# **Best Practices of CIPM MRA in Korea**

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Korea Research Institute of Standards and Science KRISS



## CIPM MRA Best Practice in Korea (1)

#### KRISS

# **DSME – BP, USA (2002)**

• DSME : Daewoo Shipbuilding & Marine Engineering, Co.

Claim & Problem

- Offshore plant order by BP, USA.
- Calibration traceable to NIST required.
- Since all calibrations in USA takes more than
  2 months, it is impossible to meet the due date.



- DSME, accredited by KOLAS, a member of ILAC MRA, keeps maintaining its own standards traceable to KRISS.
- KRISS and NIST are all signatory to the CIPM MRA.
- NIST confirmed that "traceability to KRISS is equivalent to traceability to NIST" via the CIPM MRA.
- BP accepted the certificates traceable to KRISS issued by DSME.



[ DSME offshore plant ]



- DSME successfully met the requirements of BP without delay.
- if 2 month delay, penalty would be US\$ 10 million





Coming over technical barrier to trade



to global enterprises

# CIPM MRA Best Practice in Korea (2)

#### KRISS

## SHI - SEIC, Russia (2003)

• SHI: Samsung Heavy Industry

• SEIC : Sakhalin Energy Investment Company

Claim & Problem

- SHI constructing an offshore platform ordered by SEIC, Russia.
- All the measuring instruments installed in the platform required to be traceable to national measurement standard of Russia.
- It would take more time if they are calibrated in Russia.

Solution

- KRISS and VNIIMS participate in the CIPM MRA.
- KRISS and VNIIMS concluded a protocol recognizing the equivalence of NMS of both countries.
- SEIC approved all the measuring instruments of SHI traceable to KRISS as traceable to VNIIMS.



[ The dimensions of the platform is approximately 95 m x 130 m x 120 m ]

Benefit

- SHI successfully met the requirement of SEIC.
  - Additional 3 months of delivery & Calibration
  - Possible penalty due to delay of delivery

## CIPM MRA Best Practice in Korea (3)



#### POSCO – India, Mexico (2004)

- POSCO: Pohang Steel and Iron Company
- · BIS: Bureau of India Standard



- Mexican manufacturer of automobile parts demanded the proof of reliability of POSCO steel.
- Indian buyer of POSCO steel required the certification from BIS.
- It takes more time if they are retested in India



- POSCO's testing laboratory had been accredited by KOLAS, a member of the ILAC MRA.
- POSCO has a traceability to KRISS participating in the CIPM MRA.
- POSCO's steel accepted without being retested in India and Mexico.



- Period to test has shorten and fee for test has been saved.
  - Cost in transportation/retesting at Mexican and Indian labs
  - Cost due to delay in delivery

### CIPM MRA Best Practice in Korea (4)



#### **KA – FAA, USA (2008)**

KA: Korean Air

FAA: Federal Aviation Administration



- According to US Repair Station Act, US FAA required KA to secure calibration certificates traceable to NIST.
- It would take more time if all the instruments are calibrated in USA.



- KRISS and NIST participate in the CIPM MRA.
- FAA accepted all the KA measuring instruments traceable to KRISS as traceable to NIST.



KA has been successfully designated US Repair Station.

## CIPM MRA Best Practice in Korea (5)

#### KRISS

#### DHIC - Vietnam (2014)

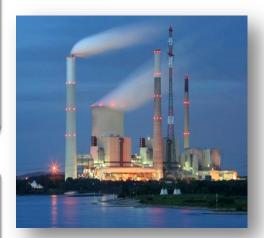
- DHIC: Doosan Heavy Industries and Construction
- KRCMI : Korea Research Center for Measuring Instruments



- DHIC constructing thermal power plants in Vietnam as a subcontractor
- When performance test carry out after construction, US contractor requested that all the measuring instruments used in the test have to be traceable to NIST.



- The instruments were calibrated in the both KRISS and KRCMI, one of KOLAS accredited calibration lab which maintains its traceability through KRISS.
- US contractor accepted the traceability to KRISS by the virtue of CIPM MRA.



[Thermal Power Plant]

Benefit

 DHIC took performance test and more than 1 billion USD project has accomplished successfully.

### CIPM MRA Best Practice in Korea (6)

#### Fine Instruments - USA (2015)



- Fine Inst., a SME in Korea, manufactures measuring instruments as an OEM supplier.
- US buyer requested evidence that Fine Inst.'s clamp meter is traceable to NIST.
- It would take more time if all the measuring instruments are calibrated in USA.



- The clamp meter was calibrated in KTL, one of KOLAS accredited calibration lab which maintains its traceability through KRISS.
- Fine Inst. verifies its traceability to NIST since the both NMIs are participating CIPM MRA.



[ Clamp Meter ]

Benefit

• Fine Inst. would supply the clamp meter to US buyer (on-going discussion).