NEWS SECTION

SECTION REPORT

Personals

M. S. THACKER has been invited to become a member of the International Advisory Committee on Research in the Natural Sciences Programme of UNESCO.

T. L. RAMA CHAR has been elected as a Member of the Indian Institute of Chemical Engineers. He has also been nominated as a member of the CSIR Committee on Fundamentals of Corrosion Studies, on behalf of the Indian Institute of Science, Bangalore.

J. SUNDARARAJAN has been appointed as Senior Research Assistant in the Dept. of Inorganic and Physical Chemistry, Indian Institute of Science.

S. P. VERMA has joined the Indian Aluminium Co. Ltd., Chotamuri, Bihar as Process Engineer.

Patrons

Shalimar Paint, Colour and Varnish Co. Ltd., have shifted their Madras Office from 8/9 Thambu Chetty Street, to 11/12 Second Line Beach, Madras-1.

New Members : India Section

1. K. I. VASU, Dept of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore-12.

New Associates : India Section

1. DR. H. C. GAUR, Dept. of Chemistry, University of Delhi, Delhi-6.
2. T. V. VENUGOPALAN, J.S.A., Production Section, Electronics Division, Atomic Energy Establishment, Trombay, Bombay-73.
3. A. K. BOSE, Director and General Manager, The Wheel and Rim Co. of India Ltd., Madras-11.
4. HARNAM SINGH, HQ Inspectorate of Electronic Equipment, Ministry of Defence (CGDP), Bangalore-6.

GENERAL NOTES

Foreign Corrosion Reports by NACE

Corrosion Activity in Spain during 1960 is described under Foreign Corrosion Reports in the April 1961 issue of 'Corrosion'. It also contains a report on the activities of the Prevention of Deterioration Center, a project of the Division of Chemistry and Chemical Technology of the National Academy of Sciences—National Research, Council U.S.A.: publications, information service, Corrosion Subcommittee and miscellaneous. The May 1961 issue of 'Corrosion' covers Corrosion Activities in Germany.

Third Seminar on Electrochemistry

The Central Electrochemical Research Institute is holding the third Seminar on Electrochemistry at Karaikudi during December 1961. The object of the Seminar is to provide an opportunity for scientists connected with different disciplines of electrochemistry to come together and discuss their contributions so as to be complimentary to each other in the advancement of electrochemistry. Contributions are also invited relating to personal experiences and data collected in the operation of electrochemical plants. Two copies of the papers have to be sent to the Institute by November 15, 1961.

Corrosion in Australia

Probably the best way in which the costs of corrosion can be reduced is by impressing those in a position to act on a grand scale with the seriousness of the position. Data from England show that corrosion, mainly in the form of rust, destroys or makes useless 40 per cent as much steel as is produced at a cost in excess of £ 600 million sterling annually. If all the iron and steel produced each year were given two coats of paint, 230 million pounds worth of paint would be needed. The entire paint industry's output is only half this, so that there must be a great deal of untreated steel in service. Marine corrosion accounts for one-fifth of the total cost of this sort of deterioration Cathodic protection can save more than £ 20,000 a year on the maintenance of

a 25,000 ton ship. Corrosion costs, indirectly, one penny on every gallon of petrol. It cannot be emphasized too often that Australia is, on the whole, lackadaisical in the field of corrosion prevention. Few full-time professional workers are engaged and a loss of more than £200 million is involved each year. This is more than the total annual cost of Australia's armed services. There is a strong case for more action.—Australian Corrosion Engineering, Vol. 5, No. 3, 7, 1961.

South Africa and Corrosion

Only in recent years has South Africa shown awareness generally of the insidious problem of corrosion, and the recent formation of a South African Corrosion Council emphasizes this changed attitude in no small way. The cost of corrosion to South Africa is conservatively estimated at some £20 million a year. These losses are made up not only of direct expenditure through replacement of metals rendered unserviceable as a result of this chemical attack and the protection of installed metal structures, but also the indirect expense through costly shut-downs for plant maintenance. The mining industry, whose corrosion losses total some £5 million a year, has been seriously affected, because the environmental conditions prevailing underground are ideal for corrosion to continue unhindered.—Australian Corrosion Engineering, Vol. 5, No. 3. 27, 1961.

Aluminium-the Versatile Metal, Marches Forward

The progress of aluminium in different countries can be measured with some accuracy by their per capita consumption of this metal. The first commercial method of making aluminium was developed simultaneously in the U.S.A. and Europe, and these two industrialized areas lead all others in per capita consumption. The recent estimates show the following figures: U.S.A. 22, Switzerland 16, U.K. 12, Canada 11 and Japan 2 lbs. per annum.—Aluminium News, Vol. 14, 4, April 1961.

Inorganic Chemistry Journal

A new quarterly Journal 'Inorganic Chemistry' will be published by the American Chemical Society beginning in January 1962. It will be patterned after other ACS Journals, and will contain major research articles, notes, letters to the editor and book reviews. The Journal will cover an area of subject matter from the borders of organic chemistry to the borders of theoretical physics.

Australian Chemical Engineering

'Australian Chemical Engineering' (formerly 'Australian Journal for Chemical Engineers') is a new monthly Journal, running the second volume from January 1961. It is intended to cater to the needs of all industries using Chemical Engineering Processes. It consists of different sections: technical papers, new developments, world chemical engineering literature, digests and abstracts. It is issued from North Sydney, N.S.W., Australia by the publishers of the associate Journals 'Australian Corrosion Engineering' and 'Building Materials and Construction'.

Expansion of Steel Plants in India

The Govt. of India is preparing project reports for the expansion of the Bhilai, Rourkela and Durgapur Steel Works, tentatively estimated to cost Rupees 138,90 and 56 crores respectively. The capacity of these plants would be expanded from 1 to 2.5, 1 to 1.8 and to 1.6 million ingots tons respectively. A proposal to set up a plant by the Madras State during the Third Plan period has been accepted. A project estimated to cost Rs. 50 crores is contemplated by a Madras firm for producing 50,000 tons per year of alloy and special steels, together with 20 tons per day of ferrosilicon and ferrochrome. The present annual demand of alloy steel — 107,000 tons, is expected to rise to 275,900 tons by 1966. Alloy steel plants are proposed to be set up by Tata Iron and Steel Co. and Canara Workshops. The Canara plant is expected to go into production by the end of 1962, the initial production target of 800 tons per month being stepped up to 3,000 tons per month.

Proceedings of the European Symposium on Corrosion Inhibitors, 1960

The Universita Degli Studi Di Ferrara has published the proceedings of the European Symposium on Corrosion Inhibitors held in Ferrara, Italy during September—October 1960 (This Bulletin, Vol. 10, 6, 1961). This 732 page publication covers the 35 papers presented and the discussion. It is published in Annali Dell'Universita Di Ferrara (Nuova Serie), Sezione V — Chimica Pura Ed Applicata, Supplemento n.3.

Symposium on Chemical Process Design

A Symposium on Chemical Process Design was held at the Indian Institute of Science, Bangalore on July 24 and 25, 1961 under the auspices of the Chemical Research Committee, Council of Scientific and Industrial Research, India. There were 28 papers under the following sections:

chemical process development, scaling up of chemical processes, chemical process equipment design, and operating experiences of chemical production plants. The organizers have plans to publish the proceedings. The following papers were contributed by members of the India Section: (1) Development of a Process and Plant for Manufacture of Potassium Chlorate, by S. Ramaswamy and N. Kalyanam, (2) Scale-up in the Design of Electrolytic Cells, Part II. Production of Salicylaldehyde by Reduction of Salicylic Acid, by S. Ganesan, K. S. Udupa, G. S. Subramanian and H. V. K. Udupa, and (4) Design Problems in Corrosion Engineering, by J. Sundararajan and T. L. Rama Char.

Power Sources Conference in the U. S. A.—Fuel and Heat Cells

Direct generation of electricity from fuel and heat is coming of age. The rapid development of fuel cells and thermal cells for the creation of electricity to the point of field testing with electronic equipment was emphasized at the 15th Annual Power Sources Conference held at Atlantic City, N. J., during May 1961. It was sponsored by the U. S. Army Signal Research and Development Lab., Fort Monmouth, N. J. An entire day was devoted to fuel cells, and half a day to thermal energy conversion. It was pointed out that despite some previous claims, fuel cells consuming such exotic fuels as hydrogen, oxygen and hydrogen peroxide, as well as more common substances such as hydrocarbons and alcohol, are not ready for general use. The same is true of thermal units. Solar energy conversion, primary and secondary conventional batteries were also discussed. Development of reliable high-rate zinc-silver-oxide batteries for missiles was announced, as were the latest developments in radiation-resistant solar cells for satellite power.—J. Electrochem. Soc. Vol 108, 141-C, 1961.

Second International Conference on Passivity

The Second International Conference on Passivity will be held in Canada in the fall of 1962. It will be sponsored by the Electrochemical Society, the Faraday Society, and the Deutsche Bunsen-Gesellschaft. It is proposed to publish the proceedings in a special edition of JECS.

Conference on Anodized Aluminium

The Aluminium Development Association, London, and the Dept. of Metallurgy, University of Nottingham organized a Conference on 'Anodized Aluminium' at the University from 12 to 14 September, 1961. The aim of the sessions was to discuss the latest technical developments as well as the fundamental aspects. Fifteen papers were presented by British and foreign authors, and preprints were made available.

—T.L.R.

(*Concluded from page 92*)

For efficient performance of the cell there is need to paint the microporous rubber diaphragms exposed above the catholyte level and also for keeping the catholyte just quarter inch above the painted level of the diaphragms. The anolyte level is kept roughly 3/4" above the catholyte level.

Under these circumstances it is established in the 16 amp. cell run continuously for 8 hours that the pH of the catholyte remains between 7 and 7·4. Practically the same current efficiency is obtained as in the previous experiments wherein porous pots were employed *viz.*, 56 to 60%.

ACKNOWLEDGEMENT

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REFERENCES

1. Indian Mining Journal, **7**, 1, (1959), 5-8.
2. Journal of Mines, Metals and Fuels, **7**, 3, (1959), 30.