

CHAPTER: 2

FOLLOW-UP ACTION ON REVIEWS IN THE LAST FIVE YEARS' AUDIT REPORTS

2.1 Introduction

Some of the main reviews throwing light on different activities relating to petroleum sector and which have been printed in the last five years' Audit Reports of the Comptroller and Auditor General of India in respect of Union Government (Commercial)-Public Sector Undertakings were: -

- Avoidable expenditure on creation of excess capacity by Oil and Natural Gas Corporation Limited (Audit Report No.4 of 2001);
- Marine logistics support services in Oil and Natural Gas Corporation Limited (Audit Report No.4 of 2002);
- Purchase, transportation, marketing of natural gas and extraction of liquid hydrocarbons by GAIL (India) Limited (Audit Report No.4 of 2004);
- Saurashtra exploration project of Oil India Limited (Audit Report No.4 of 2004).

This chapter contains a brief on audit conclusions/recommendations made in the above reviews, the Action Taken Notes (ATN) thereon of the Government and the audit remarks on the ATN.

2.2 'Avoidable expenditure on creation of excess capacity' relating to Oil and Natural Gas Corporation Limited (Chapter 6 of Audit Report No. 4 of 2001)

2.2.1 Background

Neelam oilfield of Oil and Natural Gas Corporation Limited (ONGC) denominates the combined structure of B-131 Southern and B-132 Northern located in Bombay Offshore. The 'Delineation Reports' for both structures were prepared in July 1988. The Institute of Reservoir Studies (IRS) of ONGC prepared, in March 1989, a Technological Scheme for development of the Neelam oilfield and based on that a Feasibility Report (FR) was submitted by ONGC and was cleared by the Government of India in February 1991. The development of the field started in June 1989 and full-scale production started from July 1994.

Performance of the Neelam oilfield during the period July 1994 to March 1999 vis-a-vis production facilities created on the field was reviewed in Audit.

The ATNs on the audit findings were furnished by the Ministry in December 2003.

2.2.2 The salient audit findings and action taken thereon by the Management/Ministry were as follows:

(i) Creation of excess capacity

ONGC had created (July 1994) processing capacity and supporting facilities and pipeline network in the Neelam oilfield for six MMTPA^{*}, even though the expected peak output, as per Technological Scheme for the development of the field in the initial nine years, was only four MMTPA. The estimates of reserve had been grossly overstated as was also clear from the production profile of the field during the period 1994-95 to 1998-99. All through these years the actual oil production steadily declined and was far below the projected production profile. Audit brought out the following shortcomings: -

(a) Preparation of Feasibility Report with inadequate inputs

The Delineation Report of 1988 was based on 2D seismic data collected between the period 1977 and 1984. It had been clearly recommended in the Report that collection and interpretation 'at the earliest' of 3D seismic data, which is more accurate and reliable, was necessary to know the precise structure configuration of the field and fault, if any. ONGC carried out 3D seismic survey in November–December 1989, and the interpretation report, which suggested that the structure of the field was steeper than earlier envisaged, thus, pointing towards the possibility of reserves being smaller than anticipated, was available only in 1992.

Thus, the Technological Scheme for development of the field prepared in March 1989 was not based on accurate information of the relative seismic data and the Feasibility Report submitted by ONGC to the Government for development of the Neelam oilfield on the basis of IRS's Technological Scheme was not well-founded.

The Ministry in the ATN did not accept the audit findings arguing that in the Exploration and Production industry it is a common practice for companies to take calculated risks and put up facilities depending upon upside potential of the field. It was further argued that delayed action would have entailed loss of early cash flows and time value of money and that the Delineation Report had clearly mentioned that the capacity of 'Process Platform' should be such that it had a potential for processing oil from the nearby fields which were likely to be discovered.

Audit did not accept these arguments being generic in nature and as these did not explain satisfactorily why 3D data was not interpreted early enough. While it is true that creation of additional facilities at a later stage might have involved some extra cost, investment without adequate exploration work and ignoring the available information resulted in mismatch of facilities created with the actual potential of the Neelam oilfield. Steps also needed to be taken to avoid recurrence of such instances in future.

^{*}*Million Metric Tones Per Annum*

(b) Non-utilisation of early information regarding gas cap

Based on the presumption that southern part of the Neelam oilfield had no gas cap, ONGC had estimated that geological reserves would have 196 MMT (total oil 167.967 MMT) and recoverable reserves of 61 MMT of oil and oil equivalent of gas. The doubt expressed in the Delineation Report with regard to presence of gas cap was disregarded. This presumption, however, proved to be erroneous, as drilling of five wells between June 1989 and December 1989 confirmed the presence of gas cap in the southern part. It was only in 1995 when IRS took up reservoir simulation study in the field and the geological model was updated after incorporating drilling results of the development wells, that the estimated geological and hydrocarbon reserves were revised downward from 167.967 MMT to 110.88 MMT of oil.

The Ministry argued in the ATN that presence of gas cap became known only in 1993-94, by which time more development wells had been drilled in the area and put on sustained production.

The argument was not acceptable, as information about gas cap was known to ONGC in 1989 itself when five exploratory wells drilled indicated higher availability of gas. But this information had not been considered seriously by ONGC before executing the Neelam Offshore Project.

(ii) Loss due to flaring of associated gas

Associated gas requires to be compressed before its transportation for further use. While ONGC created excess capacity for processing of oil, the capacity created for processing associated gas, which occurs along with oil, either as free gas or in solution, was much less than required. In the absence of adequate compression facilities gas had to be flared on site in volumes above that mandated for technical reasons. ONGC created gas dehydration and compression capacity of 2.56 MMSCMD[^]. But the actual gas availability was much in excess of the compression capacity, which was mainly due to discovery of southern gas cap.

The Ministry in the ATN argued that major portion of flaring done for technical reasons, was unavoidable. It added that creation of gas compression facilities were set up on the basis of the gas production estimates as reflected in the Technological Scheme prepared by IRS and incorporated in the Feasibility Report submitted to the Government. However, actual Gas-Oil-Ratio was higher which led to the flaring of gas. However, the compressor capacity at site was enhanced from 2.56 to 3.84 MMSCMD in order to reduce the gas flaring.

The contention of the Ministry was not acceptable because the development plans of Neelam oilfield could have been suitably modified by ONGC after it became known in 1989 that gas cap did actually exist in the southern part of the field.

Audit observed that flaring continued in the Neelam oilfield and that during 2003-04 itself 72.04 MMSCM of gas was flared.

[^] Million Metric Standard Cubic Metres Per Day

**2.3 *'Marine logistics support services in Oil and Natural Gas Corporation Limited'*
*(Chapter 4 of Audit Report No. 4 of 2002)***

2.3.1 *Background*

The logistics services to support the offshore operations of ONGC are met through offshore supply vessels (OSVs), which may be owned and hired. Even when OSVs are hired, their operation and maintenance may be outsourced. Besides being deployed on standby duty, cargo and rig move duties; OSVs are also deployed to meet contingencies such as fire, emergency and evacuation of personnel.

Audit reviewed the assessment of OSV requirement, their deployment and performance, upkeep and maintenance of owned OSVs and related contracts during the period 1995-96 to 1999-00. Fixation of charter hire rates for Indian National Shipowners Association (INSA) vessels from inception to date (March 2001) was also examined in Audit. The action taken notes on the audit findings were furnished by the Ministry in December 2003 and December 2004.

2.3.2 The salient audit findings and action taken thereupon by the Management/Ministry were as follows:

(i) *Norms for deployment of OSVs not fixed*

During the period 1995-96 to 1998-99 even as the number of actual duty stations came down from 45 to 42, the number of 57 OSVs deployed remained unchanged because of absence of approved norms. In spite of in-house efforts as well as reports of external consultants in the matter, the required norms had not materialised. It was argued that norms could not be accepted for two reasons (i) vessels owned by ONGC could not be disowned and (ii) vessels hired from INSA members could not be de-hired without the approval of the Government.

The Ministry in the ATN merely summarised the norms worked out in various in-house reports and by outside consultants. It did not address the core issue relating to the rationale of having so many studies while there was an in-built constraint in adopting any norms for deployment of OSVs.

(ii) *Rates for long-term charter hire of INSA vessels*

ONGC hired 25 OSVs from INSA members during 1983 to 1985. During this period the charter rates, which were earlier around US\$ 4500 per day, crashed to below US\$ 3000 per day. In view of this development the Indian Ship owners sought from the Ministry of Surface Transport and Ministry of Petroleum and Natural Gas suitable measures for losses. A Committee set up by the Ministry evolved (March 1984) a market driven formula, which was approved by the Government in August 1984, with a floor rate operating during depressed markets and ceiling rate operating during boom markets. The day rate calculated by the committee, however, slowly metamorphosed into a cost-based formula with complete protection for operators against market volatility, thus, depriving ONGC of the advantages of a competitive market price. Since during the period, ONGC was operating under the cost plus regime the impact of protected OSV hire rates was ultimately borne by the petroleum product consumers.

The Ministry in the ATN reported that it had decided to do away with the concept of market, floor and ceiling rates and instead adopted 'normative rate' i.e. a cost-based formula, after the committee appointed by the Government had considered the practical aspects of operations of OSVs and indigenisation of OSVs industry from larger national perspective on a longterm basis.

(iii) Force majeure clause not included in the contract

The model contract between ship owners and ONGC prepared by Director General (Shipping) incorporated a force majeure condition, according to which a vessel could be de-hired in the inverse order of their hire dates in the eventuality of vessels being rendered surplus due to substantial reduction in the requirement of OSVs. However, in the actual contract signed by ONGC with ship owners no such provision was incorporated, thus, depriving ONGC of the opportunity to reduce the fleet size in its offshore operations.

The Ministry argued in the ATN that during 1991-93 OSV requirement had actually increased. Consequently no loss had been suffered by ONGC due to non-inclusion of force majeure clause in respective contracts.

The argument advanced by the Ministry at ATN stage to justify non-incorporation of force majeure clause in OSV contracts is not acceptable because on verification of facts it was noted that there was an overall drop in the number of duty points required to be serviced by OSVs during the period in question. Moreover, even if the requirement of OSVs had really increased that would not diminish the merit of having a 'force majeure' clause in the OSV contracts.

(iv) Excess deployment on standby duty

The total requirement of 22 standby vessels worked out in May 1992 through an in-house study was further revised to 25 OSVs in October 1996. The actual deployment of OSVs on standby duties for the period from 1995-96 to 1998-99 exceeded these worked out norms by four to seven OSVs in different years. The cost of deploying OSVs in excess of normative requirement amounted to Rs.85.61 crore.

The Ministry in ATN did not accept audit findings stating that the OSVs were multipurpose duty vessels and that Audit had not considered the overlapping of duties.

This was not acceptable, as Audit had based its findings on the monthly standby duty hours recorded in the internal reports generated by ONGC and the standby duty hours so considered did not include OSVs hours utilised for other duties.

(v) Higher deployment on supply duty

The quantity of cargo delivered by OSVs per trip to various duty stations like rigs/installations was much below the storage capacity at each operation and also well below the deliverable capacity of OSVs. OSVs, thus, made more number of trips and resultantly more number of OSVs were deployed on supply duties than required.

The Ministry in the ATN stated (December 2003) that Marine Logistics had no control on the requirement of rigs/installations and it was purely decided by the particular user department and that there was no designated OSV for a particular rig/installation.

The ATN was not acceptable, as it did not bring out corrective measures to address the issue.

(vi) *Non-utilisation of water maker*

Facility of generating potable water through the water maker had been provided on all owned and hired rigs as well as platforms to cater to the requirement of water supply. However, in most of the platforms and owned rigs these water makers were either not operational or water generation was insufficient. As a result, the shortage of potable water was made good through supplies delivered by OSVs. This was, however, not cost effective. The expenditure on potable water supplied through OSVs amounted to Rs.63.83 crore during the period from 1995-96 to 1999-00.

The Ministry (December 2003) while admitting that the cost of producing water from water maker was cheaper than the water delivered through OSV, stated that transportation of water through OSV is resorted to, as water produced offshore is not sufficient as water makers mostly worked on heat recovery system.

The ATN is not acceptable, as it did not bring out any corrective measures to reduce dependence on water supply through OSV. The audit finding regarding non-functioning of water makers was also not addressed in the ATN.

The Ministry further stated (December 2004) that the water makers at the production installations were in working condition and therefore these production installations were not being supplied water through OSVs. Also action had since been taken to put the defective water makers of drilling rigs in operation so as to reduce the dependence on potable water.

The action taken would be verified in next Audit.

(vii) *Discrepancy in delivery of fuel*

A review of the bulk voyage statements of five out of 52 OSVs for the years 1999-00 and 2000-01 showed discrepancies in the quantity of fuel delivered by OSV and that acknowledged by the installations/rigs.

The Ministry in the ATN (December 2003) attributed the discrepancy to the difference of readings of OSVs vis-à-vis the reading of rigs. However, it also stated that drilling section of ONGC had been asked to have the flow meters on board rigs calibrated. Also, Remaining on Board (ROB) survey through independent surveyors of all OSVs on their arrival to Base was reported to have been introduced on regular basis. This was expected to regulate subsequent actions like supply of fuel to vessel, recovery of fuel cost during non-compensable down time etc. The Ministry further informed (December 2004) that the supply vessels had been equipped with calibrated flow meters to monitor the quantity of fuel supplied.

On verification of records Audit observed that no ONGC representative ROB and the vessels operated through private operation and maintenance operators. Therefore, ONGC had no means to check quantity of various materials on board as accounted for by private operators. ROB survey reports had also brought out some instances where quantity of fuel ROB was more than that accounted for, which was sufficient indication of the fact that accounting of quantities by OSV operators was not free from discrepancies. The efficacy of the calibrated flow meters and their impact on the discrepancies would be verified in Audit in due course.

(viii) Handling of bulk cargo

Bulk cargo consisting of barytes and cement was being loaded without regard to specific requirements or requisitions from the offshore rigs. The percentage of cargo remaining on board to cargo loaded during 1995-96, 1996-97, 1997-98, 1998-99 and 1999-00 constituted 58.21 per cent, 44.79 per cent, 45.02 per cent, 42.74 per cent and 36.06 per cent respectively. The number of sailings without delivering the cargo was also high.

The Ministry in the ATN stated (December 2003) that barytes and cement were not regular consumables like fuel and water and hence it was not possible to ascertain the average monthly or daily requirement of a particular installation.

The ATN was not acceptable to Audit as it indicated the non-seriousness of the Ministry/ONGC in addressing the issue.

The Ministry further stated (December 2004) that as per the industry practice the stability of vessel was maintained by cargo. Hence the entire cargo could not be delivered.

The requirement of cargo on board for stability of the vessels remained to be testified in Audit.

(ix) Consumption of fuel

Audit review of the fuel consumption of OSVs for the three years ending March 2000 revealed that in 1997-98 and 1999-00 per hour fuel consumption by owned OSVs was more than that of hired OSV. Audit also observed that even when the OSVs were berthed at the jetty/port there were wide variations in fuel consumption by owned and hired OSVs. Analysis of fuel consumption at Nhava Base revealed that there was no check on fuel consumption.

The Ministry in ATN stated (December 2003) that fuel consumption was a complex phenomenon and depends on various factors and that Audit had not considered all these factors. It further stated (December 2004) that Management has taken serious view regarding fuel consumption and continuously carrying out Energy Audit to bring fuel consumption to minimum. ONGC is also taking constructive efforts to minimise the fuel consumption.

The ATN was not acceptable because both owned and hired OSVs were operating in the same environment and the 'complex phenomenon' or factors would apply to both owned

and hired OSVs. Therefore, there was a need for corrective measures to have control on consumption of fuel.

(x) *Loss due to non utilisation of Global Positioning System-Assisted Improved Navigation System*

In order to improve navigation, reporting position of cargo and traffic management, Global Positioning System-Assisted Improved Navigation System (GAINS) was handed over to Logistics department of ONGC in April 1998. In spite of this the daily activities of OSVs continued to be regulated entirely on radio and GAINS had not been put to effective use. This resulted in infructuous expenditure of Rs.3.75 crore spent on procurement and commissioning of the system.

The Ministry argued (December 2003) that in order to economise the expensive INMARSAT billing through which GAINS communicates with Nhava the frequency of reports was kept to the minimum. It further stated (December 2004) that the system had been used in some vessels for navigational aid for fixation of voyage course and guidance.

The ATN was not acceptable, as ONGC should have considered the high cost of billing before acquiring the system and consider disposal of the system if it was not likely to be used effectively.

(xi) *Non-availability of Offshore Supply Vessels*

A comparison of the downtime of owned OSVs and hired OSVs showed that during the years between 1995-96 and 1997-98 the downtime of owned OSVs was considerably higher. The cost of the total downtime worked out to Rs.179.36 crore.

The Ministry in the ATN stated (December 2004) that 16 OSVs had been handed over to Shipping Corporation of India on cost plus basis for operation and maintenance. Remaining 15 OSVs had been handed over to M/s. ICAL under new contracts where a lumpsum was paid to the contractor for operation and maintenance and the repairs and maintenance charges are borne by ONGC. Corrective action was taken immediately to improve the health of the vessels. This resulted in increased availability of vessels.

(xii) *Poor maintenance of the Offshore Supply Vessels by the operators*

Since 1990-91 the operation and maintenance contract of owned vessels had been awarded to private parties. The defects noticed in OSVs at the time of handing over and taking over (HOTO) from old operators to new contractors of the OSVs were normally the responsibility of the outgoing operator. It was noticed in Audit that there were abnormal delays in the settlement of HOTO defects resulting in poor upkeep of OSVs for prolonged period and leading to further deterioration of OSVs as well as increase in downtime. Even the responsibility in respect of defects noticed during HOTO in 32 ONGC vessels between August 1996 and June 1997 had not been decided upto November 1998. As of September 1998, Rs.66.71 lakh had been spent on rectification of these defects by ONGC and estimated expenditure of Rs.2.80 crore was yet to be incurred. This indicated that only bare minimum repairs had been carried out and the

major repairs for which no liability was fixed on the contractors were yet to be carried out.

The Ministry in the ATN stated (December 2004) that ONGC had taken initiatives and corrective action to repair the defective equipments of OSVs and thus, increasing their capabilities. It added that contracts of all defaulting contractors had been cancelled and firms debarred for future business.

(xiii) Avoidable expenditure incurred on repairs of six vessels

In terms of the agreement entered into with M/s. Urmila and Company for operation and maintenance of ONGC owned vessels, the operator was required to keep the vessels in good running condition. Further, the operator was required to pay for the cost of repairs and bear all charges, which were required to be incurred to make the vessels fully operational. Though ONGC had noted the unsatisfactory maintenance of vessels on the part of the contractor it was compelled to extend the contracts because the new contracts could not be finalised in time. Finally the contract was terminated (March 1994) owing to poor performance. However, instead of getting the OSVs repaired from the outgoing operator as per the agreed terms and conditions ONGC got these repaired at its own cost after taking over from the operator, thus, incurring avoidable expenditure of Rs.14.02 crore.

The Ministry in the ATN stated (December 2004) that to avoid such a situation in future ONGC had handed over the operation and maintenance of owned OSVs to Shipping Corporation of India on cost plus basis.

2.3.3 Introduction of 'Offshore Logistics Module' in SAP[♦] system

In addition to above, in the ATN of December 2004, the Ministry emphasised that after introduction of Offshore Logistics Module in SAP system there would be effective control over deployment of OSVs on supply duty, number of trips to various duty stations, fuel consumption, discrepancies in delivery of fuel and the handling of bulk cargo.

However, the efficacy of the 'Offshore Logistics Module' in SAP system remained to be testified in Audit.

2.4 'Purchase, transportation, marketing of natural gas and extraction of liquid hydrocarbons by GAIL' (Chapter VIII of Audit Report No. 4 of 2004)

2.4.1 Background

The main objective of GAIL (India) Limited (Company) is the construction of pipelines and transportation of natural gas. The Company has also set up plants for extraction of liquid hydrocarbons, viz. LPG[^], Propane, Pentane etc. The Company is also producing and marketing polymers and transporting LPG. The performance of the Company in the purchase, transportation and marketing of natural gas and extraction of liquid

[♦]*Systems Applications and Products in data processing*

[^]*Liquified Petroleum Gas*

hydrocarbons for the period 1998-99 to 2002-03 was reviewed and audit findings printed in the Audit Report No 4 of 2004 (Commercial). Highlights of the review were as follows:

2.4.2 Salient audit findings

- The Company purchased the gas from Panna-Mukta and Tapti Fields operated by Private Sector Joint Venture, at 119 per cent of the International price. This resulted in an additional payment of Rs.212.86 crore to the Joint Venture.
- Gas from the Tapti field having low calorific value was being accepted by the Company since June 1997 at the normal price (without discount) as the Gas purchase and sales agreement was not executed (August 2003). The loss suffered on this account was Rs.43.68 crore.
- The Company purchased gas from joint ventures at a price higher than the price at which it sold to its customers. The higher cost of gas purchased from joint ventures amounted to Rs.3477 crore upto March 2003.
- Defective metering of supply from Hazira Bijaipur Jagdishpur pipeline of the Company resulted in short billed quantity of 1848.173 billion K cal valuing Rs.66.23 crore from April 1999 to March 2003.
- Despite shortage of actual availability of gas, allotment and supply of gas to Reliance Industries Limited was increased without recovering transportation charges and by making cuts in the supply to priority sectors like power generation and fertilizer. This resulted in loss of Rs.20.74 crore on account of transportation charges to the Company.
- The gas availability was not adequate to meet the requirements of company's LPG Plant at Usar. The Company went ahead in implementing the project at a cost of Rs.297.80 crore without a mid-term appraisal, rendering the investment infructuous.

2.4.3 Action taken note from the Ministry in respect of the above review was awaited (January 2005).

2.5 'Saurashtra Exploration Project of Oil India Limited' (Chapter IX of Audit Report No. 4 of 2004)

2.5.1 Oil India Limited (OIL) decided (July 1993) to drill four exploratory wells (one in North East Coast and three in Saurashtra Offshore) to arrive at a conclusive decision about the presence of hydrocarbon in those areas. On the basis of global tender, Essar Oil Limited (Contractor) was selected for the purpose. But scrutiny of the technical bid revealed that the Contractor failed utterly when deployed by ONGC on earlier occasion.

Incompetence of the Contractor also came to light more prominently while they were engaged in the drilling work. Notwithstanding this, the Company continued with the contract and was ultimately compelled to terminate the same. The Management also failed to encash performance guarantee bond.

The imprudent decision to award the drilling work to the Contractor resulted in infructuous expenditure of Rs.74.03 crore apart from involving the Company in an arbitration case.

The review was issued to the Ministry in May 2003. The reply and action taken note on the said review were not received (January 2005).