

**Nippon Steel Corporation, IR Briefing**  
**Concerning Strengthening the Steelmaking Business Base in AM/NS India**  
**(September 28, 2022)**  
**Summary of Q&A<sup>1</sup>**

Presented by:

Takahiro Mori, Representative Director and Executive Vice President, CFO

Hideki Ogawa, Executive Counselor

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◆ **Steel demand in India**

**Q While India's domestic growth in steel demand is attractive, wouldn't an increase in the number of suppliers lead to intensified competition? Please share with us your thoughts on the overall outlook for supply and demand of steel products in India.**

A Demand for steel products in India is expected to continue growing, but we believe there is little possibility of excessive competition. This is because it is very difficult to obtain land in India and there are high barriers to entry, so there is little possibility of an increase in the number of mills from China and other countries. In other words, I would say that India is a very attractive market for those who are already insiders.

Meanwhile, players inside India, including JSW and TATA, are competing to expand production capacity. By taking into account the public information on their expansion and considering supply and demand and our share in 2030, we have decided to invest in capacity expansion up to 15 million tons. This will be a race against time but I think it is unlikely that the nation's capacity will become excessive and domestic players will enter into a war of attrition. We believe that steel demand in India will reach 200 million tons in 2030 and we want to capture 15% of that market. We are thus eager to bring the capacity of AM/NS India up to 30 million tons.

◆ **AM/NS India's value and profitability**

**Q What kind of company is AM/NS India aiming to be in the Indian steel industry? I have the impression that it is trying to differentiate itself by shifting to high-grade steel.**

A At present, AM/NS India is the fifth largest steelmaker in size. One of our goals is to further increase its presence and position. We think AM/NS India will be able to increase its market share in the high-grade steel sector, centered on steel sheets, as it is a sector of strength for both of its parent companies. On the other hand, the most attractive point of investing in India is that the market is growing and we can pursue scale. So we will aim for two fronts: a presence in high-grade steel and a presence based on scale.

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<sup>1</sup> Based on information as of the date of the briefing.

**Q In response to demand growth in India, mainstream approach appears to be to secure quantity by emphasizing light facilities and competitiveness, as represented by the compact strip process. This approach is somewhat contradictory to the idea of dealing with high-grade steel with heavy facilities in preparation for the future increase in sophisticated demand. What is your viewpoint regarding AM/NS India's strategy to secure quantity and at the same time respond to shift in demand to higher grade steel from commodity grade steel?**

A The current facility structure of AM/NS India comprises mainly MIDREX (gas-based direct reduction ironmaking facilities), with electric arc furnaces or CONARC for melting and refining to produce steel, and a compact hot-strip mill for hot rolling. This has resulted in the achievement of competitive costs with light facilities. The current facilities alone, however, will not enable us to demonstrate sufficient quality competitiveness in the high-grade steel market, so we will add facilities in the expansion investment at this time. In the future, we will consider a phase 2 of the expansion investment in Hazira and the construction of a new steel mill in Eastern India. An important consideration here will also be to realize overall facilities that enable us to pursue both quantity and quality in a balanced manner. We will aim to grow in the high-grade steel sector (our area of strength) while seeking volume growth.

**Q I think AM/NS India is competitive in terms of variable costs, as it has its own iron ore and pellets and Nippon Steel's technical insights can be incorporated. Even if steel demand in India does not increase, would this allow AM/NS India to maintain the capacity utilization rate through exports and other means, because of its competitiveness?**

A Although the Indian market is currently at a standstill, partly due to seasonal factors, we believe that this is a short-term phenomenon, and there is no problem regarding medium- to long-term growth. India's steel demand in 2030 is estimated to be 200 million tons or 300 million tons. In addition, AM/NS India has export competitiveness, as it internally sources a considerable proportion of iron ore, and the iron ore it procures externally is much cheaper than the iron ore which is generally distributed in the market.

**Q There must be some risk in starting two blast furnaces at once, but I think that unlike other Indian companies, you may have some means or strengths to avoid the risk. Do you have any ideas about this?**

A The #1 blast furnace (BF), which is currently in operation, is approaching the relining period. Since the simultaneous relining of the #1 BF and the start-up of two new BFs entail some risks, we will avoid this by putting a little less than one year between the start-up of the #2 BF (phase 1) and the start-up of the #3 BF (phase 2) to normalize their impact. So, first the #2 BF will start up, soon after the relining work on the #1 BF currently in operation will commence, and then the #3 BF will start up.

**Q What kind of economic return do you expect from an investment of nearly ¥1 trillion? Since AM/NS**

**India is an equity-method affiliate of Nippon Steel, this investment will not appear on your own consolidated balance sheet, but there are concerns that the balance sheet of AM/NS India will expand. Have you fully examined the potential profitability of this investment amid the changing trends in the global economy?**

A We aim to expand AM/NS India's profits beyond its doubling of capacity. That will be achieved by securing its high-grade steel capability and supplying high-value-added products.

In the case of the Hazira expansion, profitability can be achieved through capacity expansion and the provision of high-grade products. In the case of the acquisition of key infrastructure assets, the infrastructure itself does not create value but the acquisition and ownership of these assets will contribute to cost reduction as usage fees, including margin, no longer need to be paid to the asset owners. These critical infrastructure assets should have been acquired at the time of the initial acquisition in December 2019. We have confirmed that if they had been included in the initial acquisition, the entire project would be profitable enough.

Concerning the investment at this time, we have determined that this is very likely to be profitable based on cash flow estimate from all aspects.

**Q As AM/NS India is an equity-method affiliate, its investment is recorded as an equity-method investment on your consolidated balance sheet. Going forward, AM/NS India's profit will grow, their book value on your consolidated balance sheet will increase, and your assets in India will represent a higher portion of your assets. Is it correct to understand that the local investment requirement will continue and cash inflow through dividend payments from AM/NS India cannot be expected?**

A We are aiming for profit growth in growing markets, so it is unavoidable that investments will take the lead. We have incorporated this factor in performing detailed cash flow calculations and have examined whether we can withstand various risks in making this investment decision. We will continue to do so for future investments as well.

**Q The failure of the former Essar was caused by the LNG procurement problem. I heard that AM/NS India has resolved the procurement problem by hedging LNG prices for the next 4-5 years. Will costs increase when the hedge contract is completed and the next one needs to be exchanged?**

A AM/NS India has already entered into a contract to hedge LNG prices for the next 4-5 years, so its LNG procurement costs will not change even if LNG market prices fluctuate. When we acquired the former Essar, we were most concerned that the price of LNG, which fluctuates regardless of the trend in the steel industry, might directly be linked to the cost. We had discussed with ArcelorMittal how we could avoid this and have decided on the current system. We are currently considering how to manage LNG procurement cost beyond the contract term.

**Q AM/NS India has a large proportion of its iron ore procured in-house. How will that ratio change after this expansion?**

A: AM/NS India internally sources the majority of its iron ore, as it owns two iron ore mines. As the company's production scale increases, the ratio of internally sourced ore will decrease unless the existing owned mines are expanded or additional mines are acquired. In India, there are tenders for mines by state, and we intend to seize opportunities and take such actions.

As for coking coal, it cannot be sourced domestically, and almost 100% of it is imported, which is similar to other mills in India.

◆ **Future expansion**

**Q According to the announcement by ArcelorMittal, there is an idea to expand from 15 million tons to 20 million tons, and the investment cost for this will be low. Will you explain the specific details.**

A We are able to announce the expansion to 15 million tons, as a concrete plan has been made. We are currently in the process of considering expansion to 20 million tons. We are debating whether we should invest in a blast furnace or MIDREX as upstream facilities and whether an increase of 5 million tons will be sufficient. So, we don't have anything specific to disclose yet.

**Q What has been decided about the new steel mill in Eastern India?**

A There is nothing more we can say now other than the information that has already been announced or is generally known to the public, but we are steadily proceeding with an internal examination. We will properly disclose matters once a final plan has been prepared. So please wait for any further information.

◆ **Carbon neutrality**

**Q Let me ask about AM/NS India's environmental competitiveness and carbon neutral strategy. What kind of vision does it have, including the transfer of decarbonization technology from the two parent companies using blast furnaces and the use of renewable energy?**

A As for AM/NS India's carbon neutrality strategy, we mentioned that both parent companies will transfer the technologies. In the case of aiming for carbon neutrality by choosing the blast furnace (BF) method, we believe that the method of injecting hydrogen as a reducing agent into a BF is the most effective way to achieve carbon neutrality. You may wonder why we choose the BF method, as the use of MIDREX and an electric arc furnace (EAF) can curb the level of CO<sub>2</sub> emissions. The use of MIDREX and EAF, however, has a downside concerning the stable procurement of steel scrap and raw materials for high-grade pellets and others. If we aim to achieve carbon neutrality while solving the raw material issue, it will take time to expand capacity. Furthermore, for example, if the capacity expansion of one BF were to be realized with

MIDREX, multiple large MIDREX units would be required, which would require a considerable amount of space. Therefore, we chose the BF method because it is the most efficient method to speedily secure a large quantity of capacity, and also because we want to secure the ability to produce high-grade steel as long as we invest in it. In the meantime, we are considering replacing COREX (direct reduction ironmaking by coal) facilities, which emits a relatively large amount of CO<sub>2</sub>, among the existing upstream facilities, in order to avoid a significant increase in CO<sub>2</sub> emissions over the short term. In addition, as I mentioned in the past, AM/NS India has decided to invest in a renewable energy power project which generates green power that covers 20% of their electricity consumption. The power infrastructure assets to be acquired this time will also take into account the transfer to clean energy.

**Q The operations in India are not included in Nippon Steel's CO<sub>2</sub> emission reduction plan and may have a different timing but will you explain AM/NS India's current positioning on environmental competitiveness and future goals?**

A AM/NS India is in the midst of creating a climate action report and is considering a roadmap and emission reduction targets. Once a concrete plan is ready, we will announce it. India as a country has set the goal of achieving carbon neutrality in 2070, which is 20 years behind the goal of Japan. However, social needs for carbon neutrality are just as strong as in Japan. We are therefore committed to doing whatever we can whenever we can.

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