THIRD PARTY ACCESS TO CHINA’S NATURAL GAS MARKET

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Since China’s first LNG receiving terminal came online in Dapeng in 2004, the Chinese LNG market has been dominated by its national oil companies (NOCs). Today, 18 receiving terminals are in operation, and almost all have been built by China’s NOCs. Despite the adoption of Measures by the National Development and Reform Commission (NDRC) liberalizing terminal access and investment, only a few private companies have negotiated private cargoes into NOC-operated terminals, and only three terminals are the product of private investment.

Myriad PRC government policies and directives to drive domestic consumption to natural gas, NDRC Measures and guidelines that encourage third party access (TPA), and a growing demand by private investors to sponsor receiving terminals, are converging to put pressure on the NOCs to open up not just their terminals but their downstream networks to TPA.

The paper will review China’s increasing demand for gas, the liberalization of the market, and how other gas markets have dealt with TPA. It will then focus on the Measures adopted by the NDRC’s National Energy Administration (NEA) and the TPA programs adopted by the NOCs in response. It will also examine the pending draft Measures proposed by the NEA in 2018 to strengthen the original Measures, now expired, to deepen the NOC’s commitment to TPA and expand NEA’s jurisdiction to enforce TPA in China.
Third Party Access to China’s Natural Gas Market

Introduction
Since the first cargo of LNG was delivered from Australia's Northwest Shelf to China's first LNG receiving terminal in Dapeng (Guangdong) in 2006, the Chinese LNG market has been dominated by its national oil companies (NOCs). Today, there are 18 LNG land-based regasification terminals in operation in China; only three are owned and operated by private companies.

The National Development and Reform Commission (NDRC) and its National Energy Administration (NEA) have issued a number of Measures that are designed to require the adoption by the NOCs of third party access (TPA) to their midstream and downstream facilities. The first scheme, which was adopted in 2014, expired in February 2019, but not before the NOCs put into place their first programs to allow TPA to their facilities.

When the 2014 Measures expired on February 13, 2019, the TPA programs adopted by the NOCs were left with no regulatory backstop, including NEA jurisdiction over their enforcement (although the NEA retains jurisdiction to ensure compliance with the program disclosure requirements it imposed in a 2016 Notice). Under the circumstances, TPA has become a negotiated arrangement based on the agreement of the NOC and its user. Draft Measures proposed in August 2018 comprise a more comprehensive regulatory scheme that will create the basis for a TPA framework that allows broader access to the NOC’s receiving terminals, as well as the downstream markets that they serve, and attract a much greater degree of enforcement oversight than under the previous regime. Although the 2018 Draft Measures have not been promulgated as of this paper’s publication, they are described in detail below.

Concept of TPA
The concept of TPA is much simpler than its implementation. In its basic form, TPA is the “idea that in certain circumstances economically independent undertakings … should have a legally enforceable right to access and use various energy network facilities owned by other companies.” TPA can be either regulated (and then the details negotiated consistent with the regulations) or fully negotiated in a voluntary environment. The terms and conditions of TPA are set by way of a tariff (or equivalent document) that is established and published by the facility operator, and can occur voluntarily or may arise out of a regulatory requirement. At a commercial level, TPA occurs generally through terminal use agreements (TUA) or terminal service agreements (TSA). These agreements are seldom legislated nor is a template provided, but instead these arrangements are left to negotiation between the facility operator and third party user, provided in the case of regulated TPA, the resulting agreements are consistent with the relevant regulations and tariffs that the operator may be required to file for approval.

Successful TPA regimes have a number of fundamental characteristics that allow them to offer access that simultaneously supports investment, competition and security of supply for the markets the facilities serve, and

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provides for the efficient distribution of the commodity it processes. In places like China, where the value chain is so closely held by state incumbents, successful TPA must ensure that incumbent dilution does not erode the important core services that these incumbents continue to provide for a growing economy. These characteristics generally include:

1. Existence and calculability of spare capacity
2. Non-discriminatory access
3. Transparency of terms
4. Anti-hoarding by users
5. Promotion of competition
6. Security of supply
7. Adequacy of storage and pipeline networks

While many view TPA as a boon to users, particularly LNG sellers, the data suggests that it also can be of benefit to the downstream operators of plants and their markets beyond. Operators experience benefits in the form of utilization, while downstream markets experience the benefits of price competition that may not be available where the facilities infrastructure is reserved to the incumbents. Others take the position that TPA discourages investment in LNG import capacity, which adversely impacts a country's security of supply, while still others would take the position that TPA increases diversification of supply and thus security of supply. In some markets, the conundrum has been avoided by granting exemptions to TPA, which has occurred broadly in the European Union (EU) states.

Regardless of these views, it appears that China has turned the corner on TPA, and is taking measures to methodically implement TPA in a market place that is heavily dominated by NOC incumbents who would appear to have more to lose than gain through TPA.

**TPA Around the World**

A little over half, or 54%, of global regasification capacity offers TPA in some form or another, whether through regulation or negotiation. The EU has the largest share of capacity given to TPA, which is approximately 92%. The EU is followed by Asia, though distantly, with approximately 51% of capacity subject to TPA, and then by the US at 46%. No terminals in the Middle East or Africa offer TPA.

Describing TPA regimes among the various leading countries around the world is beyond the scope of this paper, but for the purposes of comparing key elements of TPA against the structure in China and pending proposals, a few jurisdictions are worth mentioning for historical context and to glean key elements of those regimes.

**United States**

The United States led the way in the area of open access when it was decided by FERC Order No. 636 in 1992 that interstate pipelines were required to unbundle their sales services from transportation services, which by

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interpretation had the effect of opening up access to LNG receiving terminals. As a result, the early LNG terminals in the US were required to provide “open access” to LNG terminals on a non-discriminatory basis. However, interest in LNG imports in the US during the 1980s and 1990s waned due to plentiful domestic supplies and Canadian imports. But higher prices in the early 2000’s provided economic incentives for plants to reopen and become operational again by 2003.

Meanwhile, in 2002, the Federal Energy Regulatory Commission (FERC) issued the “Hackberry” Decision, which exempted an LNG operator in Louisiana from the open access requirements of Order No. 636, following which all import terminals receiving approval were exempted from open access. Enactment of the National Energy Policy Act in 2005 effectively prevented FERC from denying an application to construct an LNG receiving facility for the applicant’s exclusive use (while at the same time FERC cannot require an applicant to offer open access in order to obtain approval). The gas shale boom that began in 2005 effectively preempted the impact of the new law; the many LNG receiving terminals that were on the drawing boards were redesigned as liquefaction facilities to deliver LNG for export. Thus, although the US was an early adopter of open access, there are few lessons from the US that can be applied to countries like China trying to devise a suitable TPA regime.

Japan
In Asia, regulatory TPA has the most visibility in Japan, Malaysia, Thailand and Singapore, while India has a program that is applied on a case-by-case basis. In stark contrast, Korea, which is the world’s now-third largest LNG importer, has no TPA regime at all.

Within Asia, Japan has adopted the most recent reforms. Japan has insignificant indigenous natural gas production and relies on imports for over 95% of its natural gas capacity. Nearly all of this capacity is imported under long term sales contracts by incumbents that principally comprise domestic utilities. Japan also has a limited transmission infrastructure; trunk line networks exist separately around various LNG facilities and are often not interconnected.

Japan’s latest attempt at TPA occurred through amendments to the Gas Business Act in 2017. Among other features, these amendments now make it possible for city-gas retail businesses to procure LNG, which was not previously available to them, except through the utilities, and then sparingly. To do so, the Gas Business Act prohibits owners of “primary LNG receiving terminals” from rejecting third party use of such terminals without justifiable reasons. A primary LNG receiving terminal is one where LNG is received from overseas and is unloaded, stored, regasified and sent out by pipeline to end use markets. As a result of the amendment, 17

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6 Third Party Access to LNG Terminals, GIIGNL, November 2012, at 323
7 Third Party Access to LNG Terminals, GIIGNL, November 2012, at 323.
10 Third Party Access to LNG Terminals, GIIGNL, November 2012, at 403.
Terminals became subject to the new regime, while 14 were not.\textsuperscript{14} Terminals that are not covered by mandatory TPA are encouraged to adopt it on a voluntary basis.

The Gas Business Act requires LNG operators to publish their TPA terms and conditions, including their fees, and authorizes the government to order revision where it finds them inappropriate.\textsuperscript{15} Fees charged by operators must be “identical fees for the identical conditions”.\textsuperscript{16} To date, all of the affected LNG operators have published their terms and conditions for public review, and the terms and conditions are generally consistent.

The amended Act provides for an application and review process, which begins with an application in the year preceding the year of proposed use, a requirement that the operator respond within three months, and ends with the negotiation of terms and conditions of a use contract and an agreement on the annual delivery and offtake plan. The Act also sets criteria that operators may apply in reviewing applications, which include availability of capacity, stability of procurement and offtake, agreement on an annual program of deliveries and send-out, LNG quality and logistical maritime compatibility. There also are criteria that operators may use in rejecting or conditionally approving applications, most of which relate to safety, impact on other users, force majeure, governmental regulation, financial capability, etc. The burden is on the operator to demonstrate a justifiable basis for rejection of an application.\textsuperscript{17}

Europe

By far, the most sophisticated TPA regime around the world is found in Europe, where TPA was first introduced in 1996 in Spain. Following formation of the EU, the First EU Gas Directive was adopted in 1998, and applied TPA across the EU. While the First EU Gas Directive allowed member states to sign up for regulated TPA or negotiated TPA, this optionality was quickly eliminated by the Second EU Gas Directive, which imposed it as a regulatory requirement. Importantly, the Second Directive (and later the Third Directive) allowed exemptions to encourage investment in new terminals. Still, even where a terminal is exempt from TPA, the adoption of Use-it-or-Lose-it rules require holders of primary capacity to offer excess capacity to the market.\textsuperscript{18} EU regulations allow users to acquire secondary access, which operators are not allowed to prevent.

Today, a combination of EU directives and regulations govern TPA in Europe, which apply to LNG facilities, and gas transmission and distribution systems, as well as storage facilities. Principal governance is provided by the Third Gas Directive and Regulation 715/2009/EC, which sets out the conditions for access to these networks (Gas Regulation). The Gas Regulation has been supplemented by numerous additional regulations since it was first promulgated in 2009. Together the Directive and regulations impose an integrated web of requirements for the establishment of TPA that require information regarding the operator’s services, as well as the terms and


conditions, including fees, associated with their use, to be provided on a transparent and non-discriminatory basis and paid for at approved tariff rates. The Gas Regulation and its progeny of additional regulations and EU Commission decisions and guidance address tariffs, services to be provided, balancing systems, secondary trading markets, and the conduct of auctions for capacity allocation. Operators may refuse TPA where it can demonstrate lack of capacity or where it would experience financial difficulty with existing take-or-pay arrangements in place. An exemption may be sought for new gas projects for a limited time, which may be granted if the proponent can show that the investment would not be made in the absence of the exemption.19

Getting to TPA in China: Setting the Scene

TPA is an important key to the ongoing liberalization of China’s gas markets, as well as to its ability to establish itself as a regional trading hub. Assessing the role of TPA in China first requires an understanding of China’s energy scene as well as the dominance of the NOCs in the upstream, midstream and downstream phases.

China’s Energy Picture

China’s energy picture is a familiar one of growing demand and shrinking domestic supply. The energy portrait has been painted by dozens of industry experts, as well as multiple governmental agencies both within China and outside. Still, it is worth summarizing China’s energy scene -- both current and projected -- to provide the context for an analysis of TPA in China.

Nowhere does the adage “coal is king” hold more true than in China. Coal has held a dominant role in China’s energy consumption for decades. At its peak in 2013, coal held a 72% share in China’s energy supply mix, and was a key fuel for the economic engine that has allowed China to grow at accelerated, even double-digit at times, rates. Even in 2017, coal still provided 60% of the total energy consumption in China,20 although the government is determined to reduce coal’s place in the energy mix to 10% by 2020, which is consistent with coal’s steady decline over the last 10 years.

Numerous government measures, programs, policies and opinions have been issued that collectively have driven China to become the world’s third largest natural gas market. Partially as a result of these policies and directives, gas consumption grew by 16% and gas production increased 7.5% in 2018.21 Still, gas is only a small part of total energy supply today (approx. 7% in 2017)22 However, the government has set a target in the 13th Five-Year Plan for Natural Gas Development to increase the share of natural gas in primary energy consumption to 10% by 2020 and 15% by 2030.23

Until recently, China had been self-sufficient for natural gas. However, in part due to the pressure placed on the public and industry by the Chinese government to improve air quality, China’s indigenous supply of gas has been unable to keep up with demand. Notwithstanding completion of the first West-East Gas Pipeline in 2004, the gap

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20 BP Statistical Review 2018
21 China Gas Market: 2018 Review, SIA Gas Seminar, February 28, 2019
22 BP Statistical Review 2018
23 13th Five Year Plan for Natural Gas Development
between production and demand began to diverge in 2006. It is no coincidence that China's first LNG terminal at Dapeng (Guangdong) was commissioned that year, initiating the proliferation of LNG terminals that followed, which today stands at 18, stretched along the full length of China's coast. Likewise, additional import pipelines have been constructed and commissioned, including the Central Asia-China Gas Pipeline in 2010, the Second West-East Gas Pipeline in 2013, and the Shwe Myanmar Gas Pipeline in 2013, with others, particularly from Russia either on their way to completion or on the drawing boards. Despite all of these projects, Chinese gas imports are expected to grow from 70 bcm in 2015 to approximately 280 bcm in 2040, making China the second-largest gas importer in the world after the EU. It is projected by the IEA that more than 80% of this growth to 2040 will come in the form of LNG. In 2018, China's import dependency hovered around 45%.

The growth of LNG imports in China reflects growth in Asia generally. As the largest LNG market globally, Asia imports grew 10.2% in 2017 to 211.2 million tons, and now is responsible for 72.9% of all LNG imports globally. Japan leads the way, followed by China, which overtook Korea in 2017 to become the second largest importer in the world. Between 2016 and 2017, China posted the largest growth in LNG imports, nearly tripling growth by its nearest competitor, Korea.

**Dominance of the National Oil Companies (NOCs)**

Three national oil companies dominate the energy scene in China – China National Petroleum Corporation (CNPC), Sinopec Corporation (Sinopec) and China National Offshore Oil Corporation (CNOOC). Not only did the NOCs supply 95% of the natural gas used in China in 2018, but they also dominated the infrastructure that handles it. With few exceptions, these three companies own and operate nearly every terminal, loading and unloading facility, LNG receiving station, compression facility, storage facility and pipeline network associated with the oil and gas industry in China. As of 2015, there were over 70,000 kilometers of natural gas trunk pipelines in China. CNPC owns 91% of total national pipeline length, while Sinopec owns the remaining 9%. No trunk pipelines are owned privately, but non-NOCs own 28% of provincial pipelines; the rest are owned by the NOCs. Until recently, access to China’s major pipelines has been unavailable to all but the NOCs. They are the incumbents in the energy scene in China.

The most dominant NOC in the country is CNPC, which owns and operates a broad range of oil and gas facilities and includes 90+% of all pipelines. It also owns and operates four LNG receiving terminals, namely Rudong (Jiangsu) LNG Terminal, Dalian LNG Terminal, Shennan (Hainan) LNG Terminal and Tangshan (Caofeidian) LNG Terminal.

Sinopec owns and operates a lesser though significant range of oil and gas facilities, and owns the remaining 9% of pipeline length in the country that CNPC does not own. It also owns and operates three LNG receiving terminals, namely, Qingdao (Shandong) LNG Terminal, Behei (Guangxi) LNG Terminal and Tianjin LNG Terminal.

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24 C. Huang, *China Natural Gas Industry and Midstream Reform*, Bank of Tokyo-Mitsubishi UFJ (February 2017)


27 2018 Annual Report, GIIGNL

28 2018 Annual Report, GIIGNL

29 LNG Imports: Who is Going to Take the Baton from CNPC, SIA Gas Seminar, February 28, 2019.

30 C. Huang, *China Natural Gas Industry and Midstream Reform*, Bank of Tokyo-Mitsubishi UFJ (February 2017), at 8
By far, the dominant LNG NOC in China is CNOOC, which operates eight LNG receiving terminals, namely, Dapeng (Guangdong) LNG terminal, Putian (Fujian) LNG terminal, Ningbo (Zhejiang) LNG terminal, Tianjin LNG terminal, Zhuhai (Gaolan) LNG terminal, Hainan LNG terminal, Shenzhen (Diefu) LNG terminal and Yuedong (Guangdong) LNG terminal. These terminals are located as far north as Tianjin and to the south in Hainan.

As mentioned above, among the 18 LNG regasification terminals in operation, 15 are owned (100% or a controlling interest) and operated by the three NOCs. Four terminals are owned and operated by CNPC, three terminals are owned and operated by Sinopec and eight are owned and operated by CNOOC. It is not surprising that with the proliferation of LNG terminals comes uneven utilization rates, albeit improving from 2017 to 2018. In 2017, LNG nameplate utilization rates ranged from 40% to one month at 100%, but on the whole below 70%. However, in 2018, utilization improved dramatically, and averaged 85%, and at times exceeded 100% in winter in areas of northern and eastern China.\(^{31}\)

**2014 Measures on TPA**

The first official outline of a TPA regime appeared in 2014 when the National Energy Administration (NEA) published the *Measures for the Supervision and Administration of Fair Opening of Oil and Gas Pipelines Network Facilities (for Trial Implementation) (February 13, 2014)* (2014 Measures). These Measures were directed to the NEA’s regional offices, local development and reform commissions, and energy bureaus of all provinces and all relevant oil and gas enterprises. The 2014 Measures indicated that the NEA (and its provincial and local offices) would be responsible for the supervision and administration of opening the network facilities. The 2014 Measures signaled a new direction taken by the PRC government of its intent to open its oil and gas pipelines network facilities to third parties.

The stated purpose of the 2014 Measures was to “promote the fair opening of oil and gas pipelines network facilities, improve the utilization efficiency of oil and gas pipelines network facilities, ensure the safe and stable supply of oil and gas....” The 2014 Measures were broad in their application and include the full LNG value chain of facilities. They cast a wide net across affected parties to include “oil and gas pipeline network facilities operating enterprises” (entities that operate the facilities), “upstream users” seeking to use these facilities and “downstream users”, which include urban gas enterprises, power plants, and other users of natural gas.\(^{32}\)

While broad in their application to facilities and users, the 2014 Measures limited their requirements to “spare capacity”, much like the case with most TPA programs. The operative language of the 2014 Measures provided that the affected facilities “shall, in the case of spare capacity of all oil and gas pipelines network facilities, equally provide their pipeline network facilities to main third-party market players and provide transportation, storage, gasification, liquefaction, compression and other services.”\(^{33}\) The calculation of spare capacity was not defined, but the clear intent was to only require access where the “transportation (storage, gasification, liquefaction and compression) capacity of their own pipelines network facilities and actual needs” are first met.\(^{34}\) Where access was

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\(^{32}\) 2014 Measures, at Art. 3.

\(^{33}\) 2014 Measures, at Art. 5

\(^{34}\) 2014 Measures, at Art. 7
provided, it was required to be made available in a “fair and non-discriminatory manner in the precedence order of signing contracts” (or first-come, first-served basis).  

The 2014 Measures set out a fairly detailed application process for an upstream or downstream user to obtain access to network facilities, including information to be made available by the network operators, upstream users and downstream users are required to supply, operator approval criteria, the timeframe for approval (30 days), and a means of resolving disputes over disapprovals, including conciliation and mediation by the NEA.

Once an application for TPA was approved, the upstream or downstream user and the network operator were expected to sign a “service contract” before access was provided. The 2014 Measures identified a number of areas for inclusion in the contract, such as: term, quantity, delivery point and manner of transfer, price, quality, measurement methods, safety requirements, liability for breach, disclaimer, etc.

Once a contract was signed, the facilities operator was required to report newly signed service contracts on an annual basis to NEA.

The 2014 Measures gave broad oversight and enforcement authority to the NEA, both with respect to operator compliance and compliance by upstream and downstream users of the facilities, beginning with the application phase and running through the contract compliance stage. (Arts. 18 through 24) The 2014 Measures expired on February 13, 2019 but put into motion a set of changes to the manner in which the incumbents’ facilities are made available for use by private industry.

2016 Notice on Information Disclosure

In September 2016, in furtherance of its 2014 Measures, the NEA issued a Notice on Completing Information Disclosure Related to the Opening of Oil and Gas Pipeline Network Facilities (2016 Notice). The 2016 Notice was directed principally at CNPC, Sinopec and CNOOC and any other (private) oil and gas companies. The NEA’s goal was to shore up its 2014 Measures by setting out the information operators were required to provide to make its facilities available for TPA. The disclosures are summarized as follows:

**Disclosure by operators**

- Details of the project, including location, configuration, length, design capacity, etc.
- Quality and safety standards of facilities, gas quality, pressure, and measurement
- Pricing for services, using prices set by government and those agreed by negotiation
- Conditions for access to the network facilities
- Method, process and specific processing time limit for access

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35 2014 Measures, at Art. 6
36 For example, “… access standards, transportation (storage and gasification) prices, conditions for application for access, acceptance procedures, and other information on the oil and gas pipelines network….” 2014 Measures, at Art. 20.
37 For example, current and forecasted gas development/production, third-party reserves report, quality and quantity of gas to be delivered, time requirements, etc. 2014 Measures, at Art. 9.
38 For example, nature of users, design of safety facilities, fire safety design, three-years of monthly sales reports, forecast of requirements, quality and quantity of gas to be delivered, time requirements, etc. 2014 Measures, at Art. 9.
39 E.g., capacity to accept access, security and upstream user’s access technical conditions, gas quality, supply stability, etc. 2014 Measures, at Art. 10.
40 2014 Measures, at Art. 18
41 2014 Measures, at Art. 14
42 2014 Measures, at Art. 21
• Operators are required to guarantee the “timeliness, accuracy and completeness” of the information disclosed, and update the information as required

• Contact details

Operators were required to disclose required information on Operator’s websites, as well as the information platforms designated by the NEA, or by information release, briefing and announcement. Initial information disclosures were required to occur before October 31, 2016. And, going forward, spare capacity should be announced annually for each month of the ensuing year before December 5 of each year.

Disclosure by Applicants

• Type and amount of spare capacity required and corresponding access period required

• The location where gas can be received or distributed.

• Requirements with respect to quality, pressure, safety regulations and other criteria

• Other information reasonably required by the users

Applicants were required to supply written disclosures regarding their interest and qualifications by written application to operators, and may request additional information regarding available facilities. Operators were required to reply within seven working days whether to disclose the information in writing. If the conditions are met, Operators were required to reply with relevant information. Applicants were responsible for the confidentiality of additional information made available by operator during the application process, and required to sign a confidentiality agreement.

The Response of the NOCs

Each of the affected NOCs responded to the NEA’s 2016 Notice by publishing varying degrees of information on their website, which are summarized below.

CNPC

CNPC, through its subsidiary, PetroChina, owns (either alone or with others) and operates four LNG terminals. It also operates pipelines located in Henan, Shandong, Hebei, Liaoning, Jilin, Heilongjiang, Gansu, Ningxia, Shaanxi, Shanxi, Anhui, Jiangsu, Hubei, Jiangxi, Guangdong, Hunan, Zhejiang, Guangxi provinces and Beijing.

CNPC published on its website information, including location, date of operation and capacity, about each of its LNG terminals. It requires the user applying for access to its oil and gas pipeline facilities to satisfy the following conditions:

1. It is a legal entity registered in PRC
2. Its business operation complies with PRC law as well as industry policies
3. It possesses relevant licenses if it is engaged in oil and gas business
4. It possesses safety production licenses
5. It is in good operating and financial status and is creditworthy

6. Its oil and gas complies with relevant national and CNPC’s quality standards, and meet the safety, environmental protection and technical requirements of the oil and gas pipeline network facilities.

The user applicant is required to provide the following information and materials:

1. Basic information about the user, such as the purpose of application for access, registered capital, business scope, legal representative, financial information, licenses, gas components, processing conditions, application volume, delivery location and delivery time, etc.
2. Business registration and license
3. Organization code certificate
4. Bank account opening certificate
5. Safety production certificate
6. Relevant licenses if it is engaged in oil and gas operations
7. Quality inspection report issued by nationally-accredited quality inspection agencies
8. Relevant oil and gas purchase and sale agreements

CNPC will process users’ applications according to the following procedures:

- After receiving a complete application, the operator will conduct a preliminary examination and on-site confirmation of the materials and submit a pre-review report to the responsible department.
- Once the responsible department approves the pre-review report, the operator will confer with the applicant to address any questions arising out of the report. If the application is approved, the operator and user enter a service contract. If the application is not approved, the operator advises the applicant, which concludes the process.

While it is difficult to obtain reliable information regarding the actual provision of third party services by PetroChina (or other operators), there are a number of reports regarding PetroChina’s activity since the 2014 Measures were adopted and 2016 Notice published:

- Since publishing its information, CNPC is reported to have opened its Jiangsu LNG Terminal, Tangshan LNG Terminal and Dalian LNG Terminal and related pipeline network to ENN, Beijing Gas Group Co., Ltd., Nanjing Pacific Ocean Natural Gas Trade Co., Ltd., and Shanghai Natural Gas Pipeline Network Co., Ltd. to provide services for loading and unloading, storage, gasification and designated transportation of imported LNG.\footnote{Opening and information disclosure of CNPC pipeline network and LNG terminals http://energy.people.com.cn/n1/2016/1107/c71661-28841426.html}
- In August 2014, CNPC opened up its Jiangsu LNG Terminal to the Shenergy Group for use of its spare capacity, the first LNG terminal to allow TPA.\footnote{China’s First TPA Contract Completed By CNPC. http://news.cnpc.com.cn/system/2014/08/27/001504584.shtml (August 2014)}
- In December 2014, ENN unloaded 60,000 tons of LNG through the Jiangsu LNG Terminal.\footnote{Information Published on TPA for CNPC’s Pipeline and LNG Terminals. http://m.sohu.com/a/118335075_114731 (November 2016)}
In November 2015 and January 2016, two LNG tankers purchased by Beijing Gas Group Co., Ltd. were unloaded at Tangshan LNG Terminal and Dalian LNG Terminal and the LNG was subsequently gasified and transported through CNPC’s pipeline network to Beijing.\(^{47}\)

In 2017, CNPC opened up its Tangshan LNG Terminal to third parties for use of its spare capacity.\(^{48}\)

**Sinopec**

Sinopec, through its various subsidiaries, owns and operates three LNG terminals. It also operates natural gas pipelines that are principally located in Sichuan, Hubei, Anhui, Jiangsu, Zhejiang, Jiangxi, Shanghai, Shaanxi, Shanxi, Henan and Shandong provinces.

Sinopec has published on its website information, including location, date of operation and capacity, regarding each of its LNG terminals.\(^{49}\) It lists its technical terminal access standards -- including design pressure of the receiving stations, pipeline design pressure, natural gas quality, metering and safety -- that users must meet and prescribes the specific loading and unloading and gasification schedule of prices that will be implemented in accordance with relevant governmental regulations. Sinopec requires users applying for access to its LNG terminals to meet standards regarding ship type, discharge arm size, measurement equipment and certification requirements, age of vessel (less than 20 years) and that it observe provisions of the Port Information and Receiving Station Management Manual of the receiving station. Sinopec’s application process parrots CNPC’s, and commits itself to respond within 30 business days.

The only reported instance in which Sinopec has provided TPA was natural gas transportation service to PetroChina Kunlun Gas Co., Ltd. and China Gas Holdings Ltd.\(^{50}\) However, neither of the two companies can be considered a private company: PetroChina Kunlun Gas Co., Ltd is a recombination of three NOCs separated from CNPC and Sinopec is one of the major shareholders of China Gas Holdings Ltd.

**CNOOC**

CNOOC, through its various subsidiaries, owns (alone or with others) and operates eight LNG terminals. It also operates pipelines that are principally located principally in the vicinity of its LNG regasification terminals, in Guangdong, Fujian, Tianjin, Hainan and Liaoning provinces.

CNOOC has published on its website\(^{51}\) information about its LNG terminals and natural gas pipelines. This information includes basic information about the facilities, facility access standards, measurement and pricing of service, requirements to be met by upstream and downstream users for access to pipeline facilities and application method, process and processing time. Information about the facilities includes date of operation, location, berthing capacity, effective capacity and designed processing capacity (of LNG terminals), pipeline transportation capacity (of pipeline network facilities), charging items, price standard, pricing basis and measurement method. It requires the following conditions to be in effect before it will provide access to its facilities:

\(^{47}\) http://news.cnpc.com.cn/system/2016/01/12/001575433.shtml
\(^{49}\) http://www.sinopec.com/listco/about_sinopec/our_business/ywgk_yqgw/
1. Terminal company/pipeline facilities have spare processing capacity
2. Evidence that performance of long-term agreements signed by existing users can be guaranteed
3. Evidence that performance of existing users’ LNG supply and sale plan will not be affected
4. Evidence that use in target market will not impact existing users
5. User has secured upstream international LNG resources, and obtained import and shipping licenses
6. User has obtained safety production licenses, such as Gas Operation License, Dangerous Chemicals Operation License, etc.
7. User meets CNOOC’s requirements regarding creditworthiness
8. User has provided relevant information required by the 2016 Notice
9. User is not involved in any legal disputes and has not been required to pay any administrative penalties;
10. User possesses substantial experience in the natural gas industry.

CNOOC also requires the user to comply with numerous PRC industry standards regarding safety, design, fire prevention, metering, and sampling, etc., in order to get access.

CNOOC’s review process is similar to CNPC’s and Sinopec’s processes. It requires applicants to respond to CNOOC’s request for information within 7 business days and commits itself to reply to completed applications within 30 business days.

In July 2018, CNOOC publicly announced that it would open up its LNG terminals to third parties. CNOOC also announced that it would open up its three LNG terminals in Guangdong province to third parties during winter’s peak season for gas consumption. CNOOC also has cooperated with the Shanghai Oil and Gas Exchange Centre to promote and facilitate LNG trading. Successful bidders are allowed to use one of CNOOC’s terminals during a designated window period of availability, subject to compliance with previously stated standards set by CNOOC. Users also are allowed to unload at one terminal and take delivery of LNG or natural gas at another.

Overall, there is very little specific information available in the market place regarding the actual take-up of third party services offered by the NOCs.

**PRC Government position on TPA**

Since the adoption of the 2014 Measures, there have been numerous government pronouncements on the importance of TPA in the marketplace.

In May 2017, the CPC Central Committee and State Council issued their *Opinions on Deepening the Reform of the Oil and Gas System*. The Opinions specifically called on the need to "improve the fair access mechanism of oil and gas pipelines to realize that the main oil and gas pipelines, provincial and inter-provincial pipelines are open to third party market entities fairly."

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53 Opening up of CNOOC’s LNG terminals to third parties http://jjckb.xinhuanet.com/2018-07/25/c_137346757.htm
54 “Icebreaking” of opening up of LNG terminals http://www.sohu.com/a/280684779_479794
In June 2017, the NDRC and NEA issued *Opinions on Accelerating Natural Gas Utilization*. The *Opinions* articulated the importance of accelerating natural gas utilization and encouraged “all types of capital to enter the field of natural gas infrastructure construction and utilization, and acceleration of the marketization of natural gas prices.” They also set out policy protection for accelerating natural gas utilization, which included the need to “improve the third-party access mechanism for natural gas pipelines, promote the third party open pilot of LNG terminals, and strengthen the fair and open supervision of natural gas pipeline network facilities.”

In April 2018, the NDRC and NEA issued *Opinions on Accelerating the Construction of Gas Storage Facilities and Improving the Market Mechanism of Gas Storage and Peaking Auxiliary Services*. These *Opinions* recognized the importance of natural gas storage as part of the overall liberalization of the natural gas system in China, including its connection with TPA. “Government shall encourage gas companies, pipeline enterprises, urban gas enterprises, large users and independent third parties to participate in the construction and operation of gas storage facilities…. Government shall support enterprises to build or participate underground gas storage, LNG terminals and peaking storage tank projects.” While the *Opinions* focused on natural gas storage, they make clear the connection with LNG terminals. “Government shall … prioritize the expansion of the capacity of the established LNG terminals in the coastal areas and moderately build new LNG terminals…. Government shall promote the interconnection of pipelines between LNG terminals and main pipelines between LNG terminals, eliminating ‘LNG orphan stations’ and ‘gas source islands.’”

### 2018 Draft Measures on TPA

In anticipation of the expiration of its February 2014 Measures in February 2019, the NDRC published on August 3, 2018 Measures for the Supervision and Administration of Fair Opening of Oil and Gas Pipeline Network Facilities (2018 Draft Measures) for public opinion. The 2018 Draft Measures serve to mature the NDRC’s thinking on TPA and provide a window on the most current thinking of the NDRC on the subject. They address a number of key areas.

#### Role of NEA

The 2018 Draft Measures reiterate the 2014 Measures’ designation of the NEA as the agency responsible for “supervising the fair opening of the oil and gas network nationwide” and “establishing and improving regulations and working mechanisms for the fair opening of oil and gas pipeline network facilities….,”

#### Focus on Operators

The 2018 Draft Measures place an emphasis on the responsibility of the operators of oil and gas pipeline network facilities for the “fair opening of the oil and gas pipeline network facilities,” which in the LNG area include the full...
value chain from LNG receiving terminal to downstream transmission and distribution systems. They instruct operators to establish “corresponding rules and regulations in accordance with these Measures, publicly announce the conditions, procedures and spare capacity of the opening services, and provide users with oil and gas pipeline network facility services in a fair and just manner.\textsuperscript{58} The 2018 Draft Measures continue to limit TPA to the “spare capacity” of these facilities, which must be calculated “on the principle of ensuring the safe and stable operation of pipeline network facilities and fully utilizing service capabilities….”\textsuperscript{59} The 2018 Draft Measures also require respect for the use by existing users, which includes use by the operator.\textsuperscript{60}

If spare capacity is available, the operator is required to disclose the extent of spare capacity, service conditions, technical standards, price standards, application and acceptance procedures, written document catalogues submitted by users, and confidentiality requirements of oil and gas pipeline network facilities through the information platform designated by the NEA and the operators’ websites. When there is any change in relevant information, operators of oil and gas pipeline network facilities shall update the information in a timely manner.\textsuperscript{61} Additional information may be disclosed upon application by a user.

Operators shall announce the spare capacity of their oil and gas pipeline network facilities in each month of the next calendar year before December 5 of each year at the information platform designated by the NEA and the operators’ websites. The spare capacity of each of the remaining months of the current year shall be updated before the 10th day of each month.\textsuperscript{62}

Operators shall submit to the NEA every six months an update regarding the extent and use of its oil and gas pipeline network facilities, including construction, operation, maintenance plan for limited (suspended) production and its implementation, transportation (and storage, gasification, handling, transfer) capabilities and opening status, prices and costs, and users that have serious violations or defaults.\textsuperscript{63}

**Application process**

The 2018 Draft Measures contemplate an application process that is much like the 2014 Measures. Applicants need to submit written documents to the operator, including business qualification and license, safety qualification, the amount of transported, stored, gasified, handled and transferred oil and gas, time and place requirements, letter of intent or contract for resource procurement, letter of intent or contract for market sales, oil and gas quality parameters, and so on.\textsuperscript{64}

In reviewing an application, operators are required to give access priority to certain services. These include oil and gas resources that are required by government authorities to bear major emergency supply responsibilities in tight sandstone gas, biomass oil etc.), urban gas enterprises, oil and gas retail enterprises and refinery enterprises, fuel (gas) power generation enterprises, oil and gas industry users, and other large oil and gas direct supply users.” Art. 42.3.

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\textsuperscript{58} 2018 Draft Measures, at Art. 5.
\textsuperscript{59} 2018 Draft Measures, at Art. 12.
\textsuperscript{60} 2018 Draft Measures, at Art. 13.
\textsuperscript{61} 2018 Draft Measures, at Art. 19.
\textsuperscript{62} 2018 Draft Measures, at Art. 20.
\textsuperscript{63} 2018 Draft Measures, at Art. 31
\textsuperscript{64} 2018 Draft Measures, at Art. 22.
national or local market areas, and those resources such as coal-to-natural gas and coal-to-liquids listed in the coal deep processing industry plan as determined by the state.\textsuperscript{65}

The 2018 Draft Measures encourage operators to use their network platform for applications, but also provide for more conventional application processes. In both cases, operators are required to reply to an application within 15 working days from the date of receipt of the application.\textsuperscript{66}

**Contract execution**

Once an application is received and approved, the 2018 Draft Measures require the user and operator to sign a “service contract” defining the dates of service, volumes, service capacity, delivery sites and methods, prices, oil and gas quality, delivery pressure, maintenance arrangements, measurement methods, balancing obligations, safety responsibilities, liabilities for breach, exemptions and so on.\textsuperscript{67} Operators may neither delay nor refuse to sign contracts with users who meet the TPA conditions, and may not impose unreasonable conditions on their execution. Contracts must be signed on a non-discriminatory basis.\textsuperscript{68}

Pricing for service shall be consistent with existing price regulation. Where there are applicable transportation or other service fees, these shall be used by operators; where prices are market-based, the agreed price will be the result of negotiations between operator and user. The 2018 Draft Measures encourage the provision of both interruptible and non-interruptible services on an annual, quarterly or monthly basis based on market conditions, which was not a feature of the 2014 Measures.\textsuperscript{69}

Users are required to comply with the relevant technical management guidelines and operational procedures issued by operators, strictly fulfil their obligations of delivery and withdrawal of oil and gas according to contracts, and comply with the requirements of retention time. Also, users are required to perform their obligations related to the capacity balancing set out in the service contract.\textsuperscript{70}

**Operator Reporting Obligations**

The application and approval system appears to be very disciplined. Operators must submit the list of users whose applications are denied and explanations regarding denial. Operators also must provide updates every six-months regarding the use of their network facilities, third party use, price and costs and identify users who are in violation of their TPA conditions.

**Third party capital**

In addition to promoting the use of existing facilities, the 2018 Draft Measures encourage and support the “participation of all types of capital in building oil and gas pipeline network facilities that are integrated into the
unified plan..." This statement is not found in the 2014 Measures, although its absence was not an impediment to ENN constructing its LNG receiving terminal in Zhoushan.

Interconnectivity
An important aspect of a successful TPA regime is the integration of the full value chain through transmission and distribution. The 2018 Draft Measures go beyond the 2014 Measures sentiments regarding connectivity and require that national and local development plans consider “connectivity” of the network facilities to create conditions that are favorable to fair TPA, and, again, place responsibility for this interconnectivity with the operators.72

Non-hoarding
The 2018 Draft Measures make a point of requiring users to “strictly fulfill their obligations of delivery and withdrawal of oil and gas resources according to the contracts” and give operators the right to “require the user to pay the service in full” if it fails to fully use the service capacity of the network facilities. If the “circumstances are serious”, the operator is required to reduce the service capacity made available to the user.73

NEA oversight and authority
The 2018 Draft Measures broaden the NEA’s oversight authority from the 2014 Measures, which includes inspections of operators and network facilities, interrogation of operators, review of operator documents and user contracts, and commissioning of expert institutions to conduct inspections. It has the authority to require corrections on the spot, or refer violations to the authorities.74 The NEA also has broad authority to order operators to correct deficiencies in their behavior, as well as the ability to impose a fine for failure to do so. This authority75 extends to:

- Failure to disclose information required by regulatory requirements, or disclosing late, inaccurate or incomplete information
- Delay in signing or refusing to sign contracts with qualified users without justification or imposing unreasonable conditions in contracts
- Failing to accept user applications within time limit
- Offering the opening services in a discriminatory manner
- Violating any provisions of the 2018 Draft Measures

Similarly, the NEA has broad authority over violations by users,76 including:

- Providing false or misleading documents
- Disclosing data in violation of confidentiality undertaking
- Failing to perform contractual obligations that result in significant losses or serious social impact

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71 2018 Draft Measures, at Art. 7.
72 2018 Draft Measures, at Arts. 8, 9.
73 2018 Draft Measures, at Art. 28.
74 2018 Draft Measures, at Arts. 32, 33.
75 2018 Draft Measures, at Art. 37.
76 2018 Draft Measures at Art. 38.
• Hoarding service capabilities of network facilities maliciously
• Other acts that seriously disrupt the market order

In the case of disputes between operators and users, the 2018 Draft Measures provide for NEA mediation, or the right of an operator or user to seek arbitration or file litigation.  

**Assessment of 2018 Draft Measures**

On their face, the 2018 Draft Measures are an improvement over the 2014 Measures in a number of areas:

• Focus on the operators and placement of responsibility to adopt and implement TPA through public processes in a “fair and just way”
• Encouragement and support for capital investment in facilities by private parties
• Requirement that national and local development plans include consideration of TPA
• Requirement that “spare capacity” be calculated to assure full facility utilization
• Imposition of strict standards on operators to enter into service contracts with qualified users without unreasonable delay or the imposition of unreasonable conditions
• The requirement to adhere to government pricing standards
• Encouragement to operators to provide both interruptible and non-interruptible services on a monthly, quarterly or annual basis according to market demand
• Expansion of information disclosure and requirement to timely update
• Requirement to announce spare capacity on a per-monthly basis
• Shorter time allowed to respond to applications for access
• Imposition of stricter standards of compliance – both for operators and users
• Placement of onus on operators to demonstrate basis for rejection of applications
• Elevation of right to interpret the 2018 Draft Measures to the NDRC
• Expansion of NEA oversight and authority to enforce 2018 Draft Measures against operators and users, including imposition of penalties
• Adoption of dispute resolution through civil litigation or arbitration

All of these “improvements” in the 2018 Draft Measures signal to the energy industry that, at least structurally, the NEA takes TPA seriously. Once the 2018 Draft Measures are promulgated, and what remains of the Draft Measures becomes apparent, the proof will be in the proverbial pudding.

**Conclusion**

It is difficult not to be encouraged by the progress that has been made in China in the area of TPA, particularly when coupled with other concurrent reforms in the natural gas industry. While there is mild concern in the industry regarding the NEA’s failure to promulgate a version of the 2018 Draft Measures before the 2014 Measures expired, there is consensus that a set of measures that pays respect to the 2018 Draft Measures will be adopted in the near future to pick up where the 2014 Measures left off. Regardless of the final Measures, the 2018 Draft Measures herald an expanded and deepened commitment by the NDRC to TPA. Likewise, the unequivocal Opinions of the

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77 2018 Draft Measures at Art. 34.
CPC Central Committee, State Council and NDRC on TPA and natural gas reform generally indicate that it will be difficult, if not impossible, to turn back the clock on TPA in China.