikistan, while allowing Afghanistan to collect transit fees as the supply route for another 1000 MW of hydropower to be sold to Pakistan. Geographically, Afghanistan is positioned as a primary transit route for electricity being exported to South Asia from producers in Central Asia, with the potential to become a net energy exporter in its own right. Development of a regional power network is a potential medium-term solution for Afghanistan, to create a revenue stream through transit fees that help to finance more domestic power generation facilities. The CASA-1000 project may prove to be the foundation for this solution.

Four out of five water basins in Afghanistan flow into neighbouring countries, and unresolved transboundary water issues remain an obstacle to securing international sources of finance for hydropower infrastructure development. Donors are reluctant to participate in large-scale water storage projects in the absence of regional agreements. The World Bank and ADB have indicated that they are willing to fund large dam projects in Afghanistan, if transboundary treaties are developed for regional water management that take into account the national interests of all those affected. Therefore, the Afghan Government's ability to maximize the use of its water resources hinges on its capacity to establish cooperative natural resource utilization arrangements with its neighbours. Regional resource diplomacy, together with the establishment of a modernized power sector legal framework, represent the most fundamental components to rebuilding Afghanistan's power generation environment.

While security challenges and the lack of a stable regulatory infrastructure may, at present, preclude large-scale private sector hydropower investment in Afghanistan, its long-term hydro capacity cannot be ignored. As large investors wait to see how Afghanistan deals with these structural issues, small and micro hydropower, along with the rehabilitation of existing generation facilities, may provide an opportunity for these companies to test the waters, and become more comfortable with Afghanistan's legal, business, and political environments so they can make 'insider' decisions as to when Afghanistan will be ready for large-scale hydropower investment. Companies would do well to follow developments as Afghanistan rebuilds its energy sector for increased foreign private investment. ◊

D. Doran

M. Christensen

T. Rosenstock

David Doran is Chairman and the Founding Partner of DFDL. He has more than 20 years of experience as a legal adviser in the Mekong region, and is the head of DFDL's Regional Energy Mining and Infrastructure Practice Group. He has special expertise in the energy sector, having represented both sponsors and lenders for major power and energy projects in Cambodia, Lao PDR, and Myanmar. He also has special expertise in project finance in all sectors, and has advised on the Bibiyana I and II projects in Bangladesh.

Matthew Christensen is the Legal Assistant to the Chairman of DFDL. He is a member of the Regional Energy, Mining, and Infrastructure Practice Group and specializes in clean energy development in ASEAN. He is a graduate of the University of Wisconsin, USA, and holds advanced degrees in International Relations and Political Science, with a focus on energy policy in emerging markets.

DFDL Legal & Tax, 9th Floor, The Dusit Thani Building, 946 Rama IV Road, Silom, Bangkok 10500, Thailand.

Tom Rosenstock has been advising clients in Afghanistan since 2008 and is the founding partner of Rosenstock Legal Services (RLS). RLS advises clients on Afghan business registration and taxation issues, as well as transactional matters, early stage dispute resolution, and other matters of Afghan law and interaction with Afghan government departments. Mr Rosenstock was an entrepreneur and a business consultant before studying law at New York University and has been admitted to practice law in the State of New York. He began his career in the New York office of Paul, Weiss, Rifkind, Wharton & Garrison. In addition to his work with RLS, Mr Rosenstock is a founding board member of the Board of the American Chamber of Commerce in Afghanistan.

Rosenstock Legal Services, Charaee Shaheed, Shahr-e-Now, Kabul, Afghanistan.