

PREFACE

In this issue, results of research on the construction of huge cooling towers carried out in 1977—1978 at the *Department of Reinforced Concrete Structures, Technical University, Budapest* are reported on.

The biggest cooling towers constructed so far by the Hungarian building industry, about 100 m in diameter and 116 m high, have been operating since 1970 in the *Gagarin Power Station*.

In planning the *Power Station in Bicske*, the necessity arose to construct cooling towers bigger than ever erected in this country.

Cooling tower catastrophes described in international literature warned, however, of the imperative of detailed analyses in this problem. Publication of the new Hungarian building codes for reinforced concrete structures, absence of specifications for the design and construction of cooling towers imposed to start relevant research.

The Department of Reinforced Concrete Structures, Technical University, Budapest was commissioned by the *Ministry for Heavy Industries*, through the electric power research institute VEIKI and by the *Ministry for Building and Urban Development* through the Design Office for Civil Engineering (MÉLYÉPTEK) to start research in this country.

Beside the Department of Reinforced Concrete Structures, also the *Departments of Civil Engineering Mechanics* and of *Geotechnique* co-operated in the investigation, but here only the work done by the staff of the Department of Reinforced Concrete Structures will be reported on.

The research was launched and main goals set by the late Prof. *Elemér Bölcskei*, Corr. Memb. Hung. Ac. Sci., head of the Department of Reinforced Concrete Structures. Unfortunately, his decease in 1977 prevented him from seeing the accomplishment of the work.

Most of the Department staff participated in the work, thus, in addition to authors in this paper, senior Assistants Dr. *Dénes Dalmy*, Dr. *Andor Windisch* took charge of the special literature, Dr. *György Farkas* examined stability problems and conditions during construction.

Thanks are due to Associate Professor *Ervin Stuber* at the *Department of Political Economy* for having made damage estimates in connection with safety problems, and to Mr. *Tamás Kármán* for wind load analyses in elaborating the Directives. Research work on shell stability was directed by Dr. *Endre Dulácska*, structural engineer in chief at BVTV.

Finally, we are indebted to the mentioned Ministries and organizations for the financial support of the research, and to their professional representatives, first of all to Mr. *László Mérei*, design engineer at the *Design Office for Civil Engineering* for his professional advices.

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