Abandonment Disposal of Offshore Oil and Gas Production Facilities in China

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• Background and Introduction
  • Legal Framework
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Oil and gas field development generally will go through the exploration, development, production and abandonment disposal, where abandonment disposal is the final link.

Specific international related laws and regulations have stipulated that after offshore oil and gas fields complete production operations, they must decommission and experience abandonment disposal, if there is no other purpose or reasonable excuse.

Decommissioning refers to switching oil and gas production facilities from operation to closure (no activities related to hydrocarbon anymore), whereas abandonment disposal refers to moving oil and gas production facilities to a final place, and re-use locally for recycling or storage purposes.
• The first worldwide offshore abandonment disposal project happened in the Gulf of Mexico, 1973.
• In recent decades, more than 100 offshore platforms were removed every year in the Gulf of Mexico.
• China started offshore oil and gas production in the Bohai Bay from 1960s, and had discovered some offshore oil and gas fields in the Yellow Sea, the East Sea and the South Sea afterwards.
• Many of the offshore production platforms in China have already decommissioned, further abandonment disposal is needed.
Background and Introduction

Abandonment disposal of onshore oil and gas production facilities in China

• No specific regulations in the nationwide level
• Oil and gas companies have the autonomous right for abandonment disposal

Abandonment disposal of offshore oil and gas production facilities in China

• Interim provisions on facilities’ abandonment and disposal, released in 2010
• Provisions on managing corporate income tax for abandonment cost, released in 2011
Abandonment disposal of offshore oil and gas production facilities in China

• Main supervision departments:
  National Development and Reform Commission
  National Energy Administration

• Operator:
  Oil and gas company, such as Sinopec, PetroChina, CNOOC, etc.
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Legal Framework

1. 《Interim provisions on managing abandonment and disposal of offshore oil and gas production facilities》
   Oct, 2010
   National Development and Reform Commission
   National Energy Administration
   Ministry of Finance
   State Administration of Taxation
   The State Oceanic Administration
Legal Framework

Provisions formulated pursuant to

- *Regulations of the People’s Republic of China on the Control over Dumping Waste into Sea Waters*
- *Administrative Regulations of the People’s Republic of China on the Prevention and Control of Pollutant Damages to the Marine Environment by Ocean Engineering Construction Projects*
- *Regulations of the People’s Republic of China on the Exploitation of Offshore Petroleum Resources in Cooperation with Foreign Enterprises*
2. "Provisions on managing corporate income tax for abandonment costs of offshore oil and gas production facilities"

Mar, 2011

State Administration of Taxation
Provisions formulated pursuant to

- *Tax Collection and Administration of the People’s Republic of China*
- *Enterprise Income Tax Law Implementation Regulations of the People’s Republic of China*
- *Interim provisions on managing abandonment and disposal of offshore oil and gas production facilities*
• **What is offshore oil and gas production facilities??**

Offshore oil wells, offshore gas wells, offshore water wells, fixed platforms, artificial islands, a single point mooring system, floating productions, storage and offloading systems, submarine cables and pipelines, submarine production systems, onshore terminals, and other water surface and underwater oil and gas production-related auxiliary facilities thereof.

• **Abandonment cost**

The expense incurred by investors of an offshore oil and gas field in assuming the responsibilities and obligations of abandonment and disposal of the facilities, which is particularly used for abandoning, removing, land filling, cleaning up the wells and related facilities thereof, and restoring the ecological environment and the relevant preparatory work thereof.
Category 1. Plans and Requirements for Facility Abandonment and Disposal

• Key articles

✓ Pursuant to the investment ratio, the investors of the offshore oil and gas field shall assume the responsibilities and obligations of facility abandonment and disposal, and calculate, allocate a fund for the abandonment cost accordingly as a special fund for environmental protection and ecological restoration.

✓ The operator shall formulate concurrently both the overall development plan and the preparatory plan of facility abandonment and disposal prior to the commercial development of the offshore oil and gas field. The operator may modify the preparatory plan of facility abandonment and disposal if the offshore oil and gas field has been in production for three years.
Legal Framework

• Key articles (Cont’d)

✓ Abandonment and disposal of offshore oil and gas production facilities shall comply with the relevant environment protection regulations and requirements.

✓ The operator of an offshore oil and gas field shall, in accordance with requirements of relevant national technical rules, formulate an implementation plan on abandonment and disposal of the facilities. The implementation plan for abandonment and disposal of the facilities shall include the methods of facility abandonment and disposal, operating procedures, safety and protection measures, and cost estimation.

✓ Upon termination of production of an offshore oil and gas field, the operator shall commence the abandonment and disposal operations within one year after the date of termination of production of an offshore oil and gas field, unless there are new usages for the facilities or any other legitimate reason.
Category 2. Allocation and Management of the Fund for the Abandonment Cost

• Key articles

✓ The operator of an offshore oil and gas field is responsible for timely and full allocations of the fund for the abandonment cost.

✓ The abandonment cost borne by the investors of the sino-foreign cooperative oil and gas field shall be recorded in their joint account and may be recovered under the petroleum contract.

✓ The fund for the abandonment cost for offshore oil and gas fields shall be allocated on a monthly basis pursuant to the output-based method or the straight-line method. Once the method of allocation has been determined the method shall not be changed.
Method 1. Output-based method

Allocation of abandonment cost for current month

\[ \text{Allocation of abandonment cost for current month} = (\text{Total abandonment cost} - \text{Cumulative allocated amount}) \times \text{Allocation portion} - \text{Current month rubricated account gain and loss} \]

Allocation portion = \( \frac{\text{Current month production}}{\text{Current month production} + \text{Recoverable reserves within the whole production period}} \)

Method 2. Straight-line method

Allocation of abandonment cost for current month

\[ \text{Allocation of abandonment cost for current month} = \frac{\text{Total abandonment cost} - \text{Cumulative allocated amount}}{\text{Number of production months}} - \text{Current month rubricated account gain and loss} \]
• Key articles (Cont’d)

✓ The investors of a sino-foreign cooperative oil and gas field shall deposit the monthly allocated amount of the fund for the abandonment cost at a bank within the territory of the People’s Republic of China. The bank interest accrued by the fund for the abandonment cost shall be taken as one of sources of contribution to the abandonment cost. The bank shall be jointly designated by the investors who participate in the sino-foreign cooperative offshore oil and gas field project.

✓ The deposit account for the fund for the abandonment cost shall be managed and used only for the designated purposes as a special account for the oil and gas field, supervised and managed by the joint management committee of the oil and gas field, and shall be under the supervision of national energy administration and finance authorities.
Key articles (Cont’d)

- If, upon examination at the balance sheet date, the fund for the abandonment cost is found to be in excess of the amount that should be allocated, the surplus amount shall not be refunded to the investors. The excess amount of funds may carry over to offset the abandonment cost required to be allocated to the fund in subsequent years.

- The National Oil Company shall jointly establish and improve the management system of the fund for the abandonment cost with other investors.

- The operator of the offshore oil and gas field shall formulate a plan on the use of the fund for the abandonment cost and submit the plan to all the investors for review, pursuant to the requirements of implementation of the plan on facility abandonment and disposal, in the year before the abandonment and disposal is conducted.
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Case Study

Cao Fei Dian 1-6 Oil Field, located in Bohai Bay
Case Study

- Operated by CNOOC
- The first oil field abandonment project
- Stop production and close in Oct, 1995

- Close to anchorage area, which induces threats to sailing safety and environment security
Case Study

• Pursuant to 《Interim provisions on managing abandonment and disposal of offshore oil and gas production facilities》
• Main tasks include: remove a quadrangular pipe frame and a 1.5-kilometer bi-layer submarine pipeline, plug and abandon two producing wells, remove facilities around the well head
• Construction team formed on Jul 13, 2011
• Up to May 1, 2012, all abandonment works done
Case Study
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Challenges and Solutions

• Abandonment disposal regulations have been released, but still, further improvements need to be considered in operation and modifications to the regulations may even be possible.
• Professional staff are in shortage, and advanced trainings are necessary.
• Advanced and reliable blasting techniques, incision methods, etc., need to be learned from foreign experiences, and international cooperation will be helpful.
• Many oil and gas production platforms have been left unused for a long time and platforms were badly deteriorated, therefore, repairs are necessary to reinforce the structure of the platforms before removal.
• Environment related problems have key effects on the removal project, a detailed environment assessment report need to be investigated and prepared before removal.
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Conclusions

- Abandonment disposal of offshore oil and gas production facilities is a complex task involving multi-area techniques, and it is much more challenging than productive construction and set-up.
- Abandonment disposal of offshore oil and gas production facilities emerged as a key concern recently, and has been put a lot of attention already.
- Related regulations have been released to deal with the situation.
- Under the regulations released, several abandonment disposal projects are underway, and more offshore fixed platforms are going to be disposed successively.
- Offshore abandonment disposal industry will be a booming business in China.
Thank you!

Comments & Suggestions??

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