

# Introduction of the Inter-Company Collaboration Subcommittee and activity report

## I. Issues to discuss

Chairman	Cosmo Oil Co., Ltd.	Participating companies	12 companies out of 15 member companies of this study group
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With the aim of sharing products, raw materials, services, utilities, and education and human resources development, we conducted a questionnaire survey of participating companies and exchanged opinions to explore the possibility of inter-company collaboration. The progress and results of activities in FY2018 are as follows.

### 1. Sharing of products, raw materials, services, etc.

#### [Activities in 2018]

Products, raw materials, services, etc.	Progress and results in 2018	Action plan
Toluene, xylene	Discussions are ongoing between related companies.	To be further discussed between related companies
Hydrogen	Discussions are ongoing between related companies.	To be further discussed between related companies
Carbon dioxide gas	Discussions are ongoing between related companies.	To be further discussed between related companies
Steam	Due to the aging of the spare boiler, efficiency improvement by cooperating with other companies is being considered.	To be further considered
Crude oil refining	Crude oil refining has partially been commissioned to two oil refining companies.	Cooperation to be continued
SS-C4, S-C9	Considered in the past but an agreement could not be reached	Discussion closed
Caustic soda	Withdrawn due to potential use in internal business	Discussion closed

#### [Future issues]

· We examined the possibility of joint facility investment and joint use of large utilities, but did not find needs that would justify such investment. In the future, when new projects arise, it is necessary to proceed with discussions.

### 2. Education and training

#### (1) Sharing information of educational facilities

In the complex, where inter-company collaboration is progressing in various forms such as sharing of products, raw materials, and services, if an accident occurs at one company, its impact will not be limited to the production of the company but extend to that of the entire complex. Since operational problems have decreased due to the introduction of automated systems and also many veterans have retired, the ratio of less-experienced employees has increased at many companies, and consequently, education and training has become more important than ever. Therefore, with the aim of promoting the early development of employees, the Yokkaichi Complex will share the advanced education systems of each company to advance the human resources development of the entire complex.

#### [Activities in 2018]

- Shared information on education and training conducted by the Disaster Management Council (Yokkaichi Complex Regional Disaster Management Council)
- In cooperation with the Disaster Management Council, shared the list of education and training facilities owned by each company
- Provided information about simulated danger experience seminar held by Chubu Electric Power

#### [Future issues]

· It is necessary to establish concrete methods to utilize the above information when setting up new education facilities, to continually update the list of education facilities, and to organize information sharing.

- (2) Continuation of the human resources development program for chemical and process industries  
We provided information and exchanged opinions on the human resources development program of the Advanced Materials Innovation Center (AMIC), a program commissioned by Yokkaichi City. We will continue this program from the next year onward to develop young human resources.  
Course A (11 days, 10,000 yen/person) and Course B (7 days, 10,000 yen/person) are available.  
Course A: Lectures on Chemical Engineering Theory and Laws and Regulations Related to the Chemical Industry  
Course B: Hands-on training using the training facilities of Mitsubishi Chemical and JSR

#### [Activities in FY2018]

· We shared information and exchanged opinions on the contents of courses conducted by AMIC.

#### [Future issues]

· We will continue this program while improving the course contents and offering the effective training methods required by companies.

- (3) IoT-focused training course to develop human resources for plant operation and security  
With the ongoing advancement and price reduction of new technologies, such as IT, sensors, and AI, it is increasingly required to introduce these technologies even into plant operation to supplement human judgement at the site and improve the efficiency of operation and security of the plant by making use of IoT and big data. We invited the Japan Management Association, which conducts an IoT-focused human resources development course, a program commissioned by the Ministry of Economy, Trade and Industry, and held a demonstration course in the city.

#### [Activities in FY2018]

- Dates and time: February 19 (Tue.) to 20 (Wed.), 2019, 10:00 to 17:00
- Training fee: Free (only this demonstration course)
- Venue: Yokkaichi City Sogokaikan Hall, Conference Room No. 4
- Participants: 51 persons from 21 companies (40 persons from 13 member companies of this study group, 11 persons from 8 non-member companies)
- Organizer: Japan Management Association (Lecturer: Consulance. LLC)

#### [Activities in FY2019]

A digital technology-focused course for the development of human resources for plant operation and security was held over three days on January 31, February 7 and 14, 2020 with 33 participants from 19 companies.



(Demonstration course held in FY2019)

## II. Platform formation

- This year's activities of the Inter-Company Collaboration Subcommittee have led to the formation of a platform that allows companies in the complex to exchange opinions on cooperation and resource sharing.
- The subcommittee was closed as of FY2018, but when new issues or the possibility of collaboration arise between related companies, this platform will be utilized for opinion exchange, discussions and consideration towards the advancement of the complex.