

## **Query No. 5**

**Subject: Valuation of inventories of iron ore fines.<sup>1</sup>**

### **A. Facts of the Case**

1. A Company, a maharatna public sector undertaking (PSU) (hereinafter referred to as 'the Company'), is the leading steel-making company in India having five Integrated Steel Plants and three Special Steel Plants. The Company produces both basic and special steels for domestic construction, engineering, power, railways, automotive and defence industries as well as for sale in export markets. The turnover of the company in the financial year 2018-19 was approximately Rs. 66,267 crore.

2. The Company also owns iron ore, flux and coal mines located in various states of the country. The entire iron ore required for the production of steel is sourced from the captive mines of the Company located in the states of Jharkhand, Odisha, Chhattisgarh and Madhya Pradesh. All the mining activities are administered by the Raw Materials Division (RMD) of the Company, having Head Quarter at Kolkata.

3. During the mining of iron ore, both Lumps and Fines are generated, having Iron content ranging from 61% to 66%. Both these products are used in the Integrated Steel Plants and therefore mining costs (including royalty) are allocated to Lumps and Fines as per the costing system in vogue in the Company.

4. However, during the process of mining and washing the ore, some quantity of tailings and sub-grade Iron Ore Fines (Iron content < 60%) are also generated. These sub-grade materials cannot be directly used in the manufacture of steel. Earlier, due to the absence of sufficient number of ore beneficiation plants in the country, there was very little demand for these materials in the market. Small quantities sold from time to time were accounted for as income as and when such sales occurred.

5. The Central Government, vide its order dated 19<sup>th</sup> September, 2012, stated that in the case of captive miners, "*the entire ore produced in the mining operation shall be used exclusively for own consumption in Iron or Steel making and cannot be either sold in India or exported to other countries*". Effectively, this notification prevented the company from selling these sub-grade fines in the market. Since these materials could neither be consumed nor sold, they had no economic value, and therefore, no costs were assigned to the tailings and sub-grade fines. (Emphasis supplied by the querist.)

6. Raw Material Division (RMD) of the Company has been disclosing the quantity of subgrade fines and tailings lying at different locations. As on 31<sup>st</sup> March, 2019, 41.52 million tonnes of such fines were lying in stock. This quantity was disclosed in the Notes to Accounts but was not valued as inventory. The relevant accounting policy in this regard is as follows:

"The iron ore fines not readily usable/saleable are included in inventory and revenue is recognised on disposal."

7. The Government of India, Ministry of Mines, vide its order no.F.No.16/30/2019-M.VI dated 16<sup>th</sup> September, 2019 directed the concerned State Governments to allow the sub-grade minerals lying at the captive mines of the Company to be sold in the open market (copy of the Order has been supplied by the querist for the perusal of the Committee). On an application made by the company in this behalf, the State

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<sup>1</sup> Opinion finalised by the Committee on 21.4.2020.

Government, in consultation with the Indian Bureau of Mines (IBM), shall by an order permit the Company to dispose of the mineral.

8. It is mentioned in the said Order that considering the economic rationale for realization of full value of mineral extracted from the captive mines and also for providing flexibility for complete utilization of all grades of minerals, it is imperative that the sub-grade ores/fines, which are not suitable for end use of captive purposes be allowed to be sold to the domestic end-user companies. The disposal of such stock piles would also enhance the availability of iron ore for the purpose of beneficiation and pelletisation which can be used in steel plants and sponge iron plants.

9. As the iron ore reserves in the country get depleted, there is a dearth of quality ore. The ore in the lower strata have high level of impurities (and consequently low iron content). However, such low-grade ore can be beneficiated and pelletized into usable inputs for blast furnaces. The stock of sub-grade iron ore fines lying in the mines of the company have iron content ranging from 56% to 61%. Such fines can be beneficiated by the buyers to increase the iron levels to 62% - 64%, which can then be converted into pellets and sold to steel plants for use in blast furnaces.

10. The deterioration in the quality of ore in the country has spawned an industry of ore beneficiation and pelletisation plants. In the Budget of 2012-13, the Government reduced the customs duty on import of plant and machinery for setting up iron ore pelletisation/beneficiation plants from 7.5% to 2.5%. As on date, there are 43 pelletisation plants in India with an installed capacity of 85 million tonnes per annum, and 25 beneficiation plants with an installed capacity of 117 million tonnes per annum. Use of pellets in steel making greatly increases the efficiency of the blast furnace and reduces the cost of production of steel.

11. The Company is of the view that the Notification referred to in paragraph 7 above has imparted economic value to the material lying in inventory and therefore, subject to statutory clearances being given by the respective State Governments, the Company can value the inventory at an appropriate cost.

12. Paragraph 33 of Indian Accounting Standard (Ind AS) 2, 'Inventories', inter alia, states as follows:

“33 A new assessment is made of net realisable value in each subsequent period. When the circumstances that previously caused inventories to be written down below cost no longer exist or when there is clear evidence of an increase in net realisable value because of changed economic circumstances, the amount of the write-down is reversed (ie the reversal is limited to the amount of the original write-down) so that the new carrying amount is the lower of cost and the revised net realisable value. ...”

13. The querist has also clarified that the sub-grade iron ore fines are neither joint products nor by-products. Earlier, mining was done manually by employing contractual labour. During manual mining, the fines, having low Fe content and higher level of impurities, which could not be directly used in steel manufacturing were categorised as sub-grade iron ore fines and stored separately in the mining areas. However, with the technological advancement, mining activities have been shifted from manual to mechanical. Further, bringing in advance beneficiation techniques and use of unutilized already generated waste at the mines have ensured utilization of the entire run of mines and zero wastage.

## B. Query

14. The opinion of the Expert Advisory Committee of the Institute of Chartered Accountants of India is sought on the following issues:

- (i) Whether the present policy of the company, as mentioned in paragraph 6, violates the accrual method of accounting mandated under section 128(1) of the Companies Act, 2013.
- (ii) Whether the inventory of iron ore fines lying in stock can be valued in the accounts at a suitable discount to the net realisable value or some other appropriate method.
- (iii) If yes, what will be accounting treatment in the books (whether the accretion in inventory needs to be shown as Other Comprehensive Income, or in the body of the P&L Statement) and what accounting policy should be disclosed in the accounts?

## C. Points considered by the Committee

15. The Committee notes that the basic issue raised in the query relates to accounting treatment in respect of accumulated sub-grade iron ore fines lying in the stores in the financial statements of the Company. The Committee, has therefore, considered only this issue and has not examined any other issue that may arise from the Facts of the Case, such as, revenue recognition in respect of sale of sub-grade iron ore fines, accounting treatment in respect of other products, such as, lumps and fines, etc. The Opinion expressed hereinafter is purely from accounting perspective and not from legal perspective including legal interpretation of Orders by Central Government dated 19<sup>th</sup> September, 2012 and 16<sup>th</sup> September, 2019. Further, the Accounting Standards referred hereinafter are Indian Accounting Standards, notified under the Companies (Indian Accounting Standards) Rules, 2015, as amended/revised from time to time.

16. At the outset the Committee notes the following paragraphs of Indian Accounting Standard (Ind AS) 2, 'Inventories':

“14 A production process may result in more than one product being produced simultaneously. This is the case, for example, when joint products are produced or when there is a main product and a by-product. When the costs of conversion of each product are not separately identifiable, they are allocated between the products on a rational and consistent basis. The allocation may be based, for example, on the relative sales value of each product either at the stage in the production process when the products become separately identifiable, or at the completion of production. Most by-products, by their nature, are immaterial. When this is the case, they are often measured at net realisable value and this value is deducted from the cost of the main product. As a result, the carrying amount of the main product is not materially different from its cost.”

**“Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.”**

“7 Net realisable value refers to the net amount that an entity expects to realise from the sale of inventory in the ordinary course of business. Fair value reflects the price at which an orderly transaction to sell the same inventory in the

principal (or most advantageous) market for that inventory would take place between market participants at the measurement date. The former is an entity-specific value; the latter is not. Net realisable value for inventories may not equal fair value less costs to sell.”

- “30 Estimates of net realisable value are based on the most reliable evidence available at the time the estimates are made, of the amount the inventories are expected to realise. These estimates take into consideration fluctuations of price or cost directly relating to events occurring after the end of the period to the extent that such events confirm conditions existing at the end of the period.
- 31 Estimates of net realisable value also take into consideration the purpose for which the inventory is held. For example, the net realisable value of the quantity of inventory held to satisfy firm sales or service contracts is based on the contract price. If the sales contracts are for less than the inventory quantities held, the net realisable value of the excess is based on general selling prices. Provisions may arise from firm sales contracts in excess of inventory quantities held or from firm purchase contracts. Such provisions are dealt with under Ind AS 37, *Provisions, Contingent Liabilities and Contingent Assets.*”
- “33. A new assessment is made of net realisable value in each subsequent period. When the circumstances that previously caused inventories to be written down below cost no longer exist or when there is clear evidence of an increase in net realisable value because of changed economic circumstances, the amount of the write-down is reversed (ie the reversal is limited to the amount of the original write-down) so that the new carrying amount is the lower of the cost and the revised net realisable value. This occurs, for example, when an item of inventory that is carried at net realisable value, because its selling price has declined, is still on hand in a subsequent period and its selling price has increased.”

From the above, the Committee notes that during a production process, more than one product may be produced simultaneously which may either be joint products or a main product and a byproduct. Although, what can be treated as a joint product or a main product and a by-product has not been explicitly defined in the standard, it states that most by-products are by their nature immaterial. Further, although the Standard does not mention about the waste products or wastes; sometimes the production process also results in waste products.

The Committee is of the view that whether a product/material is to be classified as joint-product/co-product or by-product or waste product depends on facts and circumstances of the case and based on a number of factors like objective of manufacture, whether the material was deliberately produced, certainty of use of the products, readiness for use without further processing, whether the intended use of the material is lawful, etc.

17. In this context, the Committee notes from the Facts of the Case that earlier due to the Government Order of 2012 and due to lack of advanced techniques and facilities, the sub-grade iron ore fines could neither be lawfully sold nor used by the Company. Further, the Committee notes that the querist has asserted that these iron ore fines are neither joint products nor byproducts; had no economic value for the Company; and no costs were assigned to the sub-grade fines, which indicate that these were considered as waste product by the company. The Committee is of the view that classification of sub-grade iron ore fines as a waste product or a by-product requires judgement based on various

factors, as afore-mentioned, which should be exercised by the Company itself. Accordingly, without exercising the said judgement, the Committee relies on the judgement of the Company and presumes that till these fines become useable/saleable for the Company; these were waste products for the Company. However, in the absence of any specific accounting requirements in respect of waste products in Ind AS 2 or any other Ind AS and considering the requirements of paragraphs 10 and 11 of Ind AS 8, 'Accounting Policies, Changes in Accounting Estimates and Errors', the Committee is of the view that in the extant case, accounting prescribed in respect of immaterial by-product may be applied. Accordingly, considering the requirements of paragraph 14 of Ind AS 2, the waste stock should have been measured at net realisable value, which due to the then prevailing conditions (viz., Government Notification preventing sale and non-availability of facilities with the company for captive consumption), could be considered to be nil. Therefore, disclosing the quantity of sub-grade iron ore fines in the Notes to Accounts was sufficient and appropriate till the time these fines are not useable/saleable for the Company.

18. However, the Committee is of the view that from the time these fines become useable/saleable for the Company due to Government Order of 2019 or due to advanced techniques and facilities, these cannot be considered as waste products and will need to be classified as a joint product or by-product. However, considering that these sub-grade fines having low iron (Fe) content are incidental and were not intended to be produced, the Committee is of the view that these would normally be of the nature of by-products. Therefore, the accounting prescribed in Ind AS 2 in respect of by-product should be followed by the Company in the extant case. In this context, the Committee notes that as per the requirements of Ind AS 2, when joint products and material by-products are also produced along with the main product during the production process, the cost is allocated between the products on a rational and consistent basis. Further, by-products which are immaterial are measured at net realisable value and the same is deducted from the cost of the main product. Accordingly, the Committee is of the view that if the sub-grade iron ore fines are in the nature of immaterial by-product, the same should be measured at net realisable value. However, if the same are in the nature of material byproduct, their cost should be determined in accordance with the above-reproduced requirements of paragraph 14 of AS 2 and then these should be valued as per paragraph 9 of Ind AS 2 which states that "Inventories shall be measured at the lower of cost and net realisable value". In this context, the Committee wishes to point out that while determining material/immaterial byproduct, the quantity as well as value of the products at the time when these products are produced should be considered.

19. As far as the stock of accumulated sub-grade fines is concerned, which has either become useable due to advanced techniques/facilities or has become saleable due to Government Order of 2019, the Committee notes that the same should be valued as per the principles of Ind AS 2, as discussed above. Further, an increase in the carrying amount of such inventories due to new developments, in the view of the Committee, should be recognised in the statement of profit and loss, considering it as a change in accounting estimates in accordance with the following requirements of Ind AS 8, 'Accounting Policies, Changes in Accounting Estimates and Errors':

***"A change in accounting estimate is an adjustment of the carrying amount of an asset or a liability, or the amount of the periodic consumption of an asset, that results from the assessment of the present status of, and expected future benefits and obligations associated with, assets and liabilities. Changes in***

**accounting estimates result from new information or new developments and accordingly, are not corrections of errors.”**

**“36 The effect of change in an accounting estimate, other than a change to which paragraph 37 applies, shall be recognised prospectively by including it in profit or loss in:**

- (a) the period of the change, if the change affects that period only; or**
- (b) the period of the change and future periods, if the change affects both.**

**37 To the extent that a change in an accounting estimate gives rise to changes in assets and liabilities, or relates to an item of equity, it shall be recognised by adjusting the carrying amount of the related asset, liability or equity item in the period of the change.”**

From the above, the Committee notes that change in estimates should be recognised prospectively in the statement of profit or loss.

20. The Committee also wishes to point out that on the basis of above discussion, if there has been an error in the accounting for sub-standard iron ore fines, the company should rectify and account for the same, considering it as ‘prior period items’ in accordance with the requirements of Ind AS 8.

#### **D. Opinion**

21. On the basis of the above, the Committee is of the following opinion on the issues raised in paragraph 13 above:

- (i) and (ii) Without exercising the judgement of whether the sub-standard or low grade fines are waste products or not and relying on the judgement of the Company, the Committee presumes that till these fines become useable/saleable for the Company; these were waste products for the Company. Therefore, in the absence of any specific accounting requirements in respect of waste products in Ind AS 2 or any other Ind AS and considering the requirements of paragraphs 10 and 11 of Ind AS 8, ‘Accounting Policies, Changes in Accounting Estimates and Errors’, in the extant case, accounting prescribed in respect of immaterial by-product may be applied. Accordingly, considering the requirements of paragraph 14 of Ind AS 2, the waste stock should have been measured at net realisable value, which due to the then prevailing conditions (viz., Government Notification preventing sale and non-availability of facilities with the company for captive consumption), could be considered to be nil. Therefore, disclosing the quantity of sub-grade iron ore fines in the Notes to Accounts by the company was sufficient and appropriate till the time these fines are not useable/saleable for the Company, as discussed in paragraph 17 above. Further, from the time these fines become useable/saleable for the Company due to Government Order of 2019 or due to advanced techniques and facilities, these cannot be considered as waste products and these would normally be of the nature of by-products. Therefore, the accounting prescribed in Ind AS 2 in respect of by-product should be followed by the Company in the extant case, as discussed in paragraph 18 above.
- (iii) As far as the stock of accumulated sub-grade fines are concerned, which has either become useable due to advanced techniques/facilities or has become saleable due to Government Order of 2019, the Committee notes that the same

should be valued as per the principles of Ind AS 2. Further, the Committee is of the view that an increase in the carrying amount of such inventories due to new developments, should be recognised in the statement of profit and loss, considering it as a change in accounting estimates in accordance with the requirements of Ind AS 8, as discussed in paragraph 19 above. The accounting policy of the company should be in accordance with the above-mentioned accounting treatment.

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