Chapter 3: Planning for vessels

The Company assesses requirement of vessels for marine logistics operations on the basis of the drilling plan (development and exploratory drilling locations), estimated load of cargo to be carried, number of duty stations (rigs/platforms) to be served and number of planned rig movements during the year. The number of vessels approved by the Executive Committee (EC) and the actual strength of vessels during the period from 2012-13 to 2016-17 is tabulated below:

Table 3.1: Table indicating approved *versus* actual strength of vessels

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17
Western Offshore					
Approved strength	65	68	62	62	57
Actual strength	44	40	47	58	57
Shortfall	21	28	15	4	0
Eastern Offshore					
Approved strength	8	8	8	12	10
Actual strength	8	8	8	8	7
Shortfall	0	0	0	4	3

Source: Data compiled from Annual/Monthly Activity reports of Supply Base

As may be seen from the above table, in Western Offshore, the actual strength of vessels deployed was less than the approved strength during the period 2012-13 to 2015-16. In case of Eastern Offshore, there was shortfall during the years 2015-16 and 2016-17. The reasons for shortfall and their impact on operations were reviewed in audit. The findings are discussed in subsequent paragraphs.

3.1 Defective assessment of requirement of OSVs resulted in availability of lesser vessels for mandatory standby duty

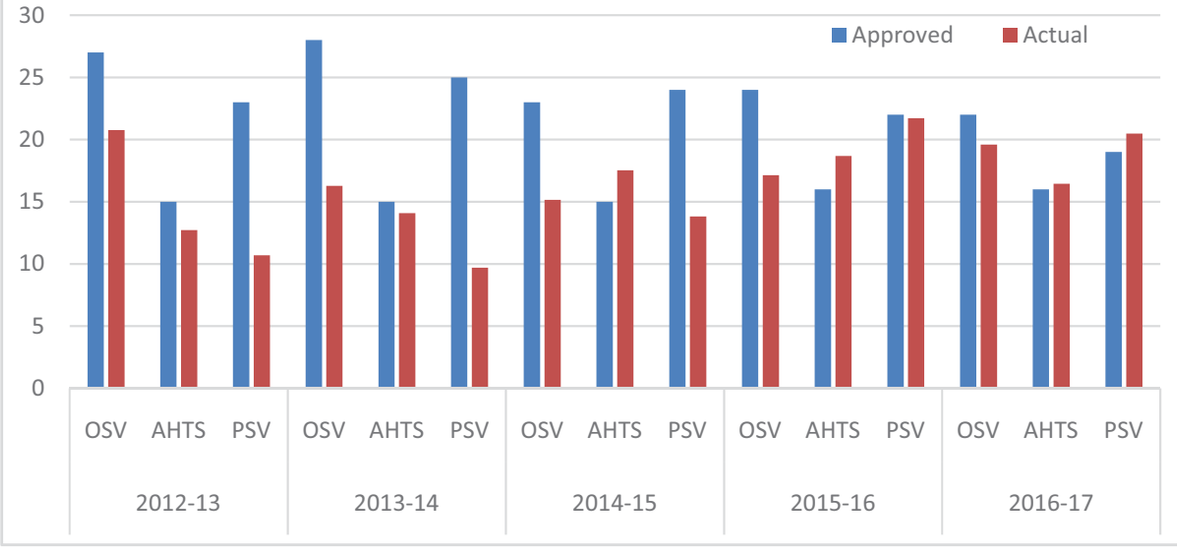
The Company is required to deploy standby vessel to each offshore installation, under the provisions of Petroleum and Natural Gas (Safety in Offshore Operations) Rules, 2008 and guidelines issued by Oil Industry Safety Directorate. The deployment of vessels was prescribed for meeting emergency response requirements such as warding off intruding vessels near the installations/rigs, providing fire fighting facilities, standby facilities during helicopter landing and take-off and for transferring materials from one rig to another deployed in nearby areas. Vessels are to be continuously deployed as per oil Industry practices, within 5 nautical miles[4] of each duty station. Accordingly, the Company has been adopting the following norms in line with Industry practice consistently:

[4] *Nautical Mile (NM) is unit used in measuring distances at sea, 1 NM= 1.852 kilometers*

Location	Norm
Exploratory location[5]	One vessel per rig
Development location[6]	Half vessel per rig (2 rigs in a radius of 5 nautical miles)
Process Complex[7]	One vessel per process complex

The Company calculated its requirement of vessels for standby duty on the basis of the above norms. The approved and actual strength of each type of vessel for Western Offshore for the period 2012-13 to 2016-17 is depicted in the chart below:

Chart -1 - Approved *versus* actual strength of vessels



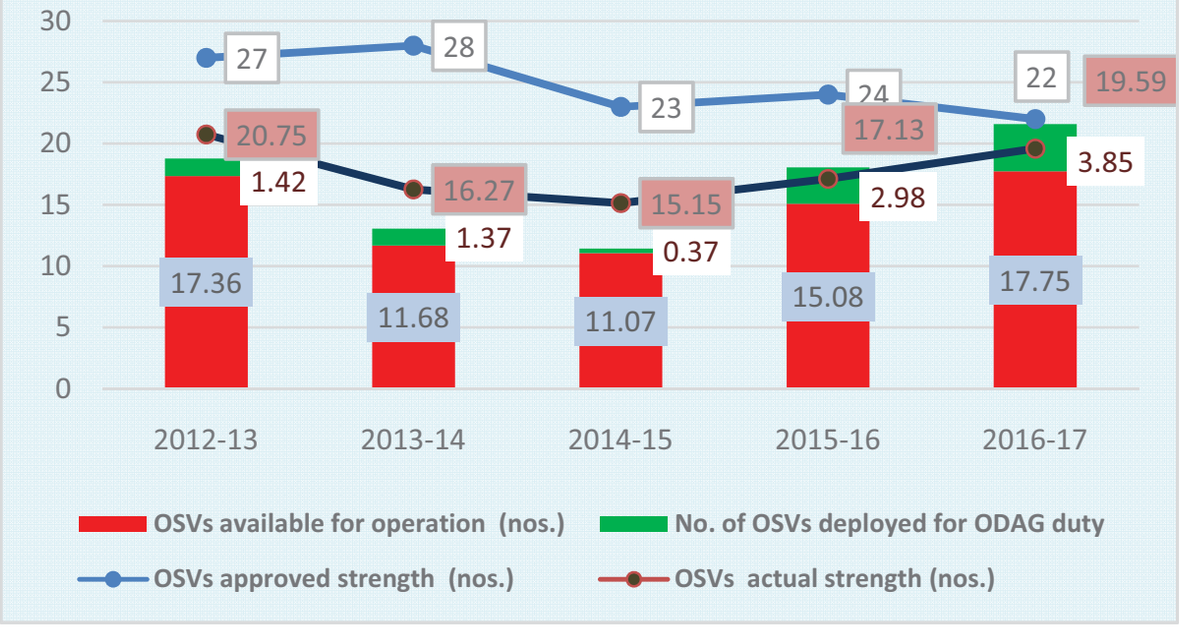
OSV: Offshore Support Vessel; AHTS: Anchor Handling Tug cum Supply Vessel; PSV: Platform Supply Vessel

Audit observed that the actual strength of OSVs was lower than the approved strength during the entire period. The actual AHTS strength was higher from 2014-15 to 2016-17, while PSVs actual strength was higher in 2016-17. Audit observed that the shortfall in the strength of OSVs was due to the following factors:

- The Company did not consider extra downtime of owned Samudrika series OSVs (all vessels in this series have been disposed off) and the extension of time granted to Pipavav shipyard for delivery of new owned vessels while proposing the required number of OSVs for standby operations.

[5] Locations containing wells drilled to determine whether hydrocarbons are present in a particular area
[6] Locations where, drilling and related activities necessary to begin production of oil or natural gas are carried out, after discovery of hydrocarbons
[7] Manned offshore platforms where oil and gas from the wells are semi processed before dispatch to onland terminals

Chart 2: OSVs available for Operation and ODAG duty deployment



- OSVs were provided to Offshore Defence Advisory Group (ODAG[8]) since 2006-07 for patrolling offshore installations. The Company did not consider OSVs provided to ODAG, while calculating the number of OSVs required for standby duty, during the period from 2012-13 to 2015-16. This resulted in lesser availability of OSVs leading to shortfall of mandatory standby duty of vessels for offshore operations as indicated in **Chart 2**. In the absence of sufficient number of OSVs, the Company diverted costlier PSVs for standby duty. This has been discussed in the subsequent paragraph 3.2 and 5.2.

Management stated (September 2017) that shortfall in number of OSVs was due to uncertainty in delivery of new OSVs. It added that the OSVs were provided for ODAG not on regular basis but only during monsoon period when patrol boats/immediate support vessels (ISV) could not be operated. Ministry endorsed reply of Management.

Audit holds that the Company did not consider the higher downtime of old Samudrika series OSVs, revised delivery schedule of shipyard and requirement of OSVs by ODAG. The OSVs were being deployed for ODAG duty even outside the monsoon period. The Company also did not hire OSVs on nomination basis for short-term period to make good the shortage. During the Exit Conference with Ministry (October 2017), Management/Ministry accepted that requirements of vessels for ODAG duty would henceforth be accounted for, at the planning stage itself.

[8] *Government constituted ODAG on 31st December 1983 to plan and advise GoI (MoPNG) and ONGC on threat perception and required security arrangement in the offshore regions*

3.2 Increased cost of operations due to reduction in OSVs in place of PSVs

The Company decided (February 2016) to reduce the approved strength of vessels from the existing (June 2014) 75 to 70 based on the recommendation of an in-house committee constituted to review the requirement of vessels. In the proposal to further optimise resources, the vessel strength was further reduced by two PSVs for the period 2016-17 to 2020-21. Executive Committee (EC) however, approved (March 2016) reduction of two OSVs instead of two PSVs as the EC was of the view that the demand for offshore supplies had increased immediately after rig moves.

Table 3.2: Vessel strength approved by Executive Committee

Types of vessels	Vessels strength approved by EC in its 448th meeting held in June 2014	Vessels strength proposed in 481th EC meeting held in February 2016	Vessel strength approved by EC in 482nd meeting held in March 2016
AHTS	26	26	25
OSV	25	24	22
PSV	24	20	20
Total	75	70	67

Audit observed that the decision to reduce OSVs in place of PSVs lacked justification as PSVs were costlier to hire than OSVs. Although the number of PSVs almost doubled from 10.69[9] (2012-13) to 20.48 (2016-17), the cargo carried by PSVs per voyage dropped significantly from 1210 MT (2012-13) to 790 MT (2016-17). The number of voyages per PSV per annum also showed decreasing trend from 62.64 voyages in 2013-14 to 39.21 during 2016-17. This was due to increase in the Turnaround Time (TAT) of PSVs both at the port and offshore. Further, Audit observed that there had been considerable increase in deployment of PSVs for standby duty i.e. from 3.33 (2012-13) to 7.74 PSVs (2016-17). The percentage of PSVs deployed for standby duty increased from 17.41 *per cent* in 2013-14 to 37.78 in 2016-17. This is likely to increase the cost of operation by `.25.99 crore during the period 2016-17 to 2020-21 considering the difference in the charter hire rates of PSV with OSV.

Management stated (September 2017) that the proposal to assign two PSVs in place of two OSVs was based on operational requirements and not on the basis of economics.

Audit had observed deployment of more number of PSVs for standby duty (Para 5.2), increasing trend of TAT at offshore (Para 5.3), absence of vessel scheduling for supply of cargo (Para 5.1) and substantial quantum of undelivered bulk cargo (Para 5.5). Therefore, the decision to reduce OSV instead of PSV lacked justification on grounds of both economy and operational requirement.

[9] *The decimal figure is due to availability of vessel for a partial period of the year*

Ministry stated (December 2017) that Management would address the mismatch between PSV/ OSV strength in future.

3.3 Non-consideration of annual drilling plan to review vessels requirement

The Company assessed the long term requirement of vessels after obtaining inputs from various user groups[10]. Based on the inputs received, EC approved the fleet strength for a period of three years. Audit observed that though the annual drilling plan[11]of the Company was prepared before the commencement of the relevant financial year, the number of rigs planned to be deployed as per the drilling plan was not considered while determining the requirement of vessels. This resulted in deployment of disproportionate number of vessels as compared to the requirements as per annual drilling plan.

Management accepted (September 2017) the audit observation and stated that the annual drilling plan shall be considered while planning for deployment of vessels in future.

Audit recommended that the vessel requirement be assessed based on the function to be carried out and the related cost, which needed to be reviewed linking the annual drilling plan to ensure its continued relevance.

Ministry accepted the Audit recommendation.

[10] *Assets for Offshore platforms and other installations and Drilling Services for Drilling Rigs requirement*
[11] *Annual Drilling Plan includes the name and number of rigs to be deployed at planned locations*

An OSV on standby duty