

MATERIALS AND CORROSION SOCIETY OF THAILAND

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Thailand is a developing country moving toward an industrialised one. Investment is being done intensively and continuously to establish factory, processing plants, and infrastructure such as road, bridges, ports, etc. Various government organization such as electricity Generation Authority of Thailand, Petroleum Authority of Thailand, and Metropolitan Water Supply Authority of Thailand including quite a few private organizations encountered corrosion problems of the equipment and structures. These organizations have been active in corrosion protection and doing countermeasure activities continuously. However, public awareness concerning corrosion of properties are still limited. There has been no estimation of the importance of the cost of corrosion failures on the national economy. So, the National Center for Metal and Material Technology in cooperation with Thailand Institute of Science and Technology Research and the Department of Metallurgical Engineering, Chulalongkorn University jointly arranged the meeting which participated by 69 interested persons from government and private sectors. The

meeting led to the establishment of the Material Corrosion Forum on June 14, 1990 and transform to a society one year later. This paper described about the objectives and planning/activities of the society to promote public awareness and cooperation with corresponding domestics and overseas organizations.

INTRODUCTION

Corrosion, in its broadest sense, has been defined as the degradation of a material by reaction with its environment, regardless of whether the material is a metal, polymer, elastomer, or ceramic. Deterioration as a result of corrosion has come to be accepted as an unavoidable fact of life wherever metals are used. This acceptance has resulted in a general lack of awareness of the importance of the economics of corrosion. Estimation of the annual cost of corrosion on national scale have been made by Uhlig in the USA, Worner in Australia, and Vernon and the committee on Corrosion and Protection in the U.K. to be around 1% to 3.5% of the Gross National Product

(GNP). IN U.K., especially, the annual cost of corrosion in various industries have been estimated as followed:- Building and construction 10 million bahts, Food 1.6 million bahts, General Engineering 4.4 million bahts, Government Departments and agencies 2.2 billion bahts, Oil and Chemical 7.2 billion bahts, Transport 14 million bahts, etc. The total cost of corrosion is as high as 54.6 billion bahts. Appropriate prevention and control of corrosion has potential saving around 12.4 billion bahts or 23% of total cost. These costs consists of loss of production, reduction of efficiency, product contamination (e.g.food), overdesign and maintenance of standby plant and equipment.

There has been no such estimation done in Thailand. But various government organization such as Electricity Generation Authority of Thailand (EGAT), Petroleum Authority of Thailand (PTT) and Metropolitan Water Supply Authority of Thailand (MWA) including quite a few private organizations encountered corrosion problems of the equipment and structures. These organizations have been active in corrosion protection and doing counter-measure activities continuously. However, public awareness concerning corrosion of properties are still limited. The National Center for Metal and Material Technology (NCMM) in cooperation with Thailand Institute of Science and Technology Research (TISTR) and the Department of Metallurgical Engineering, Chula-longkorn University jointly arranged the meeting which participated by 69 interested persons from government and private sectors. The meeting led to the establishment of the Material Corrosion Forum (MCF) on June 14,

1990 and transform to the Materials and Corrosion Society (MCS) one year later with office at NCMM, the Ministry of Science, Technology and Energy, Bangkok.

OBJECTIVES

The Materials and Corrosion Society (MCS) of Thailand was officially established on June 13, 1991. At the first executive committee meeting, the objectives of the Material Corrosion Forum (MCF) were revised and stated as followed :-

1. To serve as an information center on corrosion, its control, and prevention;
2. To serve as a center for the exchange of information on corrosion and corrective measures;
3. To organize training sessions to disseminate knowledge on and enhance understanding of the damage caused by corrosion;
4. To serve as a center for contact with international organizations having similar objectives;
5. To produce publications for the dissemination of knowledge about and an increased understanding of corrosion;
6. To support research and development activities in the area of materials, corrosion and corrosion prevention;
7. To be of benefit in materials selection and corrosion control and prevention;
8. To create unity among the society's members and those involved in work related to materials and corrosion.

DOMESTIC ACTIVITIES

From the starting point of MCF, the Forum and Society originated and/or participated in various activities as followed :-

1. Participated in the Corrosion and Protection Conference organized by Asian Pacific Materials and Corrosion Association (APMCA) in Thailand during October 17-19, 1990 by sending representatives and distribution of Forum's brochures.

2. Organized a training course on "Corrosion and Protection" for members and interested persons during June 6-7, 1991. About 90 persons participated in this course.

3. Organized a training course on "Failure Analysis- A Case Study on Corrosion of Materials" to be held around the middle of June, 1992.

4. Organized a Pre-Conference workshop on "Failure Analysis" before the APMCA conference 1992.

5. Publish and distribute monthly newsletter "Materials and Corrosion" to members and other corresponded organizations around 150 copies.

6. The magazine called "Materials and Corrosion" will be published and distributed to public quarterly around the end of 1992.

7. Giving advice and consultation about materials selection and corrosion control and prevention requested by public and private organizations.

INTERNATIONAL ACTIVITIES

MCS has strong relation with various international organizations such as the National Association for Corrosion Engineer (NACE), Aus-

tralasian Corrosion Association (ACC), Asian-Pacific Materials & Corrosion Association (APMCA) and other corresponding associations in Asia and Pacific region. Representatives from MCF/MCS were sent to participate in APCCC international conference since the fourth venue in Japan. The international activities to date are as followed :-

1. Supporting the Corrosion Asia Conference organized by NACE to be held during September 7-11, 1992 in Singapore.

2. Organizing of the 8th APCCC international conference to be held in Bangkok, Thailand during December 7-11, 1993.

3. Arranged the half-day seminar on "Surface Inspection Technology" by Prof. Dr. A. J. Nelson in cooperation with the Scientific and Technology Development Board (STDB) on February 6, 1992.

OTHER ACTIVITIES

1. Bi-annual general meetings to exchange knowledge and experience concerning materials selection and corrosion protection.

2. Publication and distribution of membership list to promote future cooperation.

3. Gathering of information concerning materials selection and corrosion protection to distribute to members as sheets, textbooks, or manuals.

4. Promotion of R&D in the fields of materials development and corrosion protection, including workshops and seminars to transfer knowledge on new technology to members.

ORGANIZATION

The executive committee consists of :-

1. Chairman
2. Vice Chairman of Academic Affair
3. Vice Chairman of Public Relation
4. Secretariate
5. Academic and Honorary Advisors
6. Seminar and training Section
7. Magazine and Newsletter Section
8. Academic Services
9. Comptroller
10. Secretary and supplies
11. Registrar
12. Member Relation Section
13. Funding Section
14. International Cooperation Section

SUMMARY

The Materials and Corrosion Society of Thailand was established about 1 year ago. At present, there are about 100 individual and institutional members from public and private sectors. There are still few problems facing the society, namely, lack of funding support; limitation of public awareness; lack of permanent personnel and office; etc. However, the society still try its utmost effort concerning public relation to promote awareness of concerning organizations such as government institutions and industries facing the problem of corrosion and materials selection. With the coming 8th APCCC in Bangkok, Thailand in 1993, public awareness should be increased and more activities of corrosion control and protection could be promoted more effectively by country-wide effort in the years to come.