

tractor's job and can be used to determine the target for any work situation. As such, it can be used to determine the contract.

The use of incentive schemes within a strong management organization can result in large increases in productivity, and the results

achieved can be used as a basis to determine the point at which different methods or further mechanization should be introduced.

can be concluded that individual bonus is undesirable in such a situation.

The use of work study to define

the required work performance is the basis of a good bonus scheme. Furthermore, it is the basis of sound training and ensures that a trained Bantu gang member can effectively contribute and earn reward from his first day in the gang. Work study equally well applies to the con-

SOUTH AFRICAN NATIONAL COMMITTEE ON TUNNELLING

In 1970, the South African Institution of Civil Engineers, the South African Institute of Mining and Metallurgy, the South African Institute of Mechanical Engineers, and the Geological Society of South Africa held an international conference on tunnelling, known as Tuncon 1970.

Shortly before this, the Organisation for Economic Co-operation and Development (O.E.C.D.) had held an Advisory Conference on Tunnelling in Washington. Arising out of the O.E.C.D. conference, a decision was taken by twenty participating countries that each member country should establish a focal agency at the national level with the objectives of co-ordinating and assessing tunnelling activity, stimulating improvements in tunnelling technology, and participating in the activities of a proposed international tunnelling association.

Leading figures in the O.E.C.D. conference played an active part in Tuncon 70 and have continued to

keep the Republic of South Africa, although not a member country, informed of progress towards establishing such focal agencies.

In October 1971, South Africa was represented at a meeting held in London to discuss this progress and to consider forming an international association. It became clear that there was both the need and the opportunity for a similar focal agency to be set up in the Republic of South Africa with representation from the public and private sectors. The South African National Committee on Tunnelling (SANCOT) was accordingly established at the end of 1973 with the following membership:

S.A. Institution of Civil Engineers
S.A. Institute of Mining and Metallurgy
S.A. Institution of Mechanical Engineers
Geological Society of S.A.
S.A. National Group of I.S.R.M.
S.A. Association of Consulting Engineers
S.A. Federation of Civil Engineering Contractors
CSIR
Chamber of Mines of South Africa

Department of Water Affairs
Department of Mines
National Transport Commission
S.A. Railways
City Council of Johannesburg.

SANCOT has now embarked on the following activities.

- (i) The collection of demand data regarding the amount of tunnel construction planned for the future for both mining and civil-engineering uses, and the preparation of statistical demand forecasts.
- (ii) A review of existing legal requirements in tunnelling.
- (iii) A study of contracting practices.
- (iv) The identification of technical needs that might be met through research and development.

It is intended that the results of these studies will be disseminated through a series of publications.

SANCOT intends to ensure South Africa's participation in international tunnelling activities and will be represented by its chairman at the inaugural meeting of the proposed International Tunnelling Association in Oslo at the end of March 1974.

SUID-AFRIKAANSE NATIONALE TONNELBOUKOMITEE

In 1970 het die Suid-Afrikaanse Instituut van Siviele Ingenieurs, die Suid-Afrikaanse Instituut vir Mynbou en Metallurgie, die Suid-Afrikaanse Instituut van Meganiese Ingenieurs en Die Geologiese Vereniging van Suid-Afrika 'n internasionale konferensie in verband met tunnelbou gehou, wat bekend

gestaan het as Tonkon 1970.

Kort tevore het die 'Organisation for Economic Co-operation and Development' (O.E.C.D.) 'n Adviserende Konferensie in verband met Tunnelbou in Washington gehou. Voortspruitend uit die konferensie van die O.E.C.D. is 'n besluit deur 20 deelnemende lande geneem dat elke lid-land 'n sentrale liggaam op nasionale vlak sal stig met die doelstellings om tunnelbou-aktiwi-

teite te ko-ordineer en 'n waarde-bepaling te doen, om verbeterings in die tunnelbou-tegnologie te stimuleer en deel te neem aan die aktiwiteite van 'n voorgestelde internasionale tunnelbouvereniging.

Leidende persoonlikhede by die O.E.C.D. konferensie het 'n aktiewe rol in Tonkon 70 gespeel en het steeds die Republiek van Suid-Afrika, hoewel nie 'n lid-land nie, op hoogte gehou in verband met

vordering in die daarstelling van sodanige sentrale verteenwoordigende liggame.

In Oktober 1971 is Suid-Afrika verteenwoordig by 'n vergadering wat in Londen gehou is om hierdie vordering te bespreek en om ooreweging te skenk aan die vorming van 'n internasionale vereniging. Dit was duidelik dat daar beide die noodsaaklikheid en die gelcentheid was om 'n soortgelyke sentrale verteenwoordigende liggaam in die Republiek van Suid-Afrika te stig met verteenwoordiging uit die openbare en private sektore. Die Suid-Afrikaanse Nasionale Tunnelboukomitee (SANTOK) is gevolglik teen die einde van 1973 gestig, met die volgende lidmaatskap:

S.A. Instituut van Siviele Ingenieurs
S.A. Instituut vir Mynbou en

Metallurgie

S.A. Instituut van Meganiese Ingenieurs

Geologiese Vereniging van S.A.

S.A. Nasionale Groep van I.S.R.M.

S.A. Vereniging van Raadgewende Ingenieurs

S.A. Federasie van Aannemers vir Siviele Ingenieurswerk

W.N.N.R.

Kamer-van-Mynwese van Suid-Afrika

Departement van Waterwese

Departement van Mynwese

Nasionale Vervoerkommissie

S.A. Spoorweë

Stadsraad van Johannesburg.

SANTOK het nou die volgende aktiwiteite aangepak.

- (i) Die samestelling van aanvraagdata in verband met hoeveel tunnelkonstruksie vir die toekoms beplan word vir beide

mynbou- en siviele ingenieursgebruike, en die voorbereiding van statistiese aanvraagvoorspellings.

(ii) 'n Hersiening van bestaande wetlike vereistes in tunnelbou.

(iii) 'n Studie van kontrakpraktyke.

(iv) Die identifikasie van tegniese behoeftes wat moontlik deur navorsing en ontwikkeling bevredig kan word.

Dit is die voorneme dat die resultate van hierdie studies deur middel van 'n reeks publikasies versprei sal word.

SANTOK is voornemens om Suid-Afrika se deelname in internasionale tunnelbou-aktiwiteite te verseker en sal deur die voorsitter verteenwoordig wees by die openingsvergadering van die voorgestelde Internasionale Tunnelbouvereniging te Oslo teen die einde van Maart 1974.

COLLOQUIUM AND GENERAL MEETING

A General Meeting and Colloquium on comminution was held on March 13th, 1974, at Kelvin House, Johannesburg.

Mr P. W. J. van Rensburg (President) was in the chair.

The Colloquium was attended by 140 delegates and was opened by the President at 9.15 a.m.

MINUTES

The minutes of the general meeting held on November 14th, 1973, as published in the December issue of the Journal, were confirmed.

OBITUARIES

P. N. Lategan, Past President.

V. O. Reid, Life Fellow.

H. F. Allan, Fellow.

R. H. B. Miles, Associate.

D. G. Roberts, Life Member.

C. F. Louw, Fellow.

J. B. Dennison, Life Member.

J. C. Hall, Fellow.

In memory of the deceased and in sympathy with the bereaved, the delegates rose and observed a few moments' silence.

MEMBERSHIP

The President: I have much pleasure in announcing that the undermentioned candidates, whose names have been published in accordance with By-Law 5.2.2, have been elected to membership of the Institute in the following grades:

Fellows

W. R. A. Donald, D. W. Bulmer, A. I. Smith, L. H. Stein, L. H. C. Andresen.

Members

P. G. E. Fitch, P. D. K. Robinson, H. Wagner, F. H. Retief, W. Bock, D. J. Clarke, J. B. D. MacLennan, D. A. White.

Graduates

P. C. van Aswegen, C. A. Wolfe-Coote, G. R. Wakenshaw, A. R. Brimmer, D. T. Cairns, N. R. Cowin, I. S. Davies, Z. J. Widelski, J. K. Worth.

Associates

C. S. Scott, J. F. van der Colff, E. C. Hunter, M. F. Hurter, E. G. Johnson, B. D. C. Watts, B. P. Christos, J. E. Forbes, T. G. Higgs, I. R. Poultney, P. van Oers, G. H. S. Bamford, T. F. Carswell, C. L.

Jordaan, H. G. L. Tomlinson.

Students

D. H. Diering, R. A. Pollhammer, E. U. H. Sachse, J. H. Genis, R. D. Guest, J. E. Olivier, J. Roodt.

Company Affiliates

The Steel Engineering Co. Ltd, Placer Development (S.A.) (Pty) Ltd.

TRANSFERS

To Fellow

P. A. Boshier, G. Maude, T. G. Kotze.

To Member

M. H. Smith, J. K. Carrington, G. W. Braithwaite, M. D. Smart, M. H. Rogers, J. C. M. Wethmar, J. C. G. K. van der Colf.

To Graduate

S. S. Absolom, M. B. Algeo, P. J. de Witt, A. W. Hancock.

To Associate

C. M. Archer, J. M. Rheam.

I welcome the newly elected members to the Institute, and congratulate those who have been transferred to a higher grade.

GENERAL

The meeting ended at 9.30 a.m.