Investors' Meeting for Current Priority Management Issues and Business Strategy
Q&A Summary

Date and time: Friday, June 1, 10:00 to 11:30 a.m.
Presenter: Masakazu Tokura, President

Specialty Chemicals

**Q. I would like to ask about the timing of your increase in separator production capacity from 300 million m²/year to 400 million m²/year, as well as about subsequent expansion plans.**
**I hear that bottlenecks in electric vehicle production for a North American manufacturer are gradually being resolved, and there is also talk of investment in China. In addition, you touched on adoption by those other than your existing customers. Could you provide a more detailed explanation?**

A. According to some reports, the leadership of a North American manufacturer has taken command on the ground, and is said to have raised production targets from 5,000 units/week to 6,000 units/week by the end of June 2018. Panasonic has a production capacity of 35GWh in the Gigafactory, with batteries produced in that factory used in both electric vehicles and electricity storage systems, and it seems demand for electric vehicle batteries is gradually recovering, with batteries produced for use in storage systems being used for electric vehicles instead. For this reason, we had stopped our expansion of separator production capacity at 300 million m²/year, but we must start preparing to expand production capacity to 400 million m²/year. Furthermore, because we are also conducting work aimed at expanding adoption of our separators for use in other automotive-use batteries beyond the North American electric vehicle manufacturer, we believe it is necessary to quickly expand our production capacity to 400 million m²/year.
In addition, because China has decided to repeal foreign investment controls, the North American electric vehicle manufacturer is planning to move into China, and we are keeping a close eye on its and Panasonic's movements. Because there is a lively demand for automotive-use batteries in China at the moment, we are working to have our separators adopted by new clients. Within Japan, customers have decided to adopt them for use in rectangular batteries, though this business is still small.

**Q. I would like to ask your thoughts on in-house production of the base film for the separators.**

A. Seeing as our strength is in the separator coating technology, as long as we could reliably purchase the base film at low cost, there would be no need to invest in in-house production, but because demand for the base film is currently quite tight, we are considering making the investment. Our goal would not be to sell the base, but rather to reliably procure base film for coating through in-house production. Producing the base film in-house would be pointless, however, if it did not give us a competitive advantage in cost, so we are currently conducting studies to verify that.

**Q. In the IT-related Chemicals Sector, it seems things are not meeting expectations, such as core operating income for the fourth quarter of FY2017 being underwater, so what sort of issues did you have, and what are your thoughts on improving income going forward? In addition, it looks like your investments are also a bit scattered, as you are also investing in the polarizing film business in China, so could you please go over your future plans again?**

A. While the IT-related Chemicals Sector dipped into the red in the fourth quarter due to special factors accompanying the conversion of XUYOU Electronic Materials Technology into a subsidiary, without those factors, we would have been in the black, though not by very much. The area where income fell significantly below initial expectations was touch sensor panels. As seen in anemic sales of a model with an OLED panel from a major smartphone manufacturer, sales of smartphones using OLED panels have become concerning due to aggressive price cuts in LTPS LCDs. In light of these circumstances, the OLED panel manufacturer has been working to enhance the strength of its products in order to raise the utilization rate of its manufacturing plants. This has produced steady results, and since April, we are producing touch sensor panels at full utilization. In addition, we have also completed the depreciation of a portion of our touch sensor equipment, so profit margins are also recovering.

In the semiconductor field, we also predict that profits will continue at a high level. Due to the two factors of strong sales in the semiconductor field and a recovery in touch sensors, we are not overly concerned about the results for the IT-related Chemicals Sector for FY2018.

While we are shifting our investments in OLED-related materials and semiconductor materials, we are also holding steady on our polarizing film business for LCD TVs.

For some time we have been working to build customer-oriented supply chains. Now utilizing these supply chains, we are going to build production optimizations globally and pursue cost competitiveness.

The recent conversion of a Chinese base film manufacturing company to a subsidiary was conducted based on the thinking that it was the necessary investment for this initiative.

In the past, there have been times when ROI for the IT-related Chemicals Sector exceeded 7%, but currently it has remained at a low level, partly because the majority of the materials in manufacturing polarizers for LCDs were purchased from other companies at the beginning. However in recent years, we have expanded our use of in-house materials. In addition, we expect to use in-house materials for the majority of materials for polarizers for OLED displays.

**Q. On slide 34, about the IT-related Chemicals Sector, you list your major development projects as "Flexible display materials," "PLED light-emitting materials (for medium-size displays)," and "PLED light-emitting materials (for large-size displays)," but to what degree will each of these product categories contribute to revenue and profits in three years or five years?**

A. PLED light-emitting materials are split into medium-size and large-size, and we expect revenue of several tens of billions of yen. As shown on slide 36, we have very high expectations for JOLEDs. According to news reports, automotive-related companies are looking at capital participation, and we have particularly high expectations for sales for in-vehicle applications. As connectivity and automation increase in automobiles, displays and sensors will be more widely used for vehicle decorations, information display, and for parts that demand a pleasant user experience.

At the same time, we are considering large-scale displays for TVs as our main focus in terms of scale of sales, though I will refrain from comment due to client confidentiality. As for flexible display materials, it will depend on whether we sell them as base components or as integrated functional components, but either way we expect to begin from several billion yen, with sales increasing to a level of several tens of billions of yen.

**Q. At what point do you envision reaching several tens of billions of yen in sales for each of these products?**

A. We expect that television applications will be the largest use for PLED light-emitting materials. Until sales volumes for OLED TVs reach to some amount of money, it will be difficult for OLED materials sales to reach tens of billions of yen. It will depend on television manufacturers.

As for flexible displays, we expect that their sales will reach to some extent at an early stage, though it depends on the trends of OLED panels centering foldable devices.

**Q. In your results forecast for this fiscal year, you factored in a 10% increase in methionine prices, while other companies have put forth an 8% increase, but what has been the response in methionine prices? In addition, if methionine prices do not increase from their current level, will you be able to increase income even with the increased depreciation costs from the operations of the new plant?**

A. We are confident that even if current methionine prices continue, we will be able to produce a profit after depreciating the setup of the new plant.

As for the status of the price increase, three months ago we understood that prices were rising steadily, but now it has become something of an uphill battle. Other methionine-producing companies are announcing price increases, but they are not increasing sharply, and there is a possibility that the 10% increase we factored in for fiscal 2018 will not be achievable. As the completion ceremony for the new plant is planned for October and I hope to attend with a smile on my face, I would like prices to rise if possible.

When methionine prices had hit around $5/kg, methionine-producing companies announced capacity expansion plans of a combined total of 900,000 tons, but now, as prices have come down, construction has started on around 300,000 tons, including our 100,000 tons. According to our analysis, it seems to us that the other expansion plans have not yet started. Methionine demand is still growing at about 6-7% per year, so eventually supply and demand will tighten up, and we expect that will be reflected in prices.

**Q. While there has been some talk of a suckerfish strategy in the presentation, what are your thoughts on expanding facilities for distribution and formulations and M&A? Since you have the several good crop protection chemicals, and since structurally ROI is highest in the Health & Crop Sciences Sector, as shown on slide 18, why not use your money a bit more? And could you please give us some guidance on your growth strategy, including whether or not you will expand your formulations?**

A. While a suckerfish strategy is important, our major strategy is to expand sales of our own chemicals (including mixtures) through our own global footprint; we are discussing the subject intensely. To put forth two major previous examples we did, one was a 20% investment in Nufarm, which not only allowed us to use Nufarm's sales network as much as possible, but also to develop mixtures. The other recent example is the purchase of Excel Crop Care; we expect significant growth in the Indian market. We are also considering options in Brazil, in South America, and in Europe, searching for candidates. Acquisition candidates are not that simple to find, and while we have nothing concrete to say at the moment, we would like to continue our examination going forward.

Furthermore, with regard to R&D, because appropriate crop protection chemical mixtures vary according to climate and terrain, we would like to further expand our research and development facilities around the world (see slide 43), considering a wide variety of regions.

**Q. I have heard that soybean production is massively increasing in the east and northeast of China. I would guess that Sumitomo Chemical has a certain degree of exposure to soybean production, especially in North and South America. If the current situation between the US and China continues, will there be an impact on your agrichemicals business? Or will there be no significant problem because 80% of global soybean production is in the Americas?**

A. US policies are unclear, but we have a significant business foundation in North America as Valent, so situations that are problematic for American soybean farmers are also problematic for us.

The US is considering imposing a 25% tariff on automobiles, and we consider that it is not out of the question that our businesses, not just our crop protection chemical business, will see some degree of impact from the rise of protectionism. In these circumstances, our company is continuing steady efforts through the Japan Business Federation and other organizations, not just to persuade the US federal government, but also to persuade the state governments to maintain free trade.

**Q. You forecast a market in excess of 100 billion yen for the entirety of your B2020 line of agrochemicals in development, but what sort of sales do you expect for just INDIFLIN™ (inpyrfluxam)? Also, as it looks like you have especially many new agrochemicals launching in 2021 and beyond, will the research and development costs be concentrated in 2019 and 2020?**

A. Research has already begun for A2020, and even for T2030 (toward 2030), the project following A2020; it is not the case that research and development costs are concentrated in any particular time period. As for B2020's market in excess of 100 billion yen, this includes the possibility of contract manufacturing with license fees through some sort of sales collaboration with other companies, and I would like you to understand this is a general sense of scale while the details of manufacturing and sales are still unclear, but we believe that sales of INDIFLIN™ will peak at around several tens of billions of yen. At the research presentation meeting held this week, our researchers were proud to announce this as a topic, and it left an extremely strong impression.

Bulk Chemicals

**Q. When will Petro Rabigh Phase II begin full-scale mass production and start contributing to income? Also, while you have factored in the weakness in the MMA market, I would like to ask about the background to the decision to restart the plant in Singapore.**

A. The setup for each plant in Rabigh Phase II is proceeding smoothly, and we will begin recording income after going through operational tests, based on the project finance contracts. We expect to begin recording income this fiscal year. As for MMA, while margins are quite high at the moment, we think that environmental regulation problems in China are having a major impact. Acrylonitrile operations are decreasing in China, and so production of hydrocyanic acid, which is a by-product of acrylonitrile, is decreasing. For this reason, MMA production using an acetone cyanohydrin method, which uses hydrocyanic acid, is necessarily falling due to a raw material bottleneck. Going forward, we believe that MMA supply and demand will continue to be quite tight. Because the current circumstances are too extreme, however, we factored a weakening of margins into our forecast for this fiscal year, but I think we may have taken too conservative an outlook in some places. Sumitomo Chemical Asia in Singapore has stopped one of three MMA monomer plant lines, but as the plant was not scrapped, it is possible to restart it. Personnel will be a bigger problem than money when starting up, but the technicians who were sent to Rabigh to set up the MMA plant for Rabigh Phase II can be sent home once the setup on the Phase II plant is complete. We expect that the technicians who return to Singapore will contribute to restarting the Singapore monomer plant sooner. We think it may take almost a year to restart it, but because MMA supply and demand are very good, we would like to work to set it back up as soon as possible.

**Q. When do you think Petro Rabigh Phase II will begin contributing to core operating income?**

A. We plan to begin depreciation of Phase II and recording income in the second half of this fiscal year. Because it will take some time to achieve high, stable operation, we expect that it will begin year-round contribution to income in fiscal 2020 and beyond.

**Q. For Phase I, crude oil prices have been increasing, but in light of these circumstances, has there been any change to the degree of contribution and expected value for Rabigh as a whole?**

A. Because the margins between product markets and raw ethane grow as crude oil prices increase, if we looked just at that it would be a positive factor for our company. As to the question of whether crude oil prices will stay where they are, however, we take a skeptical view. In the end, because of the possible impact of things like shale oil and adjustments in crude oil production, we do not expect any particular increase in profits from rising crude oil prices.

**Q. About cash flows used in financing activities for this fiscal year, I believe you have factored in increased investments for Rabigh Phase II, but because you have no plans for Phase III at this point, should I understand that going forward, essentially your profits will increase and capital will be recovered? Should we consider cash outflows for Rabigh to have reached a stopping point for major items in this current Corporate Business Plan?**

A. As you have understood, increased investments for this fiscal year have been factored in to our cash flow projections. While it has taken longer than initially envisioned, we believe we will enter a period of recovering capital through dividends going forward.

**Q. I would like to ask if you will reach a decision on the restructuring of your caprolactam business in this fiscal year, and about the direction of your deliberations, as far as you can share.**

A. We are still in discussions over the restructuring of our caprolactam business. The reason these discussions are taking so long is not because good market conditions are continuing, but because it is providing raw materials for the Rabigh Phase II nylon 6 plant. Currently, the supply of caprolactam is tight, and we are providing a stable supply to Petro Rabigh so as not to cause delays in the Phase II setup process. In today's news reports, there was a report on whether we would withdraw from the caprolactam business, but it was said in the sense that the discussions include the possibility of pulling out of the business. While we have not definitely made the decision to withdraw, because investment in maintenance would be necessary if we continued the business, we are carefully considering the supply and demand environment in the medium-to-long term, and we would like to make the decision considering both income above a certain level and synergies with our other businesses.

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