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TOXICOLOGY RESEARCH LABORATORY

DP/RAS/82/026

REPUBLIC OF KOREA

Technical report: General Toxicology*

Prepared for the Government of the Republic of Korea
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development programme

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EXPLANATORY NOTES

Abbreviations

KRICT KOREA RESEARCH INSTITUTE OF CHEMICAL TECHNOLOGY

GLP GOOD LABORATORY PRACTICE

SOPS STANDARD OPERATING PROCEDURES

UNDP UNITED NATIONS DEVELOPMENT PROGRAMME

ABSTRACT

This mission forms part of the expert assistance provided for the KRICT Toxicology Research Centre in general toxicology as job DP/ROK/82/028/11-63. It was undertaken between 15th July and 18th August 1987.

The main objective was to instruct the staff of the Centre in the practical aspects of toxicology thus enabling them to implement the theories and stratagies outlined by previous experts.

The staff were given guidance in the form of lectures, seminars, informal discussions, demonstrations and practical training sessions. Recommendations were made on future training programmes and modification of present practices, enabling them to conform better to GLP standards acceptable to International Regulatory Agencies.

CONTENTS

I

INTRODUCTION

This report covers a mission of one month, commencing 15th July 1987, during which 22 days were spent at the KRICT Toxicology Research Centre. This Centre, established with UNDP aid and guidance, is intended to develop as the main facility for Contract Toxicology in the Republic of Korea. To achieve this goal it is necessary to develop expertise in general toxicology to standards acceptable to Regulatory Authorities Worldwide. This mission aimed to provide practical advice, guidance and training which would further the development of the Research Centre and its staff.

The objective of the mission was to work closely with the staff of the Centre and to provide assistance in the training, operation and administration of animal experiments and specifically to:- Assess, assist and train personnel to carry out the recommendations of previous consultants in SOPS, conducting toxicological tests and interpretation of experimental data.

II

RECOMMENDATIONS

1. The Centre must initiate, with the utmost urgency, the use of SOPS. This must be followed by a strict enforcement of their use.
2. An internal training programme should be set up to advance the technical standards already obtained.
3. Not only should consultant experts continue to visit KRICT to broaden the capability of the Centre but it would be advantageous if previous experts returned to the Centre to consolidate and re-appraise the advancements.
4. When the "new" facility is complete it will be necessary that advice, guidance and practical training be given in the use of dogs.

III

OBJECTIVES

The intention of this mission was to provide advice and assistance which would develop the understanding and practical expertise required to enable the Research Centre to conduct general toxicological studies to internationally acceptable standards.

The Research Centre has progressed rapidly since its foundation but some experimental methods in rodents have still to be developed.

The main contribution that was needed was practical advice on how to implement previous experts' recommendations and the training of staff in the techniques required.

At present studies in the dog cannot be undertaken. A suitable facility is nearing completion and therefore it will be necessary that advice, guidance and practical training be given in the use of the dog in toxicological studies.

IV

ACTIONS

Due to the nature of the mission the objectives which were established were addressed under two categories :-

A. General

B. Specific

A. General Objectives

i. Informal Discussions

These took place on an ad hoc basis whenever staff had any specific questions to discuss. Some time was spent in various laboratories and animal facilities looking at procedures and making suggestions where appropriate.

ii. Formal Discussions

These were prearranged meetings involving senior members of staff and sometimes outside consultants/representatives :-

28th July 1987 Review of "New laboratory and animal facility " plans.

28th July 1987 Discussion on the reformulation of the "JEIL FEED Co." rodent diet.

B. SPECIFIC OBJECTIVES

These were set up in the form of a 3 part schedule :-

1. Seminar
2. Demonstration
3. Practical Training

The seminars were given to the staff of the Barrier Facility and the Conventional Animal Unit. Most of these used overhead projection material prepared on site. They were usually followed

by practical demonstrations of the techniques and concluded with technical training of the staff. Due to the nature of the presentations only a small (upto 10) number of staff were able to attend so the seminars were repeated to different groups.

The material and training was presented informally to encourage discussion . Titles were as follows:- .

27th July & 3rd August

"Routes and methods of drug administration to laboratory rodents".

The different routes and methods along with different sites used for the administration of novel compounds were discussed with differences drawn and comparisons made between the methods. Problems encountered at each site were also discussed.

29th July & 4th August

"Blood sampling methods with and without anaesthetics".

Different methods and sites of collection were discussed along with associated problems e.g. tissue damage, max. volumes, etc..

30th July & 5th August

"Anaesthesia"

The types and methods of use of commonly used anaesthetics were discussed along with their practical application in toxicology.

6th August

"Useful miscellany"

This seminar consisted of a selection of short topics and

useful techniques:- urine collection, animal identification, randomisation, cage labelling, etc..

24th July &7th August

"Necropsy"

This was a practical demonstration of "Rat and Rabbit Necropsy".

V

RESULTS

Staff in the Centre have shown a great enthusiasm to improve their technical skills in toxicological methods. They have been active participants in the practical sessions and in discussions both during the seminars and informally. They have adapted well to improving methodology and with a little practise can probably extend the type, quality and improve the "flexiblity" of studies in the near future.

VI

CONCLUSIONS

Much has already been achieved by the Research Centre but more still needs to be done. Compliance with GLP to standards acceptable to International Regulatory Agencies must be instigated with the utmost urgency if the Centre is to fulfil it aim and conduct studies under contract for clients who wish to market their products outside Korea.

Once the new facility is completed training in the use of the dog as a non-rodent species is essential.

However, non of these are serious obstacles since the attitudes of the Director and his staff speak for themselves in the achievements already made.