

# **Practical Training for PQMS (Petroleum Quality Management System)**

May 18 (Thurs.) – June 15 (Thurs.), 2017  
Seongnam, Korea



Korea International Cooperation Agency



Korea Petroleum Quality & Distribution Authority

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- 1. Title:** Practical Training for PQMS (Petroleum Quality Management System)
- 2. Duration:** May 18 (Thurs.) – June 15 (Thurs.), 2017
- 3. Objectives**
  - a) To understand the advanced petroleum quality management system in order to support sustainable development;
  - b) To learn Korea's efficient and systematic policies on fuel quality management;
  - c) To learn current issues and technologies in petroleum energy sector;
  - d) To strengthen the global network through the mutual technical cooperation in the field of petroleum and energy
- 4. Number of Participants:** 20 participants from 8 countries;  
Colombia (3), Costa Rica (3), Iraq (2), Mongolia (2), Peru (4), Thailand (1), Timor-Leste (3), Vietnam (2)
- 5. Language of Instruction:** English (written materials), Korean (via interpretation)
- 6. Venue:** Seongnam, Republic of Korea
- 7. Implementing Agency:** Korea Petroleum Quality & Distribution Authority  
(K-Petro) (<http://www.kpetro.or.kr>)
- 8. Accommodations:** KOICA ICC (International Cooperation Center)

## 9. Qualifications of Applicants:

|            |   |
|------------|---|
| Mandatory  | <ul style="list-style-type: none"> <li>a) Be nominated by his/her government;</li> <li>b) Be a government employee in petroleum or energy division with a minimum of 3 years of experience;</li> <li>c) Besides b), be an employee in public organizations in petroleum or energy sector with a minimum of 3 years of experience;</li> <li>d) Have a sufficient command of both spoken and written English;</li> <li>e) Be in good health both physically and mentally to undergo the course</li> </ul> |
| Preferable | <ul style="list-style-type: none"> <li>a) Have experiences in the field of petroleum quality inspection or test;</li> <li>b) Working knowledge of computers and PowerPoint software</li> </ul>  |

| Country     | Participating Organizations (No. of Participants)  |
|-------------|--|
| Colombia    | Ministry of Mines and Energy (MINMINAS) (2),<br>Petroleum quality control unit in State-owned refinery (1) |
| Costa Rica  | Ministry of Environment & Energy (2), RECOPE(1)  |
| Iraq        | Ministry of Oil (1), Ministry of Planning (1)  |
| Mongolia    | Ministry of Mining & Heavy Industry (1),<br>Mineral Resources & Petroleum Authority of Mongolia (1)        |
| Peru        | Ministry of Energy & Mines (1),<br>Supervisory Agency for Energy & Mines (Osinergmin) (3)                  |
| Thailand    | Department of Energy Business (DOEB) (1)   |
| Timor-Leste | Ministry of Petroleum & Mineral Resources (2),<br>Petroleum unit in Institute of Petroleum & Geology (1)   |
| Vietnam     | Directorate for standard, Metrology and Quality (STAMEQ) (2)   |

## 10. Closing Date for Application: May 4 (Thurs.), 2017.

## PART II

## COURSE MODULE

### 1. COURSE MODULE

| Module  | Main Lectures & Discussions   | Study Visit |
|---|---|-------------|
| <b>Module 1.</b><br>Fundamentals of<br>Petroleum and<br>Alternative fuels | <ul style="list-style-type: none"><li>▷ Understanding of oil &amp; gas upstream and current issues</li><li>▷ Petroleum industry status and outlook</li><li>▷ Petrochemical industry status and outlook</li><li>▷ Refining, processing and quality control of petroleum production</li><li>▷ Alternative fuels supply status and technologies</li><li>▷ Understanding of lubricants and current issues</li></ul> | -           |

| Module  | Main Lectures & Discussions   | Study Visit  |
|---|---|--|
| <b>Module 2.</b><br>Practical training for petroleum quality management | <p>[Lectures]</p> <ul style="list-style-type: none"> <li>▷ Petroleum quality/distribution management system</li> <li>▷ Taxation and refund system of petroleum product</li> <li>▷ Petroleum quality inspection system</li> <li>▷ Reporting system of petroleum supply &amp; demand and data applications</li> <li>▷ Petroleum quality test &amp; analysis system</li> <li>▷ Special inspection equipment and Mobile laboratory</li> <li>▷ Research issues of K-Petro R&amp;D center</li> <li>▷ Assessment of transportation fuel and regulation issues</li> </ul> <p>[On-site exercises]</p> <ul style="list-style-type: none"> <li>▷ Petroleum inspection 1(quality/quantity)</li> <li>▷ Petroleum inspection 2(LPG)</li> <li>▷ Petroleum test &amp; analysis</li> <li>▷ Unexposed inspection vehicle and mobile lab facilities in K-Petro R&amp;D center</li> <li>▷ Assessment and analysis of transportation fuel</li> </ul> | <ul style="list-style-type: none"> <li>- K-Petro H.Q.</li> <li>- Labs in branches</li> <li>- R&amp;D center</li> <li>- Gas stations</li> <li>- LPG stations</li> </ul> |

| Module  | Main Lectures & Discussions  | Study Visit  |
|---|--|--|
| <b>Module 3.</b><br>Understanding of petroleum infrastructure                   | [Lectures]<br>▷ Crude oil supply and petroleum storage system in Korea<br>▷ Pipeline system in Korea<br>▷ LNG safety technologies and distribution system<br>▷ LNG supply status in Korea<br><br>[On-site exercises]<br>▷ Petroleum pipeline and storage system<br>▷ LNG import depot and transportation system  | - Korea National Oil Company<br>- Daehan Oil Pipeline Corporation<br>- Korea Gas Safety Corporation<br>- Korea Gas Corporation |
| <b>Module 4.</b><br>Special lectures on energy, climate changes and automobiles | ▷ Global energy supply and outlook<br>▷ Future automobile technologies and penetration<br>▷ Supply and technology of LPG transportation fuel<br>▷ Global energy trends with shale gas and oil production<br>▷ International regime after COP21, Paris agreement<br>▷ Development and supplies of renewable energies  | - SK Energy Ulsan Complex<br>- Korea National Oil Company Stockpile Ulsan Office   |
| <b>Module 5.</b><br>Workshop  | ▷ Workshop for action-planning<br>- Group participants with Korean experts<br>- Current status analysis of participants' countries<br>- Action-plan for the future PQMS for each   | -  |
| <b>Cultural Experience and Field Trips</b>                                      | ▷ Seoul City Tour ( <a href="http://www.visitseoul.net">www.visitseoul.net</a> )<br>▷ Korean Folk Village ( <a href="http://www.koreafolk.co.kr">www.koreafolk.co.kr</a> )<br>▷ Gyeongju Bulguksa Temple ( <a href="http://www.bulguksa.or.kr">www.bulguksa.or.kr</a> )<br>▷ Samsung Innovation Museum( <a href="http://www.samsunginnovationmuseum.com">www.samsunginnovationmuseum.com</a> )<br>▷ Hyundai Motor Company Ulsan plant ( <a href="http://www.hyundai.com">www.hyundai.com</a> ) |  |

## **1. GUIDELINES FOR THE PREPARATION OF THE COUNTRY REPORT**

Program participants are requested to prepare and submit their country report individually or as a group to Korea Petroleum Quality & Distribution Authority (K-Petro) Program Manager via e-mail at **future@kpetro.or.kr** by **May 11, 2017.**

Note. The KOICA's Fellowship Program includes a 'Country Report' session where participants have an opportunity to analyze each country's current status and circumstances in the program subject and share it with other participants and Korean experts. It aims to provide appropriate solutions and insights to the identified problems and issues of their countries.

The Country Report should be in MS PowerPoint or Word format. The length of the report should not exceed twenty A4-sized pages. The report should be written in English and double-spaced.

All participants are required to give a 30-minute presentation on their country report individually or as a group. For more effective presentations, a projector or multimedia TV will be available (PowerPoint presentations are preferred).



## 2. TOPICS TO BE COVERED IN THE COUNTRY REPORT

On the second day of the program, all participants will make an individual or group presentation titled "Country Report" following the guidelines below;

Based on what you have presented and discussed throughout the courses, you are requested to present an action plan on the last day of the workshop.

### **A. Status of petroleum and alternative fuel in the home country**

- ▶ Quality specification of petroleum and alternative fuel and environment standard
- ▶ Distribution status of petroleum and alternative fuel in the market
- ▶ Industrial facilities of petroleum and alternative fuel  
(Such as production/distribution infrastructures)
- ▶ Amount of production/ import/ consumption of petroleum and alternative fuel  
(The balance of demand and supply)

### **B. Status of the quality management system of petroleum and alternative fuel**

- ▶ An authorized organization to manage or monitor petroleum and alternative fuel quality and its legal system including the law
- ▶ Quality inspection system of petro-fuel and alternative fuel and penalties when violated
- ▶ Cooperation cases among related organizations to manage or control petroleum and alternative fuel quality
- ▶ Tax structure imposed to commercial petroleum products
- ▶ Unusual cases and issues in the petroleum market

***\* The country report should include a specific national energy master plan.***

## **1. GUIDELINES FOR PREPARATION OF THE ACTION PLAN**

All participants are requested to prepare a presentation on their action plan individually or as a group at the end of the course. The action plan is to identify each country's current problems and propose appropriate solutions in order to solve these problems.

The participants are encouraged to make the most of their weekends and leisure time to further their knowledge acquired from the program and better prepare their presentation for the action plan.

The presentation for the action plan will be made for 30 minutes on a day before the last day of the course. For more effective presentations, a projector or multimedia TV will be available (PowerPoint presentations are preferred).

## **2. TOPICS TO BE COVERED IN THE ACTION PLAN**

- A. Identify the strengths and weaknesses related to petroleum and alternative fuel in each country, comparing with Korea's one, and find the current problems and needs
- B. Consider the effects and advantages of current problems
- C. Devise a relevant strategy to solve problems
- D. Plan for the short/mid/long term to implement the strategy
  - ▶ Consensus Building Stage (~2 months)
  - ▶ Preparation Stage (for the first year)
  - ▶ Improvement Stage (for 2~3 years)
  - ▶ Settlement Stage (for 4~5 years)

## **1. TRAINING INSTITUTE**

### **Korea Petroleum Quality & Distribution Authority (K-Petro)**

(<http://www.kpetro.or.kr/>)

#### **Mission**

K-Petro is a governmental agency which belongs to the Ministry of International Trade and Industry. K-Petro carries out comprehensive monitoring of petroleum product quality and distribution in the domestic market as well as R&D of petroleum and alternative fuels, so that we ensure the reliable petroleum market and contribute to develop the petroleum industry and public welfare.

#### **History**

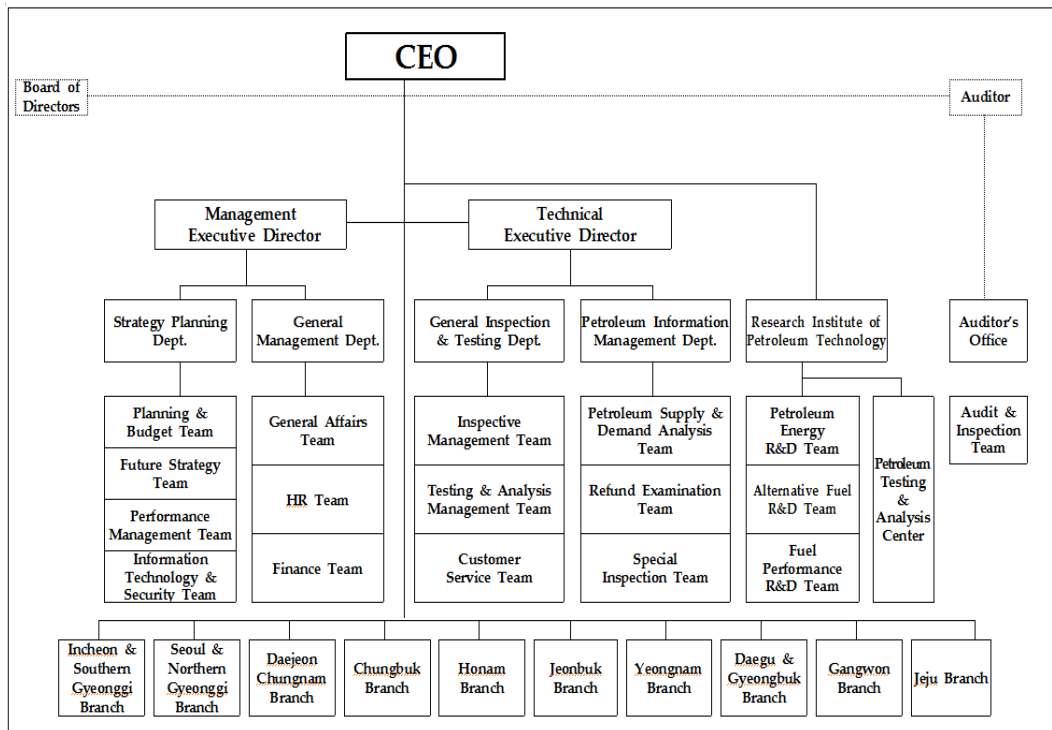
- 1983 Established Korea Institute of Petroleum Quality
- 1995 Acquired KOLAS International Accreditation as an authorized test agency
- 2002. Implementing LPG quality inspection
- 2005. Acquired KOLAS International Accreditation as an authorized inspection agency
- 2006. Established Petroleum R&D center, implementing alternative fuel assessment and automotive additives inspection
- 2008 Designated as a national standard development cooperative agency in petroleum and lubricants sector
- 2009. Authorized petroleum distribution inspection by Law and rename to K-Petro
- 2010. Designated as a tribology training
- 2014. Implementing the weekly report management of petroleum products S&D
- 2015. Designated as a management agency of Renewable Fuel Standard

## Main Business

- ▶ Quality inspection and test/analysis of petroleum and alternative fuels, LPG as well
- ▶ Monitoring and instruction for the fair distribution of petroleum and alternative fuels
- ▶ Performance and assessment and R&D of petroleum and alternative fuels
- ▶ Analyzing and providing technical information in petroleum energy sector, and international networking
- ▶ Research and development of petroleum quality standard in Korea
- ▶ Other business deemed necessary by the Minister of MITI regarding the quality and distribution monitoring of petroleum and alternative fuels

## Organization

K-Petro has the CEO and 2 executive directors in charge of management and technical, relatively, and 328 employees working in 4 departments and an internal audit team in H.Q. at Seongnam, R&D center at O-chang and 10 branches over the country, and made \$36 million in revenue in 2016.



## 2. CONTACT INFORMATION

- **Korea International Cooperation Agency (KOICA)**

- **Program Manager: Ms. Jinmin LEE**

- Phone: +82-31-740-0586
    - Fax: +82-31-740-0595
    - E-mail: jinmin.lee@koica.go.kr
    - Websites: <http://www.koica.go.kr>  
<http://training.koica.go.kr>  
<http://www.facebook.com/koica.icc>

- **Program Coordinator: Ms. Sujin YIM**

- Phone: +82-31-777-2646
    - Fax: +82-31-777-2631
    - E-mail: sujinyim@global-inepa.org

- **Korea Petroleum Quality & Distribution Authority (K-Petro)**

- **Program Manager: Ms. HEE-JOO KANG**

- Phone: +82-31-789-0253
    - Fax: +82-31-789-0359
    - E-mail: future@kpetro.or.kr
    - Websites: <http://www.kpetro.or.kr>

## Appendix 1.

### INTRODUCTION OF KOICA



*is a development cooperation agency of the Republic of Korea which was established in 1991. KOICA's mission is to reduce poverty, promote living standards and help realize sustainable, equitable and inclusive development in developing countries. To accomplish its mission, KOICA has been actively involved in enhancing developing countries' socio-economic infrastructure and institutions, providing the people of the developing world with opportunities for better lives and improving their well-being.*

#### KOICA Fellowship Program

**Human Resource Development (HRD)** has been one of the most important factors in Korea's escape from the vicious cycle of poverty and underdevelopment which had existed for many decades. With scarce natural resources, HRD played a vital role in Korea's development; thus, Korea has emerged as an exemplary showcase of national development powered by HRD. From its own experience Korea came to fully recognize the significance of HRD. With extensive experience and know-how in HRD, Korea contributes greatly to the international community by sharing its unique development experience with other countries.

The KOICA Fellowship Program is one of KOICA's main projects to support partner countries secure human resources for their development. The primary objective of the Fellowship Program is to share important technical skills and knowledge as well as to build capacities for sustainable socio-economic development. The program is composed of a wide range of topics, including public administration, economic development, science and technology, agriculture and health, etc. In order to meet the changing needs of partner countries, KOICA always strives to renovate and improve its Fellowship Programs.

## Appendix 2.

### **KOICA FELLOWSHIP PROGRAM (CIAT)**

KOICA has launched a brand-new name for the KOICA Fellowship Program in order to more effectively raise awareness about the program among the public and its partner countries.



In English, CIAT stands for Capacity Improvement and Advancement for Tomorrow and in Korean it means “seed (씨앗)” with hopes to contributing in the capacity development of individual fellows as well as the organizations and countries to which they belong.

The CIAT Program provides participants with opportunities to gain first-hand knowledge of Korea’s development experience. The programs are designed to enable participants to apply what they have learned for the development of their home countries. Since 1991, KOICA has offered about 4,255 courses to more than 69,981 participants from 172 countries.

### Appendix 3.

## KOICA FELLOWSHIP COMMUNITY

The Fellows' Facebook is a place for fellows to ask questions and write comments on KOICA fellowship programs. So, if you have questions regarding our program, please feel free to join our Facebook community.



*facebook.com/koica.icc*



Appendix 4.

MAP AND VENUE INFORMATION



## Appendix 5.

# INFORMATION ON DIRECTION TO KOICA ICC

- Route: Incheon International Airport→ KOICA International Cooperation Center (ICC)
- Arrival at Incheon International Airport (<http://www.airport.kr>)

### Flow:

- ▶ Fill out Arrival Card (or Immigration Card), Customs Declaration Form, Quarantine Questionnaire (on board)
- ▶ Quarantine including animals and plants (on 2nd Floor)
- ▶ Present your Arrival Card, Passport and other necessary document to Passport Control
- ▶ Claim baggage on 1st Floor
- ▶ Customs Clearance
- ▶ Pass an Arrival Gate
- ▶ Go to the KOICA Counter, which is located between Exit 1~2

### • KOICA Counter at Incheon International Airport



Location : Next to Exit 1 on the 1st floor (No.9-10)  
Tel. : 82-32-743-5904  
Mobile : 82-(0)10-9925-5901  
Contact : **Ms. Jin-Young YOON**

- After passing through Customs Declaration, please go to the KOICA Counter (located between exit 1~2) at Incheon International Airport. At the KOICA Counter, you can get detailed information about how to get to KOICA International Cooperation Center (ICC)
- All the KOICA staff at the Incheon International Airport wears nametags or has signs for indication. Also, please be aware that there may be illegal taxis at the airport. Even if they approach you first, please do not take illegal taxis and check to see if they are KOICA staff

## Appendix 5.

### **INFORMATION ON DIRECTION TO KOICA ICC**

- Route: Incheon International Airport → Korea City Airport, Logis & Terminal(CALT) → KOICA International Cooperation Center (ICC)
- Arrival at Incheon International Airport (<http://www.airport.kr>)

#### **Flow:**

- ▶ Fill out Arrival Card (or Immigration Card), Customs Declaration Form, Quarantine Questionnaire (on board)
- ▶ Quarantine including animals and plants (on 2nd Floor)
- ▶ Present your Arrival Card, Passport and other necessary document to Passport Control
- ▶ Claim baggage on 1st Floor
- ▶ Customs Clearance
- ▶ Pass an Arrival Gate
- ▶ Go to the KOICA Counter, which is located between Exit 1~2

- **KOICA Counter at Incheon International Airport**



Location : Next to Exit 1 on the 1st  
floor (No.9-10)  
Tel. : 82-32-743-5904  
Mobile : 82-(0)10-9925-5901  
Contact : **Ms. Jin-Young YOON**

- After passing through Customs Declaration, please go to the KOICA Counter (located between exit 1~2) at Incheon Airport. At the KOICA Counter, you can get detailed information about how to get to KOICA International Cooperation Center (ICC) and purchase limousine bus ticket for City Airport, Logis & Travel (CALT).
- All the KOICA staff at the Incheon Airport wears nametags or has signs for indication. If you cannot meet the KOICA staff at the counter, please purchase a limousine bus ticket from the bus ticket counter (located on the 1<sup>st</sup> Floor), and go to CALT Bus Stop No. 4A (or 10B). Please find the bus number 6103 and present your ticket to the bus driver. From Incheon Airport to CALT, the approximate time for travel will be between 70 to 90 minutes. When you arrive at CALT, you will find another KOICA staff who will help you reach the KOICA ICC. KOICA will reimburse the limousine bus fare when you arrive at KOICA ICC. Also, please be aware that there may be illegal taxis at the airport. Even if they approach you first, please do not take illegal taxis and check to see if they are KOICA staff.

**"Please remember to read the Fellows' Guidebook.** It is available from the Korean Embassy or KOICA Overseas Office in your country and provides valuable information regarding KOICA programs, allowances, expenses, regulations, preparations for departure and etc."