

# Choosing the Right Strategy

## Russia: Meeting the Challenges for Project Implementation

**Challenge** – After many years of limited investment in the refining industries of Russia and some CIS Countries we are now seeing an unprecedented amount of activity with respect to upgrading existing refineries and also plans for building new refineries.

The main drivers for this are the need to improve product qualities to meet local and international requirements, the higher export tariffs in crude give a financial incentive to refiners to sell products overseas and also in local markets, the higher crude oil prices give incentive



to increase efficiency and conversion in refineries, the trend towards processing heavier and more sour crude oils and the need to improve HSE in refineries and petrochemical complexes. The challenge will be how to meet these new targets in a cost effective and timely manner.

### Critical Issues

Some of the critical issues facing the industry today include: overloaded technology licensors; overloaded international contractors; overloaded local design institutes; overloaded equipment suppliers; insufficient capabilities of local manufacturing shops; long delays for critical equipment; limited number of approved suppliers; dramatic increase in prices of equipment and steels, and shortage of experienced construction companies.

### Strategy of Vertically Integrated Companies

Over the past decade the focus of the leading Russian oil companies was to invest in oil production facilities and in the infrastructure for exporting crude oil. However, today there is a definite change in strategy. Russian vertical integrated oil companies are seriously considering an



opportunity to change the stereotype of the raw material supplier to a supplier of end products for local markets and also for the export markets.

It is therefore extremely important that refiners select the most appropriate project for their specific needs and once the program is identified it is important that the projects are implemented in a timely and cost effective manner. For successful project implementation it is necessary to follow important key steps: evaluate options, select option, define project and implement project.

### Project Implementation Options

A traditional project implementation usually followed the following stages: engineering, procurement and then construction (EPC). A licensor would do the basic engineering then the client would select a detailed engineering contractor through a "tendering process" who would perform the detailed engineering and carry out the procurement activities followed by the construction activities. This can lead to very long project implementation schedules, in some cases as long as 5–7 years.

### Alternate Route to Project Implementation

Start with construction, then procurement and engineering (CPE). There are several construction issues which must be resolved at the beginning of a project: accessibility to site; means of transport for equipment; availability of heavy lift equipment; availability of skilled construction companies; space availability; any seasonal access problems and existing installations.

There are several critical issues relating to procurement so it is important that the procurement plan is outlined at this stage of the project. The client should work closely with the licensor, PMC and or FEED contractor. It is important to have an up to date knowledge of the worldwide equipment suppliers market. Many of the better known suppliers are fully booked for several months and they are quoting delivery times sometimes in excess of 2–3 years for large equipment. It is important to know delivery schedules for the critical equipment. The key issue is to define the critical equipment.

Once the main problems for procurement have been addressed the licensor can then set the basis of design for the basic engineering. There may also be an opportunity for the licensor to use an existing design or parts of existing design for critical areas. This can lead to substantial savings in time and engineering work. The licensor should work closely with the cli-

ent to realize the engineering design as early as possible for all long lead items.

### Contracting Strategy

There are several advantages to have the FEED contractor or EPC contractor on board at the early stages of the project. They can help to define all construction issues and to agree to an optimal procurement strategy. It will also be possible to place orders for long lead items much earlier.

There are various options for selecting contractors for EPC work. Traditionally, clients preferred to complete the basic engineering then prepare bidding documents so the contractors can prepare proposals for EPC services or EPCM services. This route takes several additional months. In today's market contractors are reluctant to spend valuable resources on preparing proposals and clients are finding it difficult to obtain competitive quotes. By preselecting a contractor based upon availability and experience the project can be completed in a shorter timeframe.

Contractors now propose to work on a reimbursable basis until such time that sufficient information is available on the design and from equipment suppliers such that the contract can be converted into a fixed price for the total services. This new approach has many benefits for both parties: costs are controlled, schedule is optimized, risk is minimized.

### Project Management

It is recommended that the client forms a dedicated project group that should follow the project through all its stages. The client could supplement this group with an experienced PMC group whose main role will be to provide coordination with all parties involved in the project and to monitor all stages of the project on behalf of the client as well as such issues like "QCS", quality, cost and schedule should also be under their control.

In order to minimize costs it is beneficial to purchase non critical equipment and materials in Russia. In such case it will be necessary to have in depth knowledge of local suppliers and their ability to deliver quality products on time and within the budget. Important choice of supplier can have a major detrimental impact on the project schedule and costs. All items of equipment which are critical for the process technology should be purchased from experienced suppliers. There are usually located offshore. There is an opportunity for local suppliers to deliver critical items if they can guarantee quality and schedule.

In order to ensure that costs are minimized it is preferable to competitive bidding. This process can be managed by the client project team alone or with participation of the selected PMC. To ensure quality and schedule it is important to carry out a full inspection program for all imported and local equipment. This process will identify future potential problems and help keep the project on track.

Usually local construction contractors are selected to perform all construction activities.

In many cases it is advisable to place a construction supervision team from the project Management consultant or EPCM contractor. The main duties are to ensure control of safety, schedule, quality and cost. Quite often construction conditions are extremely difficult due to climate conditions and short weather windows for importing equipment. Therefore logistic planning is critical to maintain the overall project schedule.

During final stages of construction it is advisable to have a full check of the unit by the licensor. Any required changes will need to be implemented prior to the unit start-up and performance tests. Once the unit is ready for start-up the licensor will give instructions for the operation parameters to be followed in order to carry out the performance tests. A successful start-up and follow-on operation of the unit is not only a result of the high-grade construction, but also this is performance of workmanship of the unit operators. All operators of the unit should pass through an appropriate intensive training before the unit will be put in operation. This part of the project is to be a responsibility of both licensor and client, and PMC should coordinate these aspects as well.

### Conclusion

In order to effectively implement projects in today's market it is necessary for clients and contractors to work in a partnership. The CPE approach offers advantages over the traditional EPC approach. In order to benefit from the potential advantages of this approach to project implementation it will be necessary for clients to have a strong project management team. The client team can be complimented by partnering with a project management consultant so that all critical stages and activities can be controlled.

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