

**PUBLIC ACCOUNTS COMMITTEE**  
**(1974-75)**

(FIFTH LOK SABHA)

**HUNDRED AND FIFTY-SECOND REPORT**

**[Paragraph 33 of the Report of the Comptroller and Auditor General of India for the year 1972-73, Union Government (Civil), relating to the Ministry of Health & Family Planning (Department of Health) — Sub-standard Pesticides].**



**LOK SABHA SECRETARIAT**  
**NEW DELHI**

*April, 1975/Chaitra, 1897 (S)*

*Price : Rs. 1.70*

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**CORRIGENDA TO THE 152ND REPORT OF THE PUBLIC  
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### PART II\*

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Minutes of the 70th sitting held on 8-4-1975 (AN)

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## **PUBLIC ACCOUNTS COMMITTEE**

(1974-75)

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**Shri Jyotirmoy Bosu**

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**Shri Avtar Singh Rikhy—Additional Secretary**

**Shri B. K. Mukherjee—Chief Legislative Committee Officer**

**Shri N. Sunder Rajan—Senior Financial Committee Officer**

## INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Hundred and Fifty-Second Report of the Public Accounts Committee (Fifth Lok Sabha) on paragraph 33 of the Report of the Comptroller and Auditor General of India for the year 1972-73—Union Government (Civil), relating to the Ministry of Health & Family Planning (Department of Health).

2. The Report of the Comptroller & Auditor General of India for the year 1972-73 was laid on the Table of the House on 30th April, 1974. The Committee examined Audit Paragraph 33 relating to the Ministry of Health and Family Planning at their sitting held on 19th August, 1974. The Committee considered and finalised this Report at their sitting held on 8th April, 1975. Minutes of these sittings form Part II\* of the Report.

3. A statement showing the summary of the main conclusion/recommendations of the Committee is appended to the Report (Appendix VII). For facility of reference, these have been printed in thick type in the body of the Report.

4. The Committee place on record their appreciation of the assistance rendered to them in the examination of this paragraph by the Comptroller and Auditor General of India.

5. The Committee would also like to express their thanks to the officers of the Ministry of Health & Family Planning (Department of Health) and the representatives of the M/s. Hindustan Insecticides Ltd., and the Indian Standards Institutions for the cooperation extended by them in giving information to the Committee.

NEW DELHI;  
April 9, 1975.  

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Chaitra 19, 1897 (S).

JYOTIRMOY BOSU,  
Chairman,  
Public Accounts Committee.

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\* Not printed (One cyclostyled copy laid on the Table of the House and five copies placed in the Parliament Library).

## REPORT

### I. SUB-STANDARD PESTICIDES

#### *Audit paragraph*

1.1. In December 1971, the Directorate of National Malaria Eradication Programme placed an order on a public sector undertaking for supply of 4500 tonnes (Cost Rs. 81.58 lakhs) of BHC 50 per cent w.d.p. (conforming to Indian Standards Institution specifications) for use in the spray season 1972-73 in those areas in Madhya Pradesh, Maharashtra, Gujarat, Orissa, Uttar Pradesh, Rajasthan and Punjab where mosquitoes had developed resistance to D.D.T. The purchase order stipulated that the undertaking would furnish certificate from Indian Standards Institution for the entire formulated material and rectify, at its expense, any defect found on testing the material by the Directorate in the field or in the factory. Further, the undertaking was to release the material only on receipt of confirmation from the Directorate and complete the supply by April 1972. No formal agreement was executed with the undertaking.

1.2. As the supplies were to be completed within a short period, the undertaking wanted that there should be no delay in inspection of the pesticide. The Directorate agreed (January 1972) to accept supply of the pesticide after field spray test by the Directorate of its representatives at different stations pending receipt of test results (on lot samples) from Indian Standards Institution. The undertaking agreed that its formulators would not despatch the pesticide without obtaining reports about spray tests. On the basis of satisfactory field performance tests carried out by the Directorate, the entire quantity of the pesticide was despatched to seven States during February 1972 to June 1972. After May 1972, when the first round of spray of the pesticide had already started, the test reports received from Indian Standards Institution (between June 1972 and August 1972) showed that 1,355 tonnes of the pesticide worth Rs. 24.55 lakhs were of sub-standard quality as it did not comply with the specifications either about alkalinity contents or suspensibility or both.

1.3. According to the specifications of Indian Standards Institution the alkalinity content of the pesticide should not exceed

1 per cent (the W.H.O. standard is 0.2 per cent) and its minimum suspensibility should be 50 per cent. The deficiencies of the sub-standard pesticide supplied were as under:—

	Tonnes
(i) Alkalinity 1.1 per cent to 1.4 per cent . . . . .	550
(ii) Suspensibility below 50 per cent but above 45 per cent. . . . .	530
(iii) Suspensibility below 45 per cent and partly deficient in alkalinity as well	275
TOTAL :	1,355

1.4. On receipt of the first test report from Indian Standards Institution (on 6th June 1972) about sub-standard quality of the pesticide, the Directorate requested the undertaking on 14th June 1972 to instruct the units to which the sub-standard pesticide was supplied to segregate it. The Directorate also requested the undertaking to reformulate and replace the sub-standard quantity. In July, 1972 the Directorate sought the views of Indian Standards Institution about the impact of greater alkalinity of the pesticide on health programme and again asked the undertaking to replace immediately the quantity having less suspensibility.

1.5. At the instance of the undertaking the Indian Standards Institution consulted two experts on pesticides one of the Central Forensic Science Laboratory and the other of the Directorate of Plant Protection, Quarantine and Storage of the Union Department of Agriculture. According to the former, slight excess of alkalinity would not adversely affect the ultimate use of the pesticide in the field. The other expert was also of the opinion that the slightly alkaline pesticide would not make any difference for use in the public health field. He, however, added that the Pesticide Sub-Committee of the Indian Standards Institution should examine all the standards of those pesticides which are used in the fields of both agriculture and public health in order to have separate specifications for certain requirements for these two purposes. On the basis of the opinion of these two experts, the Indian Standards Institution informed the Directorate of National Malaria Eradication Programme that slight increase in alkalinity upto 1.5 per cent would not materially affect adversely the use of the pesticide in the field.

The question of raising the limit of alkalinity in the specifications of this pesticide was considered by the Pesticide Sub-Committee



of the Indian Standards Institution in September 1972. That Sub-Committee held that it would not be correct to increase the alkalinity limit in the absence of data. The Indian Standards Institution is engaged on collecting the necessary data. Meanwhile, the Directorate asked (September 1972) the States to utilise the sub-standard pesticide already supplied as the spray operations were in full swing.

1.6. Suspensibility of 530 tonnes of the pesticide supplied was lower than 50 per cent but above 45 per cent as against the minimum of 50 per cent suspensibility. The undertaking, however, approached Indian Standards Institution for including the 'Keeping quality' clause in the specifications according to which the material should retain its suspensibility at not less than 45 per cent at the end of six months from the date of manufacture. The Pesticides Sub-Committee considered this in September 1972 and formed a panel of experts to study the 'Keeping Quality' data on BHC w.d.p. and related matter before taking a final decision. Meanwhile, on the recommendation of that Sub-Committee the specification was amended, under the powers vested in the Director General of the Indian Standards Institution, in September 1972 incorporating the 'Keeping Quality' clause in the specifications for six months or till the Sub-Committee took a final decision. The pesticide BHC having suspensibility below 45 per cent cannot be used in spray operations. The States which received this sub-standard pesticide (275 tonnes) could not segregate from the other consignments, 275 tonnes (Rs. 4.98 lakhs) with suspensibility lower than 45 per cent, since markings of batch numbers on the packing were not decipherable.

1.7. Out of 4,500 tonnes of the pesticide supplied to seven States, 422 tonnes (Rs. 7.65 lakhs) remained unused in five States at the end of the 1972-73 operations. Information about unused quantity in the other two States had not been received by the Directorate (October 1973). According to the contractual stipulations, the undertaking was liable to rectify the defective pesticide at its own expense, but since the material had already been mostly used (except 422 tonnes) a penalty of Rs. 9,300 only was imposed for 275 tonnes having suspensibility lower than 45 per cent.

1.8. The Indian Standards Institution had not so far (December 1973) made any modifications to the specifications of BHC w.d.p.

1.9. The Ministry stated (January 1974) that 'the active ingredient of BHC effective against the vector is gamma isomer and the

National Malaria Eradication Directorate was satisfied that the gamma isomer content was intact when it was supplied for spray'.

[Paragraph 33 of the Report of the Comptroller and Auditor General of India for the year 1972-73, Union Government (Civil)].

2.1. According to the information furnished in the Annual Report of the Ministry of Health and Family Planning, for the year 1973-74, during 1973 (upto the end of December 73), 14,98,961 cases of malaria were reported in the country as against 13,62,806 cases during the same period in 1972. The number of cases of malaria reported upto the end of October 1972 was, however, only 8,86,937, as seen from the Annual Report of the Ministry for 1972-73. The number of cases during 1970 and 1971 were respectively 6,94,647 and 13,23,104.

2.2. The incidence of malaria during 1971, 1972 and 1973 in the seven States in which the BHC 50 per cent w.d.p. procured through Hindustan Insecticides Limited, referred to in the Audit paragraph, was used in the spray season 1972-73 is indicated below:

	1971*	1972@	1973†
Madhya Pradesh . . . . .	1,91,236	2,15,264	1,41,039
Maharashtra . . . . .	1,99,096	2,05,402	1,56,037
Gujarat . . . . .	5,83,310	5,24,914	4,48,397
Orissa . . . . .	33,260	45,474	1,45,219
Uttar Pradesh . . . . .	9,891	14,014	39,075
Rajasthan . . . . .	1,09,773	79,689	1,18,358
Punjab . . . . .	51,372	99,667	1,37,176

Sources :

\*\* Pocket Book of Health Statistics, 1973 (page 53) published by the Central Bureau of Health Intelligence, Directorate General of Health services, Ministry of Health and Family Planning.

@ Details furnished by Ministry of Health and Family Planning (Deptt. of Health)—d.o. letter No. G. 25015/1/75 -C&CD dt. 1-2-1975.

† Figures provisional—Statement furnished in reply to Lok Sabha Unstarred question No. 3932 answered on 29-8-1974.

2.3. According to the Audit paragraph, the orders for the supply of 4,500 tonnes of BHC, 50 per cent w.d.p., for use in the spray season 1972-73, were placed in December, 1971 and the supplies had to be completed within a short period, by April, 1972. During their examination of paragraph 107 of the Report of the Comptroller and Auditor General of India, Union Government (Civil) for the year 1969 relating to the National Malaria Eradication Programme, the Public Accounts Committee (1969-70) had enquired whether advance action for procurement of insecticides, drugs, etc. had been taken and the Ministry had then stated:

“One of the difficulties that we experienced with regard to taking advance action was about Budget allocations and getting clearance from Finance to place orders in advance. After we experienced difficulties in getting supplies in time, we tried and succeeded last year in placing orders in anticipation of budgetary allocation for the coming year.”

The delays involved in procuring insecticides for the Malaria Eradication Programme had also been gone into by the Public Accounts Committee (1972-73) in their Seventy-Fifth Report (Fifth Lok Sabha). The Committee had then been informed as follows:—

“Because of the delay that was involved previously, in 1971 we have procured 19,000 tonnes of insecticides sufficient to carry forward for 1972-73. This year too, we have drawn up such a programme and there will be no difficulty. We are making procurement one year in advance. . . . So we are making advance procurement, one year in advance and the delay factor has once and for all been eliminated.”

2.4. In the context of the above earlier statements of the Ministry, the Committee desired to know why advance planning for the procurement of BHC had not been done in the instant case referred to by Audit and the Secretary, Ministry of Health and Family Planning stated during evidence:

“We are still trying to adhere to this practice of advance procurement, but the production difficulties and non-availability of these insecticides are there. Some of them have now been imported. This delay has persisted even in the subsequent year. We have not come to the ideal pattern of one year in advance.”

In a written note furnished subsequently to the Committee, the Ministry added:—

“As intimated to the Public Accounts Committee (5th Lok

Sabha), advance action is taken by the NMEP to calculate their requirements of different types of insecticides. Some of the insecticides are, however, required to be imported because of inadequate indigenous production. The requirements calculated by the NMEP have to be screened by the Dte. GHS, this Ministry, the Associate Finance as well as the Economic Affairs Division of the Ministry of Finance. Clearance is also to be obtained from the DGTD in the case of imported insecticides. Because of these formalities the issue of formal sanction for advance procurement of insecticides is liable to delay."

2.5. The Committee desired to know the total requirement of insecticides for the National Malaria Eradication Programme during 1972-73 and how this requirement was met. In a written note furnished to the Committee, the Ministry of Health and Family Planning (Department of Health) stated:—

"The total requirement of insecticides for the National Malaria Eradication Programme during 1972-73 was 14,170 metric tons in terms of DDT 75 per cent w.d.p. These requirements were met as follows:

	Qty. in terms of DDT 75% w.d.p. in metric tons
BHC 50% wdp—4500 M. tons . . . . .	2000
Carry over of DDT from previous year by the NMEP Directorate. . . . .	5392
Carry over of DDT from previous year by States. . . . .	3122
DDT 50% wdp from M/s. Hindustan Insecticides Limited. . . . .	1666
DDT 75% wdp imported . . . . .	1825
Malathion 25% wdp . . . . .	125
	<b>14170"</b>

2.6. The Committee enquired about the dates when proposals for the procurement of the insecticide had been framed and indents therefore placed by the National Malaria Eradication Programme and when action thereon was taken by the Department. A statement furnished by the Department of Health showing details of proposals for procurement of different insecticides, sanctions and delivery schedules during 1972-73 to 1973-74 is reproduced in Appendix I. The information furnished in respect of the procurement of 4,500 tonnes of BHC 50 per cent w.d.p., for use in the spray season,

1972-73, in those areas of Madhya Pradesh, Maharashtra, Gujarat, Orissa, Uttar Pradesh, Rajasthan and Punjab where mosquitoes had developed resistance to DDT, is as follows:—

---

Date of proposals sent to DGHS . . . . .	27th July, 1971
Date of receipt of sanction . . . . .	18th/19th November, 1971
Date of indent sent to DGHS . . . . .	1st December, 1971
Date by which delivery was to be completed . . . . .	(31st March, 1972) (75 %) (30th April, 1972) (25%)
Quantity indented for and for which orders had been placed on HIL . . . . .	4,500 tonnes
Quantity received within delivery schedule. . . . .	2,978 tonnes
Quantity received after delivery schedule . . . . .	1,522 tonnes (May, 1972)

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2.7. The Public Accounts Committee (1969-70) had been earlier informed by the Ministry of Health that some pockets of resistance to D.D.T. and B.H.C. in vector mosquito had been found in Maharashtra and Gujarat, *vide* paragraph 1.53 of the 101st Report (Fourth Lok Sabha) of the Public Accounts Committee. The Committee enquired why, in spite of this fact, B.H.C. had been issued to these two States for eradication of malaria. The representative of the National Malaria Eradication Programme stated during evidence:

“Not in all the units the mosquitoes became resistant to B.H.C. The other units require B.H.C. because the mosquitoes in those places have developed resistance to D.D.T.”

In a note subsequently furnished regarding development of resistance of mosquitoes to B.H.C. in Gujarat and Maharashtra, the Ministry stated:

“The insecticide-wise break-up of units in Gujarat and Maharashtra is given below from which it will be seen that only 0.77 unit areas in Gujarat and 2.39 unit areas in Maharashtra faced the problem of vector resistance to BHC.

---

Gujarat . . . . .	Total Number of Units—19.50
Malathion areas . . . . .	0.77 units
DDT areas . . . . .	1.82 units
BHC areas . . . . .	16.91 units
	<hr/>
Total :	19.50 units

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Maharashtra . . . . .	Total	Number of units—33·00
Malathion areas . . . . .	2·39	units
DDT areas . . . . .	26·37	units
BHC areas . . . . .	4·24	units
	Total :	33·00 units"

2.8. Explaining the considerations which led to the placing of the order for supply of the pesticide with the Hindustan Insecticides Ltd., the Managing Director of the Hindustan Insecticides Ltd., stated during evidence:

"...the background was that in the year we commenced production of B.H.C. in our plant, there was a terrific glut in the B.H.C. market and it was extremely difficult to sell the B.H.C. in the prevailing competition. It was under these circumstances that we made a special approach to the Health Ministry and requested that if they had any need for B.H.C., they should preferably buy it from us. And that is why it was agreed between us that we could either supply it from our own production of tech. B.H.C. or procure it from other sources."

2.9. The Committee have also been informed by Audit that in a meeting held on 28th December, 1971, in the Ministry of Health, it was reported that "Hindustan Insecticides Ltd., would not be able to supply all the 4500 tonnes of B.H.C. from out of their production in 1972-73 due to operational reasons. They would, however, meet their commitments and for this some quantities may have to be purchased by them from the open market. This was noted but it was felt that it would be more convenient to place the entire order on Hindustan Insecticides Ltd. particularly when they had planned to expand their capacity etc."

2.10. The Committee enquired why no formal agreement had been executed with the Hindustan Insecticides Ltd. for the supply of the B.H.C. In a written reply, the Department stated as under:—

"The relationship between the National Malaria Eradication Programme and the Hindustan Insecticides Ltd. is of a long standing. In fact, the NMEP, has been purchasing

DDT from HIL ever since it was established in 1953. In our dealings in the past there was no formal agreement. The purchases were made and terms were settled merely by exchange of letters. The same practice was followed when the NMEP ordered 4500 M. tonnes of BHC from them. All the relevant points which are indicated in a formal agreement were covered in the exchange of letters.

"In this connection it may be mentioned that M/s. Hindustan Insecticides Ltd., is a public sector undertaking working under the control of the Ministry of Petroleum and Chemicals. The problems encountered by the NMEP and M/s. HIL are, therefore, sorted out by the administrative Ministries viz., Ministry of Health and Family Planning and the Ministry of Petroleum and Chemicals. In another case involving supplies of stores to NMEP from another public sector undertaking, Ministry of Law and Justice advised as follows:—

'Even in cases of dispute arising out of a validly concluded contract between the Government and Public Undertaking/Corporations, the Public Accounts Committee have made observations that public money should not be wasted in solving such disputes by litigation which can be as well settled administratively'.

The need for a formal contract to cover transactions between the NMEP and M/s. HIL was, therefore, not felt."

2.11. The Committee desired to know how much of the 4500 tons of BHC 50 per cent w.d.p., for which an order had been placed on Hindustan Insecticides Ltd., was procured by the undertaking from other sources and the quantity of sub-standard BHC supplied by each of these private firms. In a written note furnished to the Committee, the Department of Health stated:

"The information furnished by the Ministry of Petroleum and Chemicals/Hindustan Insecticides Limited is reproduced below:—

The Hindustan Insecticides Limited did not 'purchase' or 'procure' any BHC 50 per cent from any formulator but procured some quantity of Technical BHC from various sources and arranged to get it formulated by four different formulators into equivalent quantity of BHC 50 per

cent w.d.p. and supplied to National Malaria Eradication  
Programme on behalf of the Hindustan Insecticides Ltd.

Name of the formulators who formulated BHC 50% w.d.p. on behalf of HIL and supplied to N.M.E.P.	Quantity formulated and supplied by each formulator.
1. Pesticides India, Udaipur	1730.000 tonnes
2. Devidyal (Sales) Pvt. Ltd., Bombay	1560.952 tonnes
3. Krishichemin Products, Bangalore	970.000 tonnes
4. Venketeswara Agro Chemicals and Minerals, Madras.	239.048 tonnes
	4500.000 tonnes

To the best of Hindustan Insecticides Ltd. knowledge and information, the above four formulators had no common link.

The quantity of sub-standard BHC 50 per cent w.d.p. supplied by each of the above four firms is as follows:—

Name of the formulators	Quantity of sub-standard BHC 50% w.d.p. supplied compared to the original ISI specifications
1. Pesticides India, Udaipur	275 tonnes
2. Devidyal (Sales) Pvt. Ltd., Bombay	200 tonnes
3. Krishichemin Products, Bangalore	675 tonnes
4. Venketeswara Agro Chemicals and Minerals, Madras.	205 tonnes
	1355 tonnes

Details of the names of the firms from whom Technical BHC was purchased by Hindustan Insecticides Ltd. and the quantity purchased from each together with their value, furnished subsequently by the Hindustan Insecticides Ltd. to the Committee, are indicated below:—

Source	Quantity	Value
1. M/s. Tata Chemicals	450.225 MT	Rs. 1252 per M. Tonnes ex-Mithapur.
2. M/s. Kanoria Chemicals	963.675 MT	Rs. 1380 per M. Tonne F.O.R. Destination.



Names of the Directors, partners, etc. of the firms who formulated the technical BHC into an equivalent quantity of BHC 50 per cent w.d.p., furnished subsequently to the Committee by Hindustan Insecticides Ltd. are indicated below:

**I. Pesticides India, Udaipur—From 1970 to 1973.**

1. Shri P. P. Singhal . . . . . Managing Director
2. Shri A. K. Sanghi . . . . . Director
3. Shri D. S. Kothari . . . . . „
4. Shri Sharaf Ali . . . . . „
5. Smt. K. Mehta . . . . . „
6. Smt. S. Singhal . . . . . „

**II. M/s. Devidayal (Sales) Pvt. Ltd., Bombay (As on 31-12-1971)**

1. Shri Amirchand T. Gupta . . . . . Director
2. Shri Bhagwat A. Devidayal . . . . . „
3. Shri Balkishan A. Devidayal . . . . . „
4. Shri Ramkishan A. Davidyal . . . . . „

**III. M/s. Devidayal (Sales) Pvt. Ltd., Bombay (As on 31-12-1972)**

1. Smt. Nanirani A. Gupta . . . . . Chairman
2. Shri Bhagwat A. Devidayal . . . . . Managing Director
3. Shri Amirchand T. Gupta . . . . . Director
4. Shri Balkishan A. Devidayal . . . . . „
5. Shri Premkishan A. Devidayal . . . . . „
6. Shri Ramkishan A. Devidayal . . . . . „

**IV. M/s. Krishichemin Products, Bangalor (As on 27-2-1971)**

This is a partnership firm of three partners viz.

1. Shri P. V. Aithal
2. Shri K. S. Shetty
3. Shri A. N. Gopala Rao

**V. M/s. Vastateshvara Agro Chemicals & Minerals Madras (From 4-10-1970 to 31-3-1971).**

Proprietary concern

Proprietor : Shri B. Ahobala Rao

Partnership amongst

1. Shri B. Aholala Rao . . . . . Managing Director
2. Shri P. Satyanarayana . . . . . Partner

3. Shri V.V.R. Parthasarathy . . . . . Partner

VI. *M/s. Venkateswara Agro Chemicals & Mineral Madras* (From 1-4-1971 to 31-3-1972)  
Partnership as above.

2.12. In response to a question whether any of the four formulators had been given more than one order, the Hindustan Insecticides Ltd. stated in a written note furnished to the Committee:—

“Only one original work order was placed on each of these four formulators. It may be stated that, as provided in these orders themselves, the order quantity mentioned in the orders were changed from time to time depending on the progress made by the various formulators regarding completion of the work. These changes viz., increase/decrease in order quantities were covered by amendments issued subsequently by the Udyogmandal factory....”

2.13. To a question whether any control was exercised over these private formulators, the representative of the Hindustan Insecticides Ltd. stated in evidence:

“We had from these parties a bank guarantee to cover the material which was placed at their disposal for formulating at any given time and also to ensure that they fulfil their obligations vested on them in terms of the work order placed on each of these parties.”

2.14. In reply to another question whether any arrangement existed for inspection by the Hindustan Pesticides Ltd. of the pesticides formulated by the private parties before they were supplied, the witness stated:

“The order stipulated certain conditions under which the party had to take responsibility for taking delivery of BHC to be formulated, getting the formulated material inspected and arranging for samples to be drawn by the nominated representatives of the testing institutions. The conditions which they had to fulfil before despatching the approved material were also spelt out in the work order.”

He added further:

“A system of testing, inspection and despatch was adopted by a common consent between HIL, NMEP and ISI based primarily on the surveillance of the ISI under their marks scheme.”

2.14(a) In reply to a specific question by the Committee whether any effective technical control was exercised during manufacture, the Director, General, Indian Standards Institution stated during evidence:

“At the manufacturing units, we do not keep our inspectors.”

2.15. As regards the control exercised by the Indian Standards Institution to ensure the quality of products of private parties under their marking scheme, the witness added:

“...the first part of our scheme of certification is, we get the manufacturer to have a control of his own during manufacture, every day during production... The second part of the story is, our inspectors go round the manufacturing units without notice from time to time to check whether the manufacturers are exercising the control which they are supposed to do. Our inspectors take samples send them to our laboratories which we test and get some results. When the manufacturers keep their own test records, those records are available to us. When our inspectors bring samples from the manufacturing points to our laboratories, these records are also available to us. Now, normally, we have a third check-in this case it did not operate-where we go to the market to buy samples with the ISI mark from the market. We bring them to our laboratories and check them. Thus, we have another series of test results. These three series of test results are independent sets of picture, one from the manufacturer, one from our inspectors and the third from the market samples. Now, we try to co-relate these three sets of pictures to find out whether they give a single type of picture or they differ. If they give a single type of picture regarding quality according to our specifications, then we come to the conclusion that the manufacturer has done his part. This is the whole story about our scheme. We do not keep an inspector at the factory because we have found that this correlation of three independent sets of data is much more effective than keeping an inspector at the factory...”

2.16. A note subsequently furnished to the Committee by the Indian Standards Institution on the scheme of testing and inspection BHC w.d.p. for ISI certification marking is reproduced below:

“The ISI Scheme of Testing and Inspection, in general, relates to technical conditions for quality control during

production under which manufacturers are permitted to use the ISI Certification Mark on their product. The Scheme varies from product to product, but no manufacturer is granted licence to use ISI Certification Mark on their production unless he accepts the conditions given therein.

"A copy of the Scheme of Testing and Inspection for ISI certification of BHC is attached. (Reproduced as Appendix II). It will be seen from clause 5 and Table 2 of the attached document that the manufacturers are required to test the sample at the levels of control specified therein on the whole production of the factory covered under the scheme before using ISI Certification Mark on their production. They are also required to maintain the record of their inspection and test for scrutiny by the ISI inspecting officers.

For Supervisory checks to ensure that the ISI Certification Mark appears only on products which conform to the standard, ISI inspecting officers carry out surprise inspection of the factory premises of the licensees to verify that proper implementation of the scheme of testing and inspection. For this purpose ISI inspectors draw samples from the production which are tested both at the factory as well as at ISI's own laboratory. The results thus obtained are compared with those recorded by the licensee under the approved quality control system. In addition to the collection of factory samples, ISI also obtains samples of certified products from consumer's end and tests the same in its own laboratory not only to ensure that the product marked conforms to the standards but also for another evidence that ISI mark is being used properly.

In this particular case of supply of BHC w.d.o. to NMEP under the ISI Certification Marks Scheme, ISI is given to understand that the material was required by NMEP immediately and was to be consumed very shortly. Since this situation could not permit ISI, collection and testing of samples from consumers' end, ISI offered to NMEP its services for lot inspection prior to despatch. Accordingly, on receipt of intimation from the manufacturers, ISI arranged for inspection and drawal of samples from the lots of BHC w.d.o. offered for supply to NMEP. Such samples were tested in ISI's own laboratory and reports were made available to NMEP."

2.17. According to the specifications of Indian Standards Institution, the alkalinity content of the pesticide, BHC 50 per cent w. d.p., should not exceed 1 per cent while the WHO standard is only 0.2 per cent. The Committee desired to know the reasons for the difference between the ISI and WHO specifications and the Director General, ISI, stated during evidence:

“It is due to the types of material that are available here. Alkalinity arises from the dilution of clays in the formulation. In our country we have found that if we use the clay available in various places here, a slightly more alkalinity would arise. That is why the Sub-Committee examined the question and came to the conclusion that upto 1 per cent could be permitted.”

1.18. Of the 4500 tonnes of BHC 50 per cent w.d.p. formulated and supplied by the four formulators, 550 tonnes were of alkalinity 1.1 per cent to 1.4 per cent. The Committee found from the Audit paragraph that, at the instance of Hindustan Insecticides Ltd. the Indian Standards Institution consulted two experts on pesticides, one, the Director of the Central Forensic Science Laboratory (Dr. H. L. Bami) and the other, the Plant Protection Advisor to the Government of India, Directorate of Plant Protection, Quarantine and Storage (Shri S. N. Banerjee) and that the question of raising the limit of alkalinity in the specifications of this pesticide was considered by the Pesticides Sub-Committee of the Indian Standards Institution in September, 1972. The Committee desired to be furnished with copies of the opinions of the two experts and the minutes of the meeting of the Pesticides Sub-Committee.

2.19. In his letter to Indian Standards Institution, Dr. Bami Director, Central Forensic Science Laboratory, had observed:

“The material supplied seems to have been consumed immediately after manufacture. Even the hypothetical concept that a slight excess of alkali could be harmful to the active ingredients is not tenable under these circumstances. After the material has been sprayed for the control of insects, there is no evidence to show that this very marginal increase in alkalinity would in any way cause accelerated decomposition of the active ingredients. It is not clear but it seems quite probable that NMEP had no adverse reports with regard to overall biological efficacy of the product when used in the field. In my con-

sidered opinion, slight excess of alkalinity would neither affect the suspensibility adversely nor its ultimate use in the field.

"In the above context, however, it may be relevant to add that manufacturers should exercise due care and caution to ensure that the batches which are manufactured do not exceed the upper limit of 1 per cent of alkalinity as is specified in the ISI specifications. Even if the damage is absent, technically every effort should be made to conform to the specifications which are essentially drawn to ensure adequate standards of manufacture as well as safety and efficacy in final use. The present violation of the standards is not serious technically notwithstanding any other administrative action which may be taken to ensure that such lapses on the part of the manufacturers are not repeated."

2.20. The opinion furnished by Shri S. N. Banerjee, Plant Protection Adviser to the Government of India made available to the Committee, was as follows:

"I am of the opinion that slightly alkaline BHC wdp should not make any difference as far as its use in the public health field is concerned. This is an interesting situation and this gives me an idea that AFCDC 6 should examine all the standards of these pesticides which are used both in the fields of agriculture and public health in order that we may have separate specifications for certain requirements for these two different purposes possibly in the same standard."

2.21. The views of the Pesticides Sub-Committee, AFCDC 6:1, expressed at its 42nd meeting held on 8th and 9th September, 1972, are reproduced below:

"With reference to BHC wdp, the issue whether slightly more alkaline material than what was specified in the Indian Standard would have any impact on the efficacy of the product in public health programme, came up for discussion. It was observed that, though more alkaline material gave better suspensibility values, theoretically it was known this (extra alkaline medium) would be an ideal situation for the quicker deterioration of the active ingredient (in this case, gamma isomer) due to dehydrochlori-

nation. However, it was expressed that if gamma isomer content was found to be all right in a little excess alkaline material, this should not be a matter of concern, but AFCDC 6:1 was convinced that it was not correct to increase alkalinity limit in the absence of data. It was suggested, and AFCDC 6:1 agreed that ISI Test House should prepare set of samples with varying values of alkalinity, test these samples for gamma isomer and report the same to the committee at its next meeting."

2.22. Since three different sets of views had apparently been expressed on the question of alkalinity, the Committee desired to know how it had been held by the Indian Standards Institution that slight increase in alkalinity upto 1.5 per cent would not materially affect adversely the use of the pesticide in the field. The Director General, ISI, stated during evidence:

"To start with, I would like to make it clear that we developed one specification for BHC wdp, thinking that the same specification could be made applicable for various purposes; but we had fixed it mainly for plant protection application. So, this specification of 1 per cent was based on plant protection application and we are quite confident on the issue that this 1 per cent alkalinity should not be exceeded for agricultural application.

"But this particular case arose on the question of its applicability for other uses—for public health purposes. Therefore, we tried to obtain advice from those who had knowledge of the subject. One was Dr. Bami and another was Dr. Banerjee. They felt that for public health purposes it might be possible to take a slightly more lenient view in regard to alkalinity limit and that the matter should be considered by the relevant Committee on the basis of data. Now, we have collected some data and it is under the consideration of this Committee."

He added:

"It is normal we face such problems when some difficulty arises over a transaction and in this case, immediately the problem was posed, we took the advice of two experts and we referred it to the Committee. There are two views which this Committee will have to take into consideration. One view is this that it is possible that we

can break-up this specification into two parts, that is, one for use in the agricultural purpose and the other for public health purposes, to see whether we could give a little higher limit of alkalinity for public health purpose retaining one per cent maximum in the agricultural use. But the question arising there is that in any specification, whatever limit is set up, we have to keep in view the possibility that in actual supply some lot will exceed the limit and in that case it is normal to expect that the buyer will exercise the technical judgement whether that particular lot for the particular use can be accepted or not. If it is merely for the sake of a percentage of production, it might go exceeding the limit. If we raise the limit, then the same problem will arise with reference to the raised limit. That is why in many cases, the Committee also stressed the point that instead of raising the limit, it is more appropriate to give a sort of deviation in particular cases which must be considered by the buyer for its particular use. Now, that consideration will have to be gone through by our Committee and a final decision taken."

From the letter dated 14th August 1972, from the Indian Standards Institution to the Directorate, National Malaria Eradication Programme, subsequently furnished to the Committee by the Department of Health (reproduced in Appendix VI), it is seen that the Indian Standards Institution had held that the material found sub-standard could be considered to satisfy the requirements of the specification for this purpose on the basis of the advice tendered by the two experts and taking into consideration the fact that no adverse report had been received from the field units till then.

2.23. Observing that the Pesticides Sub-Committee had expressed the view that the extra alkaline medium would be an ideal situation for the quicker deterioration of the active ingredient in the pesticide (in this case, gamma isomer) due to dehydro-chlorination, the Committee desired to know whether the National Malaria Eradication Programme was satisfied that the gamma isomer content of the pesticide was intact when it was supplied for spray. The Secretary, Ministry of Health and Family Planning stated:

"On the question of alkalinity, I was told that the formulators were using a little more of a chemical because it increases the suspensibility and as the suspensibility test



was more strictly conducted, this produces greater suspensibility. So the tendency of the formulators is that they will use a little more of the alkalinity. But it did not affect adversely the public health programme of NMEP."

2.24. The Committee desired to know whether the specification for alkalinity had since been revised after collecting necessary data and, if so, what was the revised specification. In a written note furnished to the Committee, the Department of Health stated:

"The question of fixing revised limit of alkalinity was discussed at three meetings of the ISI Pest Control Sectional Committee, AFCDC 6 and its Pesticides Sub-Committee, AFCDC 6:1... The specification limit for alkalinity has not been revised in IS; 562 so far, though the matter is under consideration and further data is being collected."

Relevant extracts from the minutes of these three meetings, furnished to the Committee by the Department of Health, are reproduced in Appendix III.

2.25. According to the Audit paragraph, suspensibility of 530 tonnes of the pesticide supplied was lower than 50 per cent but above 45 per cent. as against the minimum of 50 per cent. suspensibility and the undertaking approached Indian Standards Institution for including the 'keeping quality' clause in the specifications, according to which the material should retain its suspensibility at not less than 45 per cent. at the end of six months from the date of manufacture. The Committee desired to know the basis for introducing this clause in the specification subsequently. The Director General ISI, stated during evidence:

"This is a technical question. There are two sides of it. One is, we did give a specification at that time which did not include the keeping quality test, that is, the specification only said that the suspensibility shall be 50 per cent at the time of the manufacture. Now, it is a normal thing that this suspensibility will deteriorate with time. How much it deteriorates, how fast, is a matter which was left unsaid at this time. We did not know how much it is going to come down. Neither the manufacturer nor we knew about this. From the experience of this testing after a couple of months or so, we found that it went below 50 per cent. In some cases, it was between 45-50 per cent. In some cases, it went below 45 per cent."

We have tried, as I mentioned, to find out this question as to why it had happened and how fast it should be permitted, that is, to give the extent of keeping quality in the specification. We have given something on an *ad-hoc* basis, while data are being collected and the *ad-hoc* basis was also obtained on the analogy of a similar specification in DDT wherefrom a study previously made, it was found that about 5 per cent drop, that is, 50 to 45 per cent, one can expect in six months time. Now, the suspensibility drop arose mainly from the media used, that is, clay and the clay is the same in DDT and BHC. From this analogy, on an *ad-hoc* basis, our Committee decided that we can consider an amendment to go into BHC wdp to permit upto 5 per cent initially. This matter is being studied again on the basis of data and we will come to some conclusion."

2.26. The Committee desired to know whether the quantity of 1080 tonnes found to be sub-standard in alkalinity and suspensibility had been utilised and whether any evaluation was made to determine whether this quantity served the purpose for which it was intended. The Secretary, Ministry of Health and Family Planning stated:

"I shall indicate the position. As stated therein, the first lot of 550 tonnes which you had referred to, had an alkalinity above 1.1 per cent but below 1.4 per cent; the second lot of 530 tonnes had suspensibility below 50 per cent but above 45 per cent. In respect of all these, the Directorate of NMEP had withheld the payment and the counterpart of the Hindustan Insecticides who had undertaken the responsibility, took up the matter with the Indian Standards Institution because these were required to be supplied according to the latter's specifications and communicated that the standards had been revised with retrospective effect; and the bills were cleared. In so far as the 275 tonnes were concerned which did not come even within the revised specifications, the ISI, as the certifying authority, were required to indicate as to what penal action was necessary. They had recommended a penalty of Rs. 9,300. All these quantities were used, because it was not possible to segregate this quantity, since the marks had been erased."

2.27. In reply to another question whether prompt action for testing the efficacy of the rejected material in the field had been

taken by the user organisation, the witness stated:

"In this case, the order was placed in January and the supply had to reach the States and the units by March for the first spray. The question of urgency was there. In regard to the chemical composition and content of these matters, it was left to the control of ISI and the supervision of the HIL. But even if some pesticide or insecticide satisfies the chemical composition, it is noticed sometimes that when it is sprayed, it does not have the anticipated effect. This was the only test for the Directorate of NMEP. The Directorate took this test upon itself to carry out and satisfy itself. They depended upon the effective supervision of the ISI and HIL so far as the chemical content of this insecticide was concerned."

2.28. The Committee desired to know whether a final decision on the 'keeping quality' had since been taken. The Department of Health stated in a written reply:

"The Indian Standard for BHC water dispersible powder concentrates (IS: 562) specifies the suspensibility requirement as not less than 50 per cent. However, it did not indicate the permissible fall of suspensibility during storage. The corresponding standard on DDT includes such a provision by stipulating that the suspensibility should not fall below a level of 45 per cent during a period of 6 months from the date of manufacture. At the suggestion of Hindustan Insecticides Limited, the Pesticides Sub-Committee, AFCED 6:1 considered this question at its 42nd meeting on 8 and 9 September, 1972 at Bombay and agreed to provide a similar clause in IS:562 also for the following reasons:

- (a) The dispersing/wetting agents used for the manufacture of both these water dispersible concentrates are of similar nature.
- (b) For DDT, extensive investigations at several laboratories had indicated that the storage behaviour of water dispersible powder concentrates largely depends on deterioration during the first six months of the manufacture of the product. If this value does not fall below 45 per cent, there is every likelihood that the product will retain its keeping quality for a period of about two years.

- (c) The proposal will give an additional safeguard to the consumer, because the limit of 50 per cent (minimum) applicable only at the time of manufacture did not take into consideration the fall during the storage in the first six months which could be even lower than 45 per cent.

In the light of these deliberations of the Sub-Committee 6:1, AFCDC and with the concurrence of the Chairman of the Committee AFCDC 6, the DG, ISI under powers vested in him approved the following amendment to IS: 562 for a period of six months effective from 1st November, 1972.

*'Keeping Quality:—*The material shall retain its suspensibility at not less than 45.0 per cent at the end of six months from the date of its manufacture as tested by the method prescribed in C-3.2, without subjecting the material to the accelerated storage test. For this purpose, an additional sample over and above that prescribed in E-3.4 shall be taken at the same time and packed in the identical manner as prescribed in 3.1 and stored at a place as agreed to between the manufacturer and the purchaser, under normal storage conditions. This sample shall be analysed only for suspensibility, in case a complaint is received for loss of suspensibility within the specified time'.

The AFCDC 6 "at its 33rd meeting held in joint session with 45th meeting of Pesticides Sub-Committee, AFCDC 6:1, on 19 and 20 August, 1974 in New Delhi approved the above amendment for being issued as a regular amendment steps are now being taken for publishing and gazetting this amendment to IS: 562."

2.29. According to the Audit paragraph, the test reports from ISI were received between June, 1972 and August, 1972 and the first test report was received on 6th June, 1972, while the entire quantity of the pesticides had been despatched to seven States during February, 1972 to June, 1972 and the Committee were informed by Audit that this information had been furnished to the Accountant General concerned by a Joint Secretary in the Ministry. The Committee desired to know the reasons for the delay in testing by ISI. The date of furnishing the first test report, as indicated by Audit, was, however, disputed by the Director General, Indian Standards Institution, during evidence, who stated that the test reports had been furnished

from February onwards. On being asked to reconcile the discrepancy in the dates of receipt of test reports from ISI, the Department of Health stated in a written note submitted to the Committee:

“It may be clarified at the very outset that the reports of the ISI on the material in question were sent by them from February onwards. In the questionnaire furnished by the NMEP to the AGCR, the date June 6, 1972 was indicated in respect of sub-standard material where the suspensibility was even below 45 per cent. This will be clear from a perusal of NMEP’s reply to item No. 10 of the questionnaire, which is reproduced below for facility of reference.

*Item No. 10*

1. Date of last supply of the material . . . . . 10-6-1972
2. Date of the receipt of the first report from ISI in regard to the sub-standard material . . . . . First report with suspensibility below 45% received in Chemistry Lab. on 6-6-1972’.

A copy of the d.o. letter No. G. 25015/7/73—C&CD, dated January 1, 1974 from...Joint Secretary, Ministry of Health and Family Planning to.... Accountant General, Central Revenues is enclosed (Appendix IV). A perusal of paragraph 3 thereof will show that it referred to the supply of sub-standard BHC. It was in this context that it was stated that the first report from ISI was received on 6th June, 1972. This was based on the reply given by the NMEP to the questionnaire received from the AGCR, extracts from which have been reproduced above. It will be clear that the reference was to a test report from the ISI on a material which was sub-standard because of suspensibility being less than 45 per cent and not to the first report given by the ISI in connection with this transaction.”

A statement of sampling and testing of BHC wdp carried out by ISI in relation to the supplies of the material to the NMEP, submitted by the Director General, ISI to the Committee in this regard is reproduced in Appendix V.

2.30. The Committee desired to know the action taken to prevent use of the sub-standard material by the NMEP units when the first report about the sub-standard quality of the pesticide was received from the Indian Standards Institution. From the information furnished to the Committee by the Department, it is observed that the NMEP addressed two letters to the Hindustan Pesticides Ltd., New

Delhi on the 25th May and 29th May, 1972, advising them that the material pertaining to the batches reported substandard should not be despatched to the consignees and that if it had already been despatched, the consignees should be telegraphically informed not to use the material. This was followed by another letter dated 6th June, 1972 from the NMEP to the General Manager of the undertaking's unit at Udyogmandal, Kerala, asking him to call back the substandard material for reformulation. The Kerala unit of the undertaking advised two units of the NMEP (at Surat and Anand) on 26th June, 1972 telegraphically asking them to segregate the defective material, while the other units of the NMEP were advised to do so by letters on 28th June, 1972.

2.31. The NMEP Directorate had agreed in January, 1972 to accept supply of the pesticide after field spray test by the Directorate or its representatives at different stations pending receipt of test results from the Indian Standards Institution. The Committee desired to know why the order for the pesticide had not been placed well in time so that sufficient time was available for making the supply after proper inspection and tests. In a written reply furnished to the Committee, the Department of Health stated:

"The BHC is sprayed in three rounds as follows:—

First round	· · · · ·	·	March-April
Second round	· · · · ·	·	June-July
Third round	· · · · ·	·	August-September.

It will thus be seen that the NMEP took care to order the BHC in such a manner that bulk of the quantity would be available to the units even if there were interruptions in supply due to various factors, by the time the BHC was actually required in the field for spray. As the supplies were required under the ISI mark scheme, it was expected that the material ordered would conform to the requisite standard. Additional safeguards of spray test by the NMEP and by the ISI were imposed to eliminate the chances of substandard supplies. Safeguards were provided in the letters of exchange for replacement of substandard material if found, after reaching the units."

2.32. Observing from the Audit paragraph that a penalty of Rs. 9,300 only had been imposed for 275 tonnes having suspensibility

lower than 45 per cent, while the test reports from ISI had shown that 1355 tonnes of the pesticides worth Rs. 24.55 lakhs were of sub-standard quality, the Committee enquired why no penalty had been levied on the balance quantity of 1080 tonnes, deficient in alkalinity and suspensibility. The Department of Health stated in a written reply furnished to the Ministry:

“A penalty of Rs. 9300 was imposed on Messrs Hindustan Insecticides Limited in respect of 275.5 tonnes sub-standard BHC 50 per cent w.d.p. supplied by them on the basis of the recommendation made by the Indian Standards Institution. 1080 tonnes of BHC w.d.p. had failed in two tests as follows:—

- |                                 |            |
|---------------------------------|------------|
| (a) Alkalinity (1.1 to 1.4%)    | 550 tonnes |
| (b) Suspensibility (45 and 50%) | 530 tonnes |

#### *Alkalinity test*

On the basis of the expert advice, ISI informed the NMEP Directorate that the 550 tonnes of material having higher alkalinity could be used without adversely affecting the efficacy of the spray. They added that it was understood that till then no adverse report had been received from field units. Taking this fact into consideration they felt that the product could be considered to satisfy the requirements of the specification for the purpose.

#### *Suspensibility.*

For the material which was found having suspensibility between 45 and 50 per cent the problem was referred to ISI Pest Control Committee (AFCDC: 6) and its Pesticides Sub-Committee, AFCDC: 6:1. On the recommendation of the Committee a 'keeping quality' clause was introduced in the corresponding Indian Standard. As under the provisions of the keeping quality clause, the material having suspensibility up to 45 per cent when tested within six months from manufacture was deemed to have met the requirement of the standard, ISI advised that the 530 tonnes of the material having suspensibility upto 45 per cent could be used in the spray.

"In view of the position explained above, ISI advised that no penalty be levied on the quantity of 1080 tonnes as the material was usable and most of it had actually been used."

2.33. The Committee desired to know the basis on which the Indian Standards Institution had recommended the penalty of Rs. 9,300/- in respect of the pesticide having suspensibility less than 45 per cent and whether it had any relevance to the value of the sub-standard material. The Director General, ISI, deposed:

"It is related to cost. When this matter was referred to us for calculation, first of all, we hesitated to take it up. But, it was suggested to us that we should do it as an arbitration or something like that. Then, we took it up. I went on this basis that the basic ingredient which is BHC was not deficient in any of the samples, and, therefore, the cost that I had to take into consideration for penalty, was not the cost of the material but the cost of the formulation. There was no deficiency in the BHC content or gammaisomer. The cost of formulation. I was told, is about Rs. 738 per tonne. Therefore, I wanted to relate the penalty to this cost and not the total cost of the material. Then, I took into consideration the fact that the test for which the failure was observed, did not make it difficult to spray. The information that was given to me was, there was no difficulty in spraying. Nobody complained that it could not be sprayed. I had to take all these facts into consideration in arriving at my calculation for penalty. In fact, according to reports, most of the material was used without any difficulty. It also produced the appropriate results. Taking that into consideration and taking the view that the penalty should be related to the cost of the formulation, which is Rs. 734 per tonne, I tried to get a figure of percentages for every drop of suspensibility. When the suspensibility went down to 44 per cent, I fixed a percentage as to penalty; when it went down to 43 per cent, I fixed a percentage for penalty and so on relating to the formulation charge. I gave a figure which was about 5 per cent of the formulation charge and I thought that 5 per cent of the formulation charge as penalty should be good enough for the particular case."



Elaborating on the basis of calculation of the penalty, the Department of Health stated in a written note submitted to the Committee:

"The note furnished by the Indian Standards Institution giving the basis of calculation of penalty is reproduced below:—

The ISI's advice on the quantum of penalty to be imposed on M/s. HIL for supply of 275 tonnes of sub-standard BHC WDP to NMEP in 1972 was given in response to NMEP letter No. 9—17/72, NMEP (II)-HIL-Vol. II, dated 13th April, 1973. The ISI advice was communicated to NMEP *vide* letter No. CMD/38.1 (NMEP), dated 18th May, 1973.

The technical and usability aspects of the material were taken into consideration by ISI in recommending the penalty. These relate to the following:—

- (i) The material under reference fail only in suspensibility. The suspensibility value ranges from 40 per cent to 44 per cent for 150 tonnes, below 40 per cent for 50 tonnes and 75 tonnes showing plasticity.
- (ii) Low suspensibility may have adverse effect in spraying if the material is stored for longer period; the efficacy of the spray, however, do not have linear correlation with suspensibility value.
- (iii) The material under reference passed the field spray test by NMEP inspectors and no complaint was recorded from the field unit about difficulty in spraying while using the material.
- (iv) There was no deficiency in the technical material content of the formulation on which potency of the material is dependent. This technical material was supplied by HIL.
- (v) HIL sub-contracted formulation of the material by paying Rs. 734 per tonne. The defect in the material being in the formulation, the penalty should relate to formulation charge and not to the total cost of the material.

The calculated penalty of Rs. 9300.00 on the basis of the norm given in the letter referred in para 1 above, was arrived as under:

Suspensibility	Quantity in tonnes	Penalty as percentage of the formulation cost @ Rs. 734.00/tonne	Amount in Rupees.
44%	35	1%	256.90
43%	50.5	1.5%	555.90
42%	40	2%	587.20
40%	25	3%	550.50
below 40%	50	5%	1835.10
Plasticity developed in the slurry	75	10%	5505.00
	275.5		9290.60

This value was rounded off to Rs. 9,300.00 only."

The Director General, ISI, added further during evidence:

"The total quantity was made up of three different deficiencies. One was in regard to alkalinity—I will give the figure—of 550 tonnes, then suspensibility between 45—50 per cent—530 tonnes. These two quantities having been accepted as a result of discussions and so on, they were not within the question of penalty any more."

2.34. In respect of the 1080 tonnes on which no penalty had been levied, the Committee enquired whether this quantity was standard or sub-standard. The Director General, ISI, replied:

"It is difficult to answer that way. According to specification, it is below the specification. According to the experts, it is still usable."

2.35. Since the specifications regarding alkalinity and suspensibility had been revised subsequent to the supply of the material by the formulators and a quantity of 1355 tonnes (about 30 per cent of the total quantity ordered) had been found not conforming to the original specifications stipulated, though they were considered to satisfy the requirements and utilised, the Committee desired to know whether the feasibility and advisability of a reduction in the

rate for the supplies which were not according to the specifications had been considered. The Director General, ISI, stated during evidence:

"There are two tests involved here. One is alkalinity and the other is suspensibility. In regard to the alkalinity, accepting the materials with 1.4 per cent is certainly a lowering of specifications, but the material is still usable for the purpose. As far as we are concerned, we felt and we still feel it would be still effective, but it is lowering of specifications.

"In regard to the suspensibility, since we changed the specifications, it can be argued and I will support that argument, if it comes within the amended specifications it is not a lowering; but if it is below the amended specifications, it is lowering. The fact is that there was change in specifications after the contract had been made out and I certainly see your point regarding the price. That is very valid."

The Secretary, Ministry of Health and Family Planning added in evidence:

"...the NMEP had taken up with the ISI the question of the acceptability of the consignments viz. of 550 tonnes and 530 tonnes as also the reduction to be made in regard to the rates for these things. That question was specifically taken up with the ISI."

2.36. To a question as to what the ISI had to say in this regard, the representative of the National Malaria Eradication Programme replied:

"I have a letter dated the 19th October, which is a lengthy one. I will quote only the relevant lines. It reads: 'The amendment was to take care of the present problem. Taking into consideration the normal time lapsed between the drawal of samples by our inspecting officers and the testing, and also the fact that the suspensibility test results conveyed to you were after accelerated storage of the samples, all the batches of BHC wdp found to have suspensibility of 45 per cent and above may be considered to have met the requirements of IS:562 read with the present amendment'."

The Director General, ISI, however, intervened and stated:

“May I explain it, because the question of ISI’s point of view has arisen? When we received it, we did not consider whether the price needs any change. The reference was on a technical issue, viz. whether the specification needs any change in the particular circumstances. The answer that we gave shows that our committee having accepted the amendment in November, 1972 in regard to the keeping—quality—test, it can be argued that technically the same consideration can be advanced over the supply made earlier to that amendment. This has nothing to do with the question whether the rate should have been changed or not. In fact, there was no point in referring to the ISI the question whether the rates should be changed or not or having our advice on it.”

The copies of the relevant correspondence relating to the levy of penalty exchanged between NMEP Directorate and ISI and extracts of the minutes of a meeting held in the Ministry in this regard, furnished at the request of the Committee, are reproduced in Appendix VI.

### III. RECOMMENDATIONS AND CONCLUSIONS

3.1. Apart from the financial aspect of this transaction what causes great concern to the Committee is the fact that sub-standard pesticide has been used in the field. The Committee find from the information furnished in the Annual Reports of the Ministry of Health and Family Planning for the years 1972-73 and 1973-74, that the incidence of malaria in the country during 1971, 1972 and 1973 was respectively 13,23,104 cases, 13,62,806 cases and 14,98,961 cases. While the number of cases of malaria reported during the period from January to October, 1972 was only 8,86,937, the incidence reported during the remaining two months, i.e. after the completion of the spraying operations, was as high as 4,75,869 cases. The Committee are also concerned to note that in the four States of Orissa, Uttar Pradesh, Rajasthan and Punjab, where the BHC procured in this case had been sprayed, there has been an alarming increase in the incidence of malaria during 1972 and 1973. The Committee, therefore, consider it essential to investigate immediately whether the spraying of the sub-standard pesticide in these States has contributed to the increase in the incidence of malaria.

3.2. The Committee are distressed to find that 1355 tonnes of BHC 50 per cent wdp pesticide worth Rs. 24.55 lakhs, which represents about 30 per cent of the total quantity of 4500 tonnes of the pesticide procured by the NMEP Directorate were found to be substantially sub-standard quality as it did not conform to the stipulated specifications relating to either its alkalinity content or susceptibility or both. The pesticide was meant for spraying during the 1972-73 spray season in those areas of Madhya Pradesh, Maharashtra, Gujarat, Orissa, Uttar Pradesh, Rajasthan and Punjab where mosquitoes had developed resistance to DDT. The penalty imposed for the sub-standard supply was only Rs. 9,300. After an examination of the information made available to them, the Committee find a number of unsatisfactory aspects in the handling of the case which are discussed in the succeeding paragraphs.

3.3. The purchase order was placed on Hindustan Insecticides Ltd., who in turn procured some quantity of technical BHC from various sources and arranged to get it formulated by four different formulators [Pesticides India, Udaipur—1730 tonnes, Devidayal (Sales) Private Limited, Bombay—1561 tonnes, Krishichemin Products, Bangalore—970 tonnes and Venkateswara Agrochemicals and Minerals, Madras—240 tonnes) into equivalent quantity of BHC

50 per cent wdp for supply to the National Malaria Eradication Programme. The purchase order initially stipulated that Hindustan Insecticides Ltd. would furnish certificates from the Indian Standards Institution for the entire formulated material and rectify, at its expense, any defect found on testing the material by the Directorate in the field or in the factory. Significantly enough, before the sampling and testing by Indian Standards Institution could begin, Hindustan Insecticides Ltd. had desired that there should be no delay in inspection of the pesticide as the supplies were to be completed within a short period. The NMEP Directorate had, therefore, agreed, in January 1972, to accept supply of the pesticides after field spray test by the Directorate or its representatives at different stations pending receipt of test results (on lot samples) from the Indian Standards Institution. While agreeing to this deviation, the NMEP Directorate apparently assumed that as the pesticide was to be supplied under the ISI marks scheme, the material ordered would conform to the requisite standards. This decision, in the opinion of the Committee, shaped the subsequent course of events making the original contractual stipulation for the replacement of the sub-standard material ineffective and inoperative.

3.4. According to specification No. IS:562 of the Indian Standards Institution, which was in operation when orders for the pesticide were placed in December 1971, the alkalinity content of BHC 50 per cent wdp would not exceed 1 per cent and its minimum suspensibility should be 50 per cent. The test reports of Indian Standards Institution, however, revealed that the alkalinity content of 550 tonnes of the pesticide varied between 1.1 per cent to 1.4 per cent, while 530 tonnes had suspensibility below 50 per cent but above 45 per cent and 275 tonnes had a suspensibility below 45 per cent and were also deficient in alkalinity as well.

3.5. In respect of alkalinity of the pesticide, the expert opinions of the Director, Central Forensic Laboratory (Dr. H. L. Bami) and the Plant Protection Adviser to the Government of India (Shri S.N. Banerjee) had been sought on the efficacy of using higher-alkaline pesticide in public health programme, Dr. Bami had opined that slight excess of alkalinity would neither affect the suspensibility nor its ultimate use in the field. He had, however, also stressed the need to conform to the specifications in manufacture and to exercise due care and caution to ensure that the batches which were manufactured did not exceed the upper limit of 1 per cent of alkalinity as specified by Indian Standards Institution as the specifications were essentially drawn to ensure adequate standards of manufacture as

well as safety and efficacy in final use. Shri S.N. Banerjee had also suggested that the Pesticides Sub-Committee of the Indian Standards Institution should examine all standards of these pesticides, whole expressing his opinion that slightly alkaline BHC wdp should not make any difference as far as its use in the public health field is concerned. The Committee find with surprise that though the experts had expressed views that slight excess of alkalinity would not affect the use of the pesticide in the public health field, they had not specified the limits upto which the excess alkaline-pesticide could be considered efficacious in the field.

3.6. The Committee find from the Audit paragraph that on the basis of the opinion of these two experts, the Indian Standards Institution informed the Directorate, National Malaria Eradication Programme, that slight increase in alkalinity upto 1.5 per cent would not materially affect adversely the use of the pesticides in the field. It is further seen from the letter dated 14th August, 1972, from the Indian Standards Institution to the Director, N.M.E.P. that this decision had been taken on the basis of the advice tendered by the two experts and considering the fact that till then no adverse report had been received from the field units. It is not at all clear to the Committee how the Indian Standards Institution arrived at the limit of 1.5 per cent particularly when the two experts had not specified any upper limits for alkalinity and adequate scientific data was also lacking. It is also of interest to note that the Pesticides Sub-Committee also had held, in their 42nd meeting, that it was not correct to increase the alkalinity limit in the absence of data, since theoretically it was known that the extra alkaline medium would be an ideal situation for the quicker deterioration of the active ingredient of the pesticide, viz. gamma isomer. They had also suggested detailed tests. The Committee have been informed that the specification limit for alkalinity has not been revised so far. The decision to utilise 550 tonnes of pesticide with alkalinity of 1.1 per cent to 1.4 per cent was apparently not justified. The Committee would, therefore, like the Ministry to investigate whether the decision to utilise 550 tonnes of the pesticide was justifiable.

3.7. The Committee are unable to understand how the NMEP Directorate satisfied itself that the gamma isomer content was actually intact in the excess-alkaline pesticide. It is seen from the statement of sampling and testing of BHC wdp, furnished to the Committee by Indian Standards Institution, that the first report of failure in alkalinity had been made available only on 3rd May, 1972, by which time more than 60 per cent of the supplies had been

distributed to various consignees for spray in the field. The Committee have also been informed that since marking of batch numbers on the packings were not decipherable, it had not been possible to segregate the sub-standard pesticide. Further, the opinion of the two experts had been furnished only in August 1972 and the Pesticides Sub-Committee had considered this question only in September 1972, by which time even the third round of spraying in the field would have been in full swing. Though it has been stated by the Secretary, Ministry of Health and Family Planning that the excess of alkalinity in the pesticide did not affect adversely the public health programme of NMEP, he has also admitted, during evidence, that the NMEP Directorate was only concerned with the field spray test and so far as the chemical composition and content of the pesticide was concerned, the Directorate depended upon the control and supervision of the Indian Standards Institution and Hindustan Insecticides Ltd. Apparently, therefore, no detailed scientific investigations whatsoever had been carried out by the Directorate to determine whether the spraying of pesticide having excess alkalinity produced the desired results. Under these circumstances, the Committee are inclined to think that the active ingredient was not intact in the pesticide found sub-standard in respect of alkalinity.

3.8. As regards the specification for suspensibility, the Committee are surprised that the Indian Standards Institution had introduced the 'keeping quality' clause for suspensibility in the specification on an ad hoc basis and also made it applicable retrospectively to the consignments of BHC wdp found sub-standard according to the original specification, even while necessary data in this regard were being collected. The Committee note that this clause and consequent amendment to specification IS:562 had also been approved initially for six months effective only from 1st November, 1972, on the analogy of a similar specification for DDT introduced on the basis of a study, previously made. The issue of a regular amendment incorporating the 'keeping quality' clause had been finally approved by the Pesticides Sub-Committee, AFCDC-6, only at their 33rd meeting held on 19th and 20th August, 1974. In this context, the Committee find it difficult to accept the argument put forth by the Indian Standards Institution, in their letter dated 19th October, 1972, that since the issue of the amendment was brought about at the instance of Hindustan Insecticides Ltd., the amendment was also to take care of the problem faced by them which, to say the least, is unconvincing.

3.9. Yet another unsatisfactory feature of this case is the way in which the question of penalty for the sub-standard pesticide was handled by the Ministry and the NMEP Directorate. The Committee



find that a penalty of Rs. 9,300 has been imposed on Hindustan Insecticides Ltd. only in respect of 275 tonnes of the pesticide with suspensibility below 45 per cent and partly deficient in alkalinity as well, on the basis of the recommendation made by the Indian Standards Institution. In respect of the remaining 1080 tonnes which were also sub-standard, according to the original specifications, the Indian Standards Institution had advised that no penalty need be levied on this quantity as the material was usable and most of it had actually been used. The Committee are unable to appreciate the logic of this argument. The fact remains that this quantity was also below the specifications stipulated in the purchase order.

3.10. Since the material accepted was not according to the original specifications, the Committee are surprised that the NMEP Directorate, as the purchaser of the pesticide, took no action to explore the possibility of a reduction or refixation of price for the quantity found sub-standard with the suppliers but merely remained content with accepting the advice of the Indian Standards Institution, thereby abdicating their rights and responsibility as buyers. The Committee desire that responsibility should be fixed for this costly lapse on the part of the Directorate. The possibility of obtaining a price reduction for this quantity of 1080 tonnes or recovering an adequate penalty should also be explored.

3.11. The part played by the Indian Standards Institution in this case is unsatisfactory. The Committee feel that the proper role of Indian Standards Institution is to enforce strict quality control. It should not have expressed a definite view in regard to the acceptability of a sub-standard supply, without adequate laboratory and field trials and tests. It is true that in this case the Indian Standards Institution proceeded on the basis of opinions expressed by two experts, one of whom specifically advised reference to its relevant Sub-Committee. Such an approach, in the Committee's opinion, is hardly becoming an organisation entrusted with certifying the quality and efficacy of products. The Institution has also functioned beyond its jurisdiction by advising that no penalty was leviable in respect of bulk of the material found sub-standard.

3.12. To sum up, the Committee are of the opinion that (a) the decision to utilise 550 tonnes of pesticide, with alkalinity, 1.1 per cent to 1.4 per cent was not justified; (b) the introduction of a 'keeping quality' clause in the specification on an ad hoc basis retrospectively by the Indian Standards Institution to apply to the supply of 530 tonnes of pesticide found sub-standard in suspensibility is unconvincing; (c) there has been a costly lapse on the part of the NMEP

Directorate in remaining merely content with accepting the advice of the Indian Standards Institution on the question of penalty, thereby abdicating their responsibilities as the purchase of the pesticide; (d) the Indian Standards Institution has clearly functioned beyond its jurisdiction in advising that no penalty was leviable in respect of bulk of the material found sub-standard and (e) there has been an avoidable delay of nearly four months in issuing necessary sanction for the purchase in this case which in turn led to deviations in the procedure for inspection and testing. These errors of omission and commission, besides resulting in monetary loss to the Government, have also caused a set-back to the Malaria Eradication Programme in the States in which the sub-standard pesticide has been used. The lapses summarised above are serious and call for fixation of individual responsibility in each case. The Committee desire that this should be done immediately and appropriate action taken against the officials concerned under advice to the Committee.

3.13. The Committee are of the view that appropriate action should also be taken against the four private formulators [Pesticides India, Udaipur. Devidayal (Sales) Private Ltd., Bombay, Krishimhemina Products, Bangalore and Venkateshwara Agro Chemicals and Minerals, Madras after proper investigation.

3.14. The Committee have also been informed that the order for the supply of the pesticide had been placed on Hindustan Insecticides Ltd. on a special approach made by the undertaking to the Health Ministry that if the Ministry had any need for BHC, they should preferably buy it from the undertaking. The background for this request was that in the year Hindustan Insecticides Ltd. commenced production of BHC from their plant, there was a 'terrific glut' in the BHC market and 'it was extremely difficult to sell the BHC in the prevailing competition.' The Committee, however, find that in actual practice, Hindustan Insecticides Ltd. had procured 450 metric tonnes of Technical BHC from M/s. Tata Chemicals and 963 metric tonnes from M/s. Kanoria Chemicals. The Committee are unable to understand how the procurement of Technical BHC by Hindustan Insecticides Ltd. from other private producers was agreed to by the Ministry of Health when the Hindustan Insecticides were claiming a glut in production and difficulty in disposing of their stock. The Committee, therefore, desire that the circumstances leading to the procurement of Technical BHC from private producers by Hindustan Insecticides Ltd. should be thoroughly investigated and responsibility therefor fixed and the Committee informed.

3.15. The Committee are also concerned to find that a public sector undertaking preferring to trade in sub-standard pesticides rather than to gearing up its own production to meet the requirements of the Government health and Agricultural programmes.

3.16. The Committee would also like to be informed of the final decision taken by the Indian Standards Institution about the safe alkalinity limit for BHC wdp. Since the existing limit of 1 per cent is already high compared to the WHO limit of 0.2 per cent, the Committee see no justification for deviating from that limit.

3.17. The Committee feel that the sorry state of affairs reflected in this transaction was not entirely unavoidable. This could have been prevented had adequate advance action for the procurement of the pesticide been taken. The delays in procuring pesticides for the Malaria Eradication Programme have also been examined by the Committee in the past and they had then been informed by the Ministry of Health and Family Planning that a programme for the advance procurement of insecticides, one year in advance, had been drawn up and the delay factor had once and for all been eliminated. The Committee note that despite this assurance having been given to them earlier, the proposals for the procurement of BHC wdp for use during the 1972-73 spray season (first round of spraying to commence in March, 1972) had been sent to the Director General of Health Services only by the end of July 1971 and necessary sanction was received by the middle of November 1971. The Secretary of the Ministry admitted during evidence that it had not been possible so far to reach the ideal pattern of finalising all the details one year in advance. The Ministry have subsequently informed the Committee that because of various formalities involved, viz., screening of the proposals by the DGHS, the Ministry and its Associate Finance and clearance by the Department of Economic Affairs and the DGTD in case of imports, the issue of formal sanction for advance procurement of insecticides is liable to delay. Since the Department of Economic Affairs and the DGTD are concerned only with imports from abroad, the delay of nearly four months for issuing sanction in this case of indigenous procurement needs to be explained. The Committee are also of the opinion that the various difficulties expressed by the Ministry are not insurmountable.

3.18. The picture that emerges from the statement furnished to the Committee by the Ministry, containing the details of proposals for procurement of different insecticides, issue of sanctions and delivery schedules is depressing. For instance, in respect of procurement of Malathion for the 1974-75 spray season, the Committee find that while

the proposal had been sent on the 30th April, 1973, the sanction had been received only on 19th March 1974 and even though the supplies were to be completed by 31st May, 1974 (by which time the first round of spraying should have been completed) the orders had been placed only in July and August 1974. Similarly, sanctions in respect of DDT 75 per cent, proposals for which had been sent on 30th April, 1973, had been issued as late as March and May, 1974. The Committee can only deplore such glaring instances of delays and desire that the existing procedures for the issue of sanctions and procurement should be thoroughly reviewed and streamlined so as to obviate emergency and distress purchases. The Committee would like to be kept informed of the changes effected in this regard.

NEW DELHI;  
April 9, 1975.  

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Chaitra 19, 1897 (S).

JYOTIRMOY BOSU,  
Chairman  
Public Accounts Committee

## APPENDIX I

(vide para 2.6 of Report)

*Statement showing details of proposals for advance procurement of different insecticides, sanctions and the availability of supplies during 1972-73 to 1974-75*

Year	Proposal sent to D.G.H.S.		Sanction received		When indent was sent		Date of delivery	Order placed by DGS&D	Quantity received within Delivery Schedule	Quantity received after delivery schedule	
	Date	Qty. M.T.	Date	Qty. M.T.	Date	M.T.					
1	2	3	4	5	6	7	8	9	10	11	12
<b>MALATHION</b>											
1972-73	23-7-71	6000	23-2-72	3200	Sent to DGHS 23-2-72	3200	30-4-72	18-5-72	Nil	3200	(June-July '72 1132 M.T.) (March '73 2068 M.T.)
1973-74	20-5-72	6000	30-10-72	1000	Sent to DGHS on 13-11-72 & DGHS sent to DGS & D on 17-11-1972	1000	15-2-73	2-2-73	—	1000	March '73
1974-75	30-4-73	4000	19-3-74	3000	Indent sent to DGHS on 20-3-74 & DGS&D on 16-4-74	3000	31-5-74	11-7-74 (642 M.T.)  Aug '74 (150 M.T.)	—	220	July-August '73 Balance Awaited

3

1	2	3	4	5	6	7	8	9	10	11	12
DDT 75%											
1972-73	15-3-71	9212	4-9-71	6000	USSR	3000 3000	4-9-71 Do	31-3 '72 30-4-72	2200	2986 526	May-Dec. '72 Jan & Feb. '73 Balance 288MT not received.
1973-74	26-4-72	4500	3-10-72 1-1-73	2000 2000	„	2000 2000	3-10-72 1-1-73	Feb '73 April '73	284 MT	1380 2336	May-July '73 Aug-Dec. '73
1974-75	30-4-73	4000	18-12-73 28-3-74 20-5-74	1250 1750 1000	1250 1750 1000	18-12-73 28-3-74 30-5-74	31-3-74 30-6-74 31-12-74		246 MT — —	1402	Aug '74 Balance Awaited.
BHC 50%											
1972-73	27-7-71	4500	18/19-11-71	4500		1-12-71	31-3-71	HIL	2978	1522	May '72
							(75%) 30-4-72 (25%)	Do.			
1973-74	20-5-72 7-10-72	8000 5800	31-10-72 28-11-72	4900 9800		4-11-72 2-12-72	31-3-73 31-3-73 30-4-73	Do. HOC HIL	8118	4316	May '73- Sep. '74 1366 still balance.
1974-75	30-4-73	18321	4-7-73 18-12-73	5000 13321		7-8-73 Sent to DGHS on 29-12-73 DGHS sent to DGS&D on 3-1-74	30-4-74 30-3-74/ 6900 30-4-74/ 6421	HIL DGS&D	3445.5 Nil	155.5	May to Sept. '74

## **APPENDIX II**

**(vide para 2.16 of Report)**

### ***Scheme of Testing and Inspection of BHC wdp for ISI Certification Marking***

1. The ISI Scheme of Testing and Inspection, in general, relates to technical conditions for quality control during production under which manufacturers are permitted to use the ISI Certification Mark on their product. The scheme varies from product to product, but no manufacturer is granted licence to use ISI Certification Mark on their production unless he accepts the conditions given therein.

2. A copy of the Scheme of Testing and Inspection for ISI certification of BHC wdp is attached. It will be seen from clause 5 and Table 2 of the attached document that the manufacturers are required to test the sample at the levels of control specified therein on the whole production of the factory covered under the Scheme before using ISI Certification Mark on their production. They are also required to maintain the record of their inspection and test for scrutiny by the ISI inspecting officers.

3. For supervisory checks to ensure that the ISI Certification Mark appears only on products which conform to the standard, ISI inspecting officers carry out surprise inspection of the factory premises of the licensees to verify that proper implementation of the scheme of testing and inspection. For this purpose ISI inspectors draw samples from the production which are tested both at the factory as well as at ISI's own laboratory. The results thus obtained are compared with those recorded by the licence under the approved quality control system. In addition to the collection of factory samples, ISI also obtains samples of certified products from consumer's end and tests the same in its own laboratory not only to ensure that the product marked conforms to the standards but also for another evidence that ISI mark is being used properly.

4. In this particular case of supply of BHC wdp to NMEP under the ISI Certification Marks Scheme, ISI is given to understand that the material was required by NMEP immediately and was to be consumed very shortly. Since this situation could not permit ISI, collection and testing of samples from the consumers' end, ISI offered

to NMEP its services for lot inspection prior to despatch. Accordingly, on receipt of intimation from the manufacturers, ISI arranged for inspection and drawal of samples from the lots of BHC wdp offered for supply to NMEP. Such samples were tested in ISI's own laboratory and reports were made available to NMEP.

Dec: STI/562/1 April, 1966.

**SCHEME OF TESTING AND INSPECTION FOR CERTIFICATION  
OF BHC WATER DISPERSIBLE POWDER CONCENTRATES  
ACCORDING TO IS: 562—1962 (SECOND REVISION)**

1. A laboratory shall be maintained, which shall be suitably equipped and staffed, where tests shall be carried out in accordance with the methods given in the specification.

2. All records of tests shall be kept in suitable forms approved by the Institution.

2.1. Copies of any records or charts that may be required by the Institution shall be made available at any time on request.

2.2. It is recommended that, as far as possible, statistical quality control (SQC) methods may be used for controlling quality during production as envisaged in this Scheme (see IS: 397—1952).

3. The following Standard Mark shall be stencilled on each container of the BHC water dispersible powder concentrates or printed on the label applied to the container, as the case may be:

Provided always that the material in each container to which this Mark is thus applied conforms to every requirement of the specification.

4. In addition, the following information should be given on each container or on the label applied to it:

- (a) Common name of the material;
- (b) Name of the manufacturer or his recognised trade mark, if any;
- (c) Date of manufacture or its recognised trade mark, if any;
- (d) Batch number;
- (e) Net weight of contents;
- (f) Nominal range or nominal value of gamma isomer content, per cent by weight, as applicable;



(g) The minimum cautionary notice worded as follows: "Keep well away from foodstuffs, empty foodstuff containers and animal feed. Do not use this container for food storage."

(h) Made in India, if required.

5. The tests, as indicated in Table 1 and at the levels of control specified therein, shall be carried out on the whole production of the factory covered by this scheme and appropriate records and charts maintained in accordance with paragraph 2 above.

5.1. On the basis of test results, decision regarding the conformity or otherwise of a lot/control unit to the given requirement shall be made as follows:

5.1.1. Each of the samples taken from the lot and tested for description of material and acidity/alkalinity shall satisfy these requirements. If the sample fails in any of these requirements the entire lot shall be considered as unfit for the purpose of marking.

5.1.2. When tests have been performed on each of the test samples drawn from the control units, for sieving requirement and suspensibility after accelerated storage and gamma isomer content, the test results of the individual samples shall be recorded as given in Table 2. The average (X) and the range (R) i.e. the difference between the maximum and the minimum value of the test results shall be calculated. The appropriate expression as given under column (6) of Table 2 shall be calculated for each of the characteristics indicated therein. The value of all the corresponding expressions for different characteristics shall satisfy the respective inequalities as given in column (6) of table 2.

5.1.3. In case the inequality in respect of any one or more of the requirements namely, sieving requirement after accelerated storage, suspensibility after accelerated storage, and gamma isomer content is not satisfied the control unit shall not be marked. It may, however, be suitably reprocessed and the defect rectified. Such reprocessed material who tested again shall satisfy the requirements of 5.1.2. of the Scheme, before it is used for marking.

6. BHC, technical; BHC, refined; or gamma-BHC (lindane) employed in the manufacture of this material shall conform to IS:560—1961 specification for BHC, technical (revised); IS:881—1956 specification for BHC refined; and IS: 882—1956 specification ofr gamma-BHC (lindane), respectively, having known (exact) amount of gamma isomer content. A certificate to that effect shall be necessary from an approved authority for each batch of the raw material received.

6.1. Routine analysis (especially moisture content and acidity/alkalinity) of each consignment of raw materials received in the factory shall be carried out and appropriate records maintained.

7. In respect of all other clauses of the specification and at all stages of manufacture, the factory shall maintain appropriate controls and checks to ensure that their product conforms to the various requirements of the specification.

8. A separate record shall be maintained giving information relating to the rejection of lots/control units of BHC water dispersible powder concentrates which do not conform to the specification and the method of their disposal such lots, if packed in containers shall in no case be stored together with those conforming to the specification.

9. The licensee shall supply, free of charge, the samples required in accordance with Regulation 10 of Indian Standards Institution (Certification Marks) Regulations, 1955, as subsequently amended, from his factory or godowns. The Institution shall pay for the samples taken by it from the open market.

10. The licensee shall replace, at his own cost, the certified products which are found not to conform to the Indian standard. The final authority to judge conformity of the product to the relevant Indian Standard shall be with the Institution.

11. The marking of the product shall be suspended under intimation to the Institution if, at any time there is some difficulty in maintaining the conformity of the product to the specification, or the testing equipment goes out of order, or if directed to do so by the Institution for any reason. The marking may be resumed as soon as the defects are removed or when the Institution gives the permission to do so. The information regarding resumption of marking shall also be sent to the Institution.

12. The licensee shall send to the Institution, as per the unclosed proforma, a statement of the quantity produced, marked and exported by him and the trade value thereof during the half year ending 30th June and 31st December. The statement is required to be forwarded to the Institution on or before 31st day of July and January for the preceding half year.

### APPENDIX III

(vide para 2.24 of Report)

1. *Extracts from the Minutes of 42nd meeting of the Pesticides Sub-Committee, AFCDC 6:1 held on 8th and 9th September, 1972 at Bombay.*

"7.4. With reference to BHC wdp, the issue whether slightly more alkaline material than what was specified in the Indian Standard would have any impact on the efficacy of the product in public health programme, came up for discussion. It was observed that, though more alkaline material gave better suspensibility values, theoretically it was known this (extra alkaline medium) would be an ideal situation for the quicker deterioration of the active ingredient (in this case, gamma isomer) due to dehydrochlorination. However, it was expressed that if gamma isomer content was found to be all right in a little excess alkaline material, this should not be a matter of concern, but AFCDC 6:1 was convinced that it was not correct to increase alkalinity limit in the absence of data. It was suggested, and AFCDC 6:1 agreed that ISI Test House should prepare set of samples with varying values of alkalinity, test these samples for gamma isomer and report the same to the Committee at its next meeting."

2. *Extracts from Minutes of 32nd meeting of Pest Control Sectional Committee, AFCDC 6 in joint session with the 44th Pesticides Sub-Committee, AFCDC 6:1 held on 30th and 31st October, 1973 at New Delhi.*

"8.2. *BHC Water Dispersible powder Concentrate IS: 562—1972 (Third Revision)*—AFCDC 6 considered in the item in the light of the data as given in Appendix A of the agenda as well as the data available from the Marks Department (see Appendix B).

Dr. Dewan stated that alkalinity in terms of Naoh given in the Indian Standard Methods of Test for pesticides and their formulations would vary with these in terms of  $\text{Na}_2\text{CO}_3$ . The Secretary stated that this standard was an independent standard and did not make a reference to the Indian Standard methods for pesticides which was under print. In the Indian Standard for BHC Water Dispersible Powders alkalinity was expressed in terms of  $\text{Na}_2\text{CO}_3$  only.

While discussing the issue, the Committee felt more field data was necessary. In this regard Dr. Ghosh stated that it was practically not possible to make extra alkaline material in the laboratory for studying the degradation of the active ingredient. Dr. Bhatt stated that 1.0 per cent Max alkalinity was itself a big limit and it should not be relaxed, AFCDC 6 after some discussion decided not to make any change in its alkalinity limit till further field data on this material to show that alkalinity more than the specified limit had definite effect on the active ingredient of the product for its consideration."

3. *Extracts from the Minutes of 33rd meeting of Pest Control Sectional Committee, AFCDC 6 held in joint session with 45th meeting of Pesticides Sub-Committee, AFCDC 6:1 on 19th and 20th August, 1974 at New Delhi (being circulated to the committee for confirmation).*

"5.1. *Alkalinity of BHC*—Initiating the discussion, Dr. Bami, Action Chairman, said that standards for pesticides had an application both in the field of agriculture and public health. Further, the Indian industry processed BHC formulations from BHC, Technical having 12—16 per cent gamma isomer content, whereas in overseas countries this was generally done with BHC of about 85 per cent gamma content. In this background, he requested the industry representatives to comment on the limit of 1 per cent for alkalinity as specified in IS: 562—1972.

Shri Chatterjee of Bharat Pulverising Mills stated, and other manufacturers endorsed the view, that the incorporation of soda ash in BHC, WDP at a level of about 1 per cent reduced acidity generated during storage. Besides, it regulated the PH to ensure a uniform suspensibility and proper dispersion and it helped in optimum utilisation of indigenous wetting agents and other auxiliaries, etc. He also stated that in their long experience of manufacture of BHC, WDP they had not received any complaints with regard to the higher alkalinity having any adverse effects in the field tests. Finally, higher limit for alkalinity was not known to affect the stability of active ingredient content.

Shri V. N. Bhatnagar of the National Institute of Communicable Diseases informed the committee that they did not have any readily available data to show the effect of alkalinity, *vis-a-vis*, performance. He stated that under the field conditions, it had been observed that after four to five rounds of applications they met with the problem of resistance in the insects.

In the light of the above discussions Dr. Bami suggested, and AFCDC 6 agreed, that NICD should collect additional data before the issue could be finally decided at the next meeting of AFCDC 6. He also suggested that NICD should prepare formulations having 0.5 per cent, 1 per cent and 1.5 per cent alkalinity (measured in terms of sodium carbonate) and the effect of these concentrates on the kill of mosquitoes should be studied in the field. Shri Bhatnagar kindly agreed to conduct these experiments. AFCDC 6 also decided to revise the limit for alkalinity as stipulated at present in the Indian Standard, only after receiving the data and if data justified the revision."

## APPENDIX IV

(Vide para 2.29 of Report)

Copy of letter No. G.25015/7/73-C&CD dated 1st January 1974 from the Joint Secretary, Ministry of Health & Family Planning (Department of Health) to the Accountant General, Central Revenues, New Delhi.

Kindly refer to Shri . . . d.o. letter No. R7-12/73-74/560 of 7th/8th November, 1973 (received in this Ministry on 14th November, 1973) addressed to the Secretary, Ministry of Health and Family Planning, regarding the proposed draft para on "Sub-standard insecticides" for inclusion in the Report of the Comptroller and Auditor General of India for the year 1972-73, Union Government (Civil). The information required to fill in the blank in the draft para is as follows:

"Letter No. 9-17/71-NMEP(II) dated 6-1-1972"

2. Under the National Malaria Eradication Programme, DDT was the insecticides used for residual spray. However, in view of its usage for long time in certain States and localities, the local vector had developed resistance to DDT. Based on the epidemiological and entomological findings, an alternative insecticide "BHC" was proposed for spray in areas where vector had developed resistance to DDT. Accordingly an order for the supply of 4500M. tons of BHC 50 per cent WDP was placed on M/s. Hindustan Insecticides Limited in December, 1971 by the Director, NMEP. The material was required to be delivered before 30th April, 1972. The material was to be supplied in accordance with ISI specification No. IS-562/1962 with Amendment No. 1 of June, 1964 and No. II of September, 1967 formulated from Tech. BHC meeting IS-560/1955 specification and should bear ISI certification mark as also satisfactory field spray test. At the meeting held in the room of the Jt. Secretary in this Ministry on 28-12-1971, the Managing Director, HIL, pointed out that as the supplies were expected to be completed within a short period, it would be essential that there should be no delay in the arrangement for the inspection and clearance by the Director, NMEP, and the Director, NMEP, agreed that the spray test in field conditions, would be carried out by his representatives quickly. Subsequent to this meeting, the Managing Director set out the procedure to be followed for testing and despatch of the formulated material in his letter No. TS/PS-I/D. 1(B) dated the 6th January, 1972 (copy

enclosed for perusal). This was confirmed by the Director, NMEP in his letter No. 9-17-71-NMEP (II) dated 6th January, 1972 (copy enclosed).

2. The material was despatched on the basis of satisfactory field performance tests carried out by the NMEP Directorate, out of the samples drawn by ISI between February and May, 1972 and the first round of spray operations was started in time on receipt of the material in seven States. However, after May, 1972 when the first round of spray had already started, some of the test results received from ISI indicated that some part of the material supplied by HIL and its formulators did not conform to ISI specifications in respect of suspensibility and alkalinity through the gamma content of the material was more—7 per cent. gamma isomer while 6.5 per cent. was the normal standard expected. The first report from ISI was received on 6-6-1972. On receipt of this report, the Director, NMEP took up the matter with M/s. Hindustan Insecticides Limited *vide* D.O. No. 9-17/71-NMEP (II) dated the 14-6-1972 (copy enclosed) requesting them to intimate the concerned units where the sub-standard material was supplied for segregation and to take immediate steps for the reformulation and replacement of the sub-standard material. It was also informed that even in case where the sub-standard material would be that of HIL. On 28-6-1972 the HIL issued instructions to the Units concerned for the segregation of the reported sub-standard material. These instructions were followed up by the Director, NMEP on 3-7-1972.

The break-up of the sub-standard material is as follows:

	M. ton
1. Material failing in alkalinity 1.1% to 1.4% . . . . .	550
2. Material failing in suspensibility (below 50% but above 45%)	530
3. Material failing in suspensibility (below 45% and part of the material failing in alkalinity as well) . . . . .	275
TOTAL . . . . .	1355

4. M/s. Hindustan Insecticides Limited, however, approached the ISI for consideration whether the increase in alkalinity could be waived for use of material under the National Malaria Eradication Programme. ISI in their letter No. CMD/38:1 (NMEP) dated 20-6-1972 followed by letter No. CMD/38:1 (Pest) (NMEP) dated 23-8-1972 (copies enclosed) observed that slight increase in alkalinity would not affect the gamma isomer content and the efficacy of the material. It was further stated by ISI in their letter No. CMD/38:1 (Pest) (NMEP) dated 27-11-1972 (copy enclosed) that the alkalinity specification for BHC was fixed earlier in the contest of agricultural

purposes and that the slight increase in alkalinity would not affect the efficacy of BHC WDP in public health programmes so long as gamma isomer of BHC was found within the specified limits, as gamma isomer content is the main criteria for use for public health purposes rather than anything else.

With regard to the material failing in suspensibility between 45 per cent. and 50 per cent., M/s. HIL approached the ISI for including the "Keeping Quality" clause in the specifications according to which the material should retain its suspensibility at not less than 45 per cent. at the end of 6 months from the date of manufacture. The Pesticide Sub-Committee of ISI considered this issue in September, 1972 and considered the formation of an *ad hoc* Panel of a few experts to study the "Keeping Quality" data on BHC and related matters before taking a final decision on the issue. However, on the recommendation of the Committee, the specification was amended under the powers vested in the Director General of the Indian Standards Institution in September, 1972 incorporating the "Keeping Quality" clause in the specifications for a period of 6 months or till the Committee makes a final decision. Copies of Director, NMEP's letter dated the 12th October, 1972 and ISI letter dated 19th October, 1972 in the matter are enclosed for perusal. ISI gave a definite recommendation that all the batches of BHC WDP found to have suspensibility of 45 per cent and above may be considered to have met the requirement of IS: 562 read with present amendment of September, 1972. On receipt of these clarifications, the consignees were advised to utilise the material which fell in the category of 45 per cent to 50 per cent suspensibility. The observations of the Audit that the validity of the amendment was only for 6 months does not appear to be correct. Till the final decision is taken by the Pesticides Sub-Committee of ISI, it was assumed that the amendment issued in September, 1972 with regard to suspensibility held good.

It is clear from the position stated in the preceding paragraph that the material supplied by M/s. HIL and its formulators except for a quantity of 275 tons was considered to be of 'standard' according to the technical and expert advice of the ISI who was responsible for laying down standards for quality control in the country.

The quantity of 275 tons fell in the category of having suspensibility below 45 per cent and the units to whom this material was supplied were unable to segregate the stocks as the batch numbers of the cases were not legible and most of the quantity was reported to have been already utilised. It was accordingly decided in the meeting held in this Ministry on 23rd March, 1973 that the ISI should be



approached to recommend a penalty on M/s. HIL in regard to this sub-standard material. The ISI in their letter No. CMD/38:1(NMEP) dated 18th May, 1973 (copy enclosed for perusal) recommended a penalty of Rs. 9,300/- to be imposed on M/s. HIL for the quantity of sub-standard material supplied. The recommendation of the ISI was accepted and this amount of Rs. 9,300/- is being realised from the pending bills of M/s. HIL amounting to about Rs. 8 lakhs kept in abeyance for finalisation of this issue.

The active ingredient of BHC effective against the vector is gamma isomer and the National Malaria Eradication Directorate was satisfied that the gamma isomer content was intact when it was supplied for spray. As a result of application of BHC 50 per cent WDP in time, the positive incidence in the following units during 1972 when compared to 1971, has shown decline indicates the efficacy of the material supplied:

*Statement of positive incidence of BHC sprayed areas in 1972 as compared to 1971.*

S.No.	State	1971	1972
1	Rajasthan	32344	16943
2	Gujarat	164954	158221
3	Uttar Pradesh		
	(a) Rudrapur	478	210
4	Madhya Pradesh		
	(a) Ratlam	36654	31062
	(b) Mandsaur	10466	6445
5	Maharashtra		
	(a) Chanda II	2161	1664
	(b) Jalgaon	11285	8921

In view of the position explained above it is requested that the draftpara may be dropped.

## APPENDIX V

(Vide para 2.29 of Report)

*Indian Standards Institution*

Sampling and Testing of BHC WDP supplied to NMEP by:

1. Pesticides India, Udaipur
2. Devitlayal Sales, Bombay
3. Krishichemin Products, Bangalore
4. Venkateswara Agro-Chemical Industries, Madras.

S. No.	Date of Sampling	No. of Samples	Quantity Tonnes	Date of Receipt in ISI Lab.	Date of Test Reports	Remarks
1	2	3	4	5	6	7
1	15-2-72	3	75	16-2-72	22-2-72	Passed
2	7-2-72	10	250	24-2-72	13-3-72	Passed
3	16-2-72	2	50	7-3-72	27-3-72	Passed
4	28-2-72	1	25	21-3-72	24-4-72	Passed
5	28-2-72	1	25	21-3-72	12-4-72	Passed
6	18-2-72	1	25	28-3-72	3-5-72	Failed in Suspen- sibility.
7	18-2-72	1	25	28-3-72	28-4-72	Passed
8	18-2-72	1	25	28-3-72	12-4-72	Passed
9	18-2-72	1	25	28-3-72	12-4-72	Passed
10	7-3-72	2	50	29-3-72	6-4-72	Passed
11	13-3-72	4	100	3-4-72	13-4-72	Passed
12	10-3-72	4	100	3-4-72	20-4-72	Passed
13	13-3-72	11	275	3-4-72	24-4-72	Passed
14	15-3-72	4	100	5-4-72	20-4-72	Passed
15	24-3-72	3	75	5-4-72	13-4-72	Passed
16	20-3-72	3	75	6-4-72	20-4-72	Passed
17	22-3-72	3	75	7-4-72	9-5-72	Failed in alkali- nity.

1	2	3	4	5	6	7
1	27-3-72	4	100	7-4-72	3-5-72	Failed in alkalinity.
19	25-2-72	8	200	7-4-72	26-4-72	Passed
20	4-4-72	3	75	14-4-72	25-4-72	Passed
21	4-4-72	10	250	14-4-72	12-5-72	Failed in suspensibility. 3 Passed
22	4-4-72	3	75	14-4-72	5-5-72	Passed
23	4-4-72	15	340	14-4-72	9-5-72	Passed
24	4-4-72	2	50	14-4-72	13-6-72	Passed
25	4-4-72	2	50	14-4-72	15-6-72	1 Passed 1 failed in suspensibility,
26	4-4-72	1	25	25-4-72	19-5-72	Passed
27	4-4-72	3	75	25-4-72	19-5-72	Passed
28	10-4-72	5	125	26-4-72	12-5-72	Failed in alkalinity.
29	17-4-72	6	150	26-4-72	12-5-72	1 failed in alkalinity. 5 failed in suspensibility and alkalinity.
30	28-3-72	4	100	26-4-72	11-5-72	3 passed; 1 failed in suspensibility.
31	5-4-72	5	125	2-5-72	11-5-72	4 passed; 1 failed in suspensibility.
32	24-4-72	4	100	0-5-72	18-5-72	Passed
33	18-2-72	3	75	9-5-72	19-5-72	Failed in suspensibility.
34	24-4-72	2	50	10-5-72	19-5-72	Failed in suspensibility.
35	24-4-72	4	100	10-5-72	5-6-72	Failed in alkalinity.
36	17-4-72	3	75	11-5-72	6-6-72	Passed
37	12-4-72	3	75	11-5-72	6-6-72	Passed

1	2	3	4	5	6	7
38	25-4-72	1	25	16-5-72	14-6-72	Failed in pensibility.
39	30-3-72	2	50	17-5-72	14-6-72	1 passed: 1 failed in pensibility.
40	2-5-72	5	125	11-5-72	14-6-72	Passed
41	28-4-72	5	125	21-5-72	14-6-72	Passed
42	5-5-72	6	150	22-5-72	20-6-72	Passed
43	8-5-72	1	15	24-5-72	14-6-72	Failed in sus- pensibility.
44	26-4-72	1	15	24-5-72	14-6-72	Failed in sus- pensibility.
45	26-4-72	1	25	24-5-72	14-6-72	Failed in sus- pensibility.
46	28-4-72	1	10	2-6-72	19-6-72	Failed in sus- pensibility.
47	28-4-72	1	10	2-6-72	20-6-72	Failed in sus- pensibility.
48	23-5-72	1	10	14-6-72	19-6-72	Passed
49	18-5-72	1	15	21-6-72	24-7-72	Failed in sus- pensibility.
50	8-5-72	1	15	21-6-72	24-7-72	Failed in sus- pensibility.
51	8-5-72	1	25	21-6-72	13-7-72	Passed
52	29-4-72	3	75	21-6-72	13-7-72	Failed in alkali- nity.
53	5-5-72	1	15	18-7-72	26-7-72	Failed in sus- pensibility.
54	5-5-72	1	10	18-7-72	26-7-72	Failed in sus- pensibility.
55	5-5-72	1	15	18-7-72	26-7-72	Failed in sus- pensibility.
56	5-5-72	1	15	18-7-72	26-7-72	Failed in sus- pensibility.
57	3-3-72	3	75	28-7-72	4-8-72	1 passed, 2 failed in suspen- sibility.

1	2	3	4	5	6	7
58	25-2-72	3	75	28-7-72	4-8-72	1 passed, 2 failed in suspensibility.
59	28-4-72	1	10	19-10-72	29-11-72	Failed in suspensibility.
60	28-4-72	1	10	19-10-72	29-11-72	Failed in suspensibility.

*Month-wise Statement of Sampling, Receipt and Test of Samples*

Month	Sample drawn No.	Sample received in ISI Lab. No.	Sample tested in ISI Lab. No.
February	35	13	3
March	47	10	12
April	86	98	44
May	20	46	72
June	..	9	39
July	..	10	10
August	..	..	6
September	..	..	..
October	..	2	..
November	..	..	2
<b>TOTAL :</b>	<b>188</b>	<b>188</b>	<b>188</b>

*Date-wise Breakup of Tests on Failure Samples*

Date of Test	Quantity Failed (in %)	
	Alkalinity	Suspensibility
2-5-72	..	175
3-5-72	100	25
9-5-72	75	..
11-5-72	..	50
12-5-72	150	125
19-5-72	50	75
5-6-72	100	..
14-6-72	..	105
15-6-72	..	25
19-6-72	..	10
20-6-72	..	10
13-7-72	75	..
24-7-72	..	30
26-7-72	..	55
4-8-72	..	100
29-11-72	..	20
TOTAL :	550	305

**APPENDIX VI**

(Vide para 2.36 of Report)

*Correspondence etc. relating to levy of penalty*

(1)

Dr. ....

Director, NMEP & Addl. Dy.  
Director General of  
Health Services.

D.O. No. 9-17/71-NMEP(II)  
Office of the Director, National  
Malaria Eradication Programme,  
22-Alipore Road,  
Delhi-6.

*Dated, the 7th July, 1972.*

Dear Shri .....

Kind attention is invited to your D.O. No. CMD/38: 1 (NMEP) dated 20th June, 1972 addressed to Shri Swaminathan regarding ISI Specification for BHS *vis-a-vis* acidity/alkalinity.

In your D.O. referred to above, you have intimated that the requirement of acidity/alkalinity has been incorporated in IS: 562 specification for BHS wdp primarily keeping in view the Phytotoxicity of the crops. You are aware that BHC supplied by M/s. HIL through different formulators is used for spray for public health purposes and you have observed that alkalinity in the range 1.0 to 1.5 per cent may not affect the efficacy of the public health programme. Since most of the samples rejected by ISI were due to alkalinity factor, please let me know categorically whether alkalinity in question should be considered for rejection of samples of BHC and if not, may please indicate that the reports can be considered as 'Standard' and 'Not Standard' but passed, so that further action can be taken in this regard, in question of reformulation or otherwise, payment to the parties etc.

With kind regards,

Yours sincerely,  
Sd/-

Shri.....

Dy. Director (Central Marks),  
 Indian Standard Institutions,  
 Manak Bhawan, 9-Bahadur Shah Zafar Marg,  
 New Delhi-1.

(2)

(Vide paras 2.22 & 2.36 of Report)

INDIAN STANDARDS INSTITUTION

Manak Bhawan,  
 9-Bahadurshah Zafar Marg,  
 New Delhi-1  
 14th August, 1972.

Dy. Director General,  
 CMD/38: 1 (Pest) (NMEP)

Dear Dr. ....

Please refer to your D.O. No. 9-17/71-NMEP(II) dated 7th July, 1972 addressed to our Shri S. K. Karmakar.'

We took the opportunity of discussing the effect of increased alkalinity with a few experts in the field and their considered view, as far as the use in Public Health Projects is concerned, is that the slight increase in alkalinity will not materially effect the suspensibility or the efficacy of the BHC wdp under consideration. However, it is understood that so far no adverse report has been received from your field units. Taking this fact into consideration. we feel that the product could be considered to satisfy the requirements of the specification for this purpose. We are also referring this question to the concerned Sectional Committee whether they could relax the alkalinity limit as specified now for the public health purposes.

I do hope the opinion expressed by the Experts would enable you to make use of the material, if not already done so.

With regards,

Yours sincerely,  
 Sd/-

Dr. ....

Director, NMEP, Delhi-6.



(3)

(Vide para 2.36 of report)

INDIAN STANDARDS INSTITUTION

Manak Bhawan,  
9-Bahadurshah Zafar Marg,  
New Delhi-1.

Dy. Director General

CMD/38: 1 (Pest) NMEP

23rd August, 1972.

Dear Dr. . . . .

With reference to my D.O. letter No. CMD/38: 1 (Pest) NMEP dated 14th August, 1972 and the telephonic discussion which I had with you on date, I write to clarify the position as under:

We took the opportunity of discussing the effect of increased alkalinity with a few experts in the field and their considered view is as far as the use in public health projects is concerned, that the slight increase in alkalinity, upto a limit of 1.5 will not materially effect the suspensibility or gamma content or the efficacy of BHC wdp.

Taking this fact into consideration, we feel that all the batches which were reported to have failed in alkalinity, can now be considered as having satisfied the requirements of the specification so far as your requirements are concerned.

With regards,

Yours sincerely,  
Sd/-

Dr. . . . . .

Director, NMEP, Delhi-6.

(Vide para 2.36 of report)

Dr. ....  
 Director, NMEP &  
 Addl. DDGHS

D.O. No. 9-17/71-NMEP(II)  
 Govt. of India  
 National Malaria Eradication  
 Programme.

22-Alipore Road, Delhi-6.

12th October, 1972.

Dear Shri .....

Kindly refer to your D.O. No. CMD/38: 1 (Pest) NMEP dated 23rd August, 1972 in which you had intimated that in view of ISI discussions with the experts, their considered opinion was that as far the use of 50 per cent BHC wdp in Public Health Projects is concerned, increase in alkalinity upto a limit of 1.5 per cent (Minimum requirement=1 per cent) will not materially effect the suspensibility of gamma content or the efficacy of BHC wdp. You had further advised that the batches which had failed in alkalinity clause of IS: 562-1962 specifications could be considered as having satisfied the requirements of the specifications so far as our requirements are concerned.

On the basis of your above recommendations, this Dte. advised the consignee States on 2nd September, 1972 to utilise the above material and it is assumed that most of the material might have been consumed by now because of the spray operations being in full swing.

Though most of the material might have been used on specific advice and recommendations from the ISI, but still the material does not fulfil the specifications laid down in the contract from Audit point of view and thus the payments to M/s. Hindustan Insecticides Ltd., have been held up. You are, therefore, requested under the circumstances to advise a suitable penalty in terms of deductions in payments, which could be imposed on the firm so as to avoid any audit objections in making payments to the firm.

With regards,

Yours sincerely,

Sd/-

Shri .....  
 Dy. Director General,  
 Indian Standard Institution,  
 Manak Bhawan,  
 9-Bahadurshah Zafar Marg,  
 New Delhi.

(Vide para 2.36 of report)

Dr. ....  
Director, NMEP & Addl.  
Dy. Director Genl. of H.S.

D.O. No. 9-17/71-NMEP(II)  
Govt. of India,  
Director, N.M.E.P.,  
22-Alipore Road, Delhi-6.

*Dated the 12th October, 1972*

Dear Shri .....

Kindly refer to the ISI letter No. CMD/38: 1(NMEP) dated 14/15th September, 1972 in which this Dte. was informed about new amendment to the IS: 562-1962 specifications of BHC wdp as regards to suspensibility on recommendations of AFCD 6: 1 Sub-Committee meeting at Bombay on 8th and 9th September, 1972. According to the new amendment "Keeping Quality" clause for suspensibility in case of IS: 562-1962 specifications, the material shall retain its suspensibility at not less than 45 per cent at the end of six months from the date of manufacture without subjecting the material to accelerated tropical storage test.

The above letter further clearly indicated that the amendment will remain in force for six months or till the committee takes a final decision. It is presumed that the amendment will not be in force from the retrospective dates of 8th and 9th September, 1972 when the AFCD 6: 1 recommended it and will not cover the earlier supplies made by the Hindustan Insecticides Ltd. to this Dte. if in your opinion the amendment can be applicable to the supplies made by HIL before 8th and 9th September, 1972, then kindly inform accordingly and recommend a suitable penalty in the form of deductions from payment which could be imposed on M/s. HIL for accepting the 50 per cent BHC wdp declared earlier substandard by the ISI for suspensibility, having its suspensibility above 45 per cent but less than 50 per cent so as to avoid any audit objections and make payments to the firm.

With regards.

Yours sincerely,  
Sd/-

Shri .....  
Dy. Director General,  
ISI, Manak Bhawan,  
New Delhi.

(Vide para 2.36 of report)

Copy of letter No. CMD/38: 1(NMEP) dated 19th October, 1972 from  
Shri ..... ISI, New Delhi, addressed to Dr.....  
Director, Delhi-6.

Dear Dr. ....

Kindly refer to your letter No. 9-17/71-NMEP(II) dated 12th October, 1972 in respect of the supplies of BHC wdp made by M/s. HIL which were found to fall in suspensibility requirements as specified in IS: 562. About the 'Keeping Quality' of BHC wdp and the amendment now made on the recommendation of the Pesticides Sub-Committee AFCDC 6: 1 to IS: 562 under the power vested in the Director General of this Institution, it may be recalled that this amendment is practically the same as that made for DDT wdp quite sometime ago. You may be aware that keeping quality clause was introduced in case of DDT wdp in 1964 (see IS: 565) because of the storage problem faced by NMEP in respect of the supplies of DDT wdp made to it by HIL. At that time, BHC wdp not being used for public health purposes like Malaria Eradication and hence corresponding amendment to IS: 562 was not made. I would venture to state that our Pest Control Sectional Committee, AFCDC: 6 overlooked this point at that time. Now that the use of BHC wdp in Malaria Eradication Programme has come to stay, the Committee has given effect formally to a principle which had been agreed to earlier. Since the issue of the amendment (communicated to you vide our letter of even number dated 14th September, 1972) was brought about at the instance of HIL with reference to the supplies of BHC wdp made by them during the last few months, I feel that the amendment was to take care of the present problem. Taking into consideration the normal time lapsed between drawal of the samples by our inspecting officers and the testing, and also the fact that the suspensibility test results conveyed to you were after accelerated storage of the samples, all the batches of BHC wdp found to have suspensibility of 45 per cent and above may be considered to have met the requirements of IS: 562 read with the present amendment.

In view of the clarification given in the foregoing para, I feel that the question of recommending a suitable penalty in the form of deduction from payment does not arise. I must hasten to add that this

Institution is concerned only with the assessment of the quality under certification marking scheme and the commercial aspects of supply like imposing a penalty are outside our purview.

With regards,

Yours sincerely,  
Sd/-

Dr. ....  
Director, NMEP, 22-Alipore Road,  
Delhi-6.

(7)

(Vide para 2.36 of report)

No. 9-17/72-NMEP (II) HIL-Vol II  
Govt. of India,  
National Malaria Eradication  
Programme, 22, Alipore Road,  
P.B. No. 1562, Delhi-6.

Dated 13th April, 1973.

The Indian Standards Institution,  
9, Bahadur Shah Zafar Marg,  
Manak Bhawan, New Delhi.

[Attn.....Dy. Dir. (Marks)].

Sub: Advice regarding penalty to be imposed on M/s. HIL for  
the supply of sub-standard BHC 50 per cent wdp during  
1972-73.

Sir,

Kindly refer to the minutes of the meeting held in the room of  
Shri.....Jt. Secretary, MOH at 3.30 P.M. on 23rd March,  
1973, a copy of which was forwarded to by Ministry of Health vide  
d.o. No. T. 14015/2/72-C&CD I dated 3/5th April, 1973.

As indicated in item No. 2 on pages 2 and 3, it is requested that you may kindly give your advice for fixation of the penalty to be imposed on M/s. HIL for supply of 275 M.T. of sub-standard BHC 50 per cent WDP during 1972-73. As the material was found to be sub-standard as per ISI standards, you are requested to kindly give your valuable advice as early as possible, whether the penalty may be fixed on a graded scale with reference to fall the suspensibility below 50 per cent or you have in view any other kind of penalty which is normally imposed on your licensee's for the supply of sub-standard material.

Yours faithfully,  
Sd/-  
for Director, NMEP

Copy forwarded for information to:

1. The D.G.H.S. [PH(CH)] Section, Nirman Bhavan, New Delhi.
2. The Under Secretary to the Govt. of India, MOH C&CD Section, Nirman Bhavan, New Delhi-1.

(8)

(Vide para 2.36 of report)

Copy of letter No. CMD/38: 1(NMEP) dated 18th May, 1973 addressed to the Director, NMEP, Delhi from Indian Standard Institution, Manak Bhawan, 9-Bahadurshah Zafar Marg, New Delhi.

Dear Sir,

Kindly refer to your letter No. 9-17/72-NMEP(II)-HIL-Vol. II dated 13th April, 1973 regarding the quantum of penalty to be imposed on M/s. HIL, New Delhi, for the supply of a quantity of 275.5 tonnes of BHC WDP during 1972-73 which failed to meet the requirements of suspensibility specified in IS: 562-1962 BHC WDP concentrates (Revised).

Normally, the certification scheme guarantees replacement of defective material, which in this case was not possible as most of the material had been consumed and the identification of the balance could not be established.

After carefully considering the various aspects, we have come to the conclusion that a penalty should be imposed for loss of suspensibility as stipulated below:—

Suspensibility	Penalty as percentage of the formulation cost
44% . . . . .	1 %
43% . . . . .	1.5%
42% . . . . .	2%
40% . . . . .	3%
Below 40% . . . . .	5%

2. The material which showed plasticity in the slurry and in which case the suspensibility estimation was possible penalty of 10 per cent of the formulation cost is recommended.

On the above basis, it has been calculated that M/s. HIL should pay Rs. 9,300/- for the total quantity of sub-standard material supplied.

Yours faithfully.

Sd/-

Director-General

Copy to:

1. Shri..... Jt. Secretary, Ministry of Health, Nirman Bhavan, New Delhi.
2. The Managing Director, HIL, E-3, Defence Colony, Ring Road, New Delhi-24.

(9)

(Vide para 2.36 of report)

Minutes of the meeting held in the room of Shri A.B. Malik, Joint Secretary, Department of Health at 11.00 A.M. on 14th June, 1973. to consider the offer of HIL for the supply of BHC 50 per cent WDP to NMEP against 1975-75 requirements.

The following were present:

**DEPARTMENT OF HEALTH**

Shri A. B. Malik, Joint Secretary—Chairman  
Shri A. N. Varma, Deputy Secretary  
Shri B. N. Srivastava, Deputy Secretary (IFA).

**MINISTRY OF PETROLEUM AND CHEMICALS**

Smt. Lata Singh, Deputy Secretary.

**DIRECTORATE GENERAL OF HEALTH SERVICES**

Dr. V. Somasundara Rao,  
Director,  
National Malaria Eradication Programme.

**HINDUSTAN INSECTICIDES LIMITED**

Dr. P. K. Narayanaswamy,  
Managing Director.

•                    •                    •                    •

5. The question regarding imposition of penalty on sub-standard BHC 50 per cent supplied by HIL last year was also discussed. The ISI has recommended a penalty of Rs. 9,300 on graded basis on this material. The recommendations of the ISI was accepted. It was decided that the outstanding payment of HIL may now be settled accordingly.



## APPENDIX VII

### Summary of Main Conclusions| Recommendations (Vide para 3 of Introduction)

Sl. No.	Para No. of Report	Ministry/ Department concerned	Conclusions/Recommendations
1	2	3	4
1	3.1	Ministry of Health, Family Planning (Department of Health)	Apart from the financial aspect of this transaction what causes great concern to the Committee is the fact that sub-standard pesticide has been used in the field. The Committee find from the information furnished in the Annual Reports of the Ministry of Health and Family Planning for the years 1972-73 and 1973-74, that the incidence of malaria in the country during 1971, 1972 and 1973 was respectively 13,23,104 cases, 13,62,806 cases and 14,98,961 cases. While the number of cases of malaria reported during the period from January to October, 1972 was only 8,86,937, the incidence reported during the remaining two months, i.e. after the completion of the spraying operations, was as high as 4,75,869 cases. The Committee are also concerned to note that in the four States of Orissa, Uttar Pradesh, Rajasthan and Punjab, where the BHC procured in this case had been sprayed, there has been an alarming increase in the incidence of malaria during 1972 and 1973. The Committee, therefore, consider it essential to investigate immediately whether the spraying of the sub-standard pesticide

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in these States has contributed to the increase in the incidence of malaria.

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3.2

Ministry of Health and Family Planning (Department of Health).

The Committee are distressed to find that 1355 tonnes of BHC 50 per cent wdp pesticide, worth Rs. 24.55 lakhs, which represents about 30 per cent of the total quantity of 4500 tonnes of the pesticide procured by the NMEP Directorate were found to be of substantially sub-standard quality as it did not conform to the stipulated specifications relating to either its alkalinity content or suspensibility or both. The pesticide was meant for spraying during the 1972-73 spray season in those areas of Madhya Pradesh, Maharashtra, Gujarat, Orissa, Uttar Pradesh, Rajasthan and Punjab where mosquitoes had developed resistance to DDT. The penalty imposed for the sub-standard supply was only Rs. 9,300. After an examination of the information made available to them, the Committee find a number of unsatisfactory aspects in the handling of the case which are discussed in the succeeding paragraphs.

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3.3

Ministry of Health and Family Planning (Department of Health).  
Ministry of Petroleum & Chemicals.

The purchase order was placed on Hindustan Insecticides Ltd., who in turn procured some quantity of technical BHC from various sources and arranged to get it formulated by four different formulators [Pesticides India, Udaipur—1730 tonnes, Devidayal (Sales) Private Limited, Bombay—1561 tonnes, Krishichemin Products, Bangalore—970 tonnes and Venkateswara Agrochemicals and Minerals, Madras—240 tonnes] into equivalent quantity of BHC 50 per cent

wdp for supply to the National Malaria Eradication Programme. The purchase order initially stipulated that Hindustan Insecticides Ltd. would furnish certificates from the Indian Standards Institution for the entire formulated material and rectify, at its expense, any defect found on testing the material by the Directorate in the field or in the factory. Significantly enough, before the sampling and testing by Indian Standards Institution could begin, Hindustan Insecticides Ltd. had desired that there should be no delay in inspection of the pesticide as the supplies were to be completed within a short period. The NMEP Directorate had, therefore, agreed, in January 1972, to accept supply of the pesticide after field spray test by the Directorate or its representatives at different stations pending receipt of test results (on lot samples) from the Indian Standards Institution. While agreeing to this deviation, the NMEP Directorate apparently assumed that as the pesticide was to be supplied under the ISI mark scheme, the material ordered would conform to the requisite standards. This decision, in the opinion of the Committee, shaped the subsequent course of events making the original contractual stipulation for the replacement of the sub-standard material ineffective and inoperative.

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3.4

Ministry of Health & Family Planning (Department of Health).

According to specification No. IS:562 of the Indian Standards Institution, which was in operation when orders for the pesticide were placed in December, 1971, the alkaline content of BHC 50 per cent wdp should not exceed 1 per cent and its minimum suspensibility should be 50 per cent. The test reports of Indian Standards Institution, however, revealed that the alkalinity content of 550 tonnes of the pesticide varied between 1.1 per cent to 1.4 per cent, while 530

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tonnes had suspensibility below 50 per cent but above 45 per cent and 275 tonnes had a suspensibility below 45 per cent and were also deficient in alkalinity as well.

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3-5

Ministry of Health &  
Family Planning (De-  
partment of Health):

In respect of alkalinity of the pesticide, the expert opinions of the Director, Central Forensic Laboratory (Dr. H. L. Bami) and the Plant Protection Adviser to the Government of India (Shri S. N. Banerjee) had been sought on the efficacy of using higher-alkaline pesticide in public health programme. Dr. Bami had opined that slight excess of alkalinity would neither affect the suspensibility nor its ultimate use in the field. He had, however, also stressed the need to conform to the specifications in manufacture and to exercise due care and caution to ensure that the batches which were manufactured did not exceed the upper limit of 1 per cent of alkalinity as specified by Indian Standards Institution as the specifications were essentially drawn to ensure adequate standards of manufacture as well as safety and efficacy in final use. Shri S. N. Banerjee had also suggested that the Pesticides Sub-Committee of the Indian Standards Institution should examine all standards of these pesticides, while expressing his opinion that slightly alkaline BHC wdp should not make any difference as far as its use in the public health field is concerned. The Committee find with surprise that though the experts had expressed views that slight excess of alkalinity would not affect the use of the pesticide in the public health field, they had not specified the limits upto

which the excess alkaline-pesticide could be considered efficacious in the field.

6 3.6

Ministry of Health & Family Planning (Department of Health).

Ministry of Industrial Development & Civil Supplies.

The Committee find from the Audit paragraph that on the basis of the opinion of these two experts, the Indian Standards Institution informed the Directorate, National Malaria Eradication Programme, that slight increase in alkalinity upto 1.5 per cent would not materially affect adversely the use of the pesticides in the field. It is further seen from the letter dated 14th August, 1972, from the Indian Standards Institution to the Director, N.M.E.P. that this decision had been taken on the basis of the advice tendered by the two experts and considering the fact that till then no adverse report had been received from the field units. It is not at all clear to the Committee how the Indian Standards Institution arrived at the limit of 1.5 per cent, particularly when the two experts had not specified any upper limits for alkalinity and adequate scientific data was also lacking. It is also of interest to note that the Pesticides Sub-Committee also had held, in their 42nd meeting, that it was not correct to increase the alkalinity limit in the absence of data, since theoretically it was known that the extra alkaline medium would be an ideal situation for the quicker deterioration of the active ingredient of the pesticide, viz., gamma-isomer. They had also suggested detailed tests. The Committee have been informed that the specification limit for alkalinity has not been revised so far. The decision to utilise 550 tonnes of pesticide with alkalinity of 1.1 per cent to 1.4 per cent was apparently not justified. The Committee would, therefore, like the Ministry to investigate whether the decision to utilise 550 tonnes of the pesticide was justifiable.

The Committee are unable to understand how the NMEP Directorate satisfied itself that the gamma isomer content was actually intact in the excess-alkaline pesticide. It is seen from the statement of sampling and testing of BHC wdp, furnished to the Committee by Indian Standards Institution, that the first report of failure in alkalinity had been made available only on 3rd May, 1972, by which time more than 60 per cent of the supplies had been distributed to various consignees for spray in the field. The Committee have also been informed that since marketing of batch numbers on the packing were not decipherable, it had not been possible to segregate the sub-standard pesticide. Further, the opinion of the two experts had been furnished only in August 1972 and the Pesticides Sub-Committee had considered this question only in September 1972, by which time even the third round of spraying in the field would have been in full swing. Though it has been stated by the Secretary, Ministry of Health & Family Planning that the excess of alkalinity in the pesticide did not affect adversely the public health programme of NMEP, he has also admitted, during evidence, that the NMEP Directorate was only concerned with the field spray test and so far as the chemical composition and content of the pesticide was concerned, the Directorate depended upon the control and supervision of the Indian Standards Institution and Hindustan Insecticides Ltd. Apparently, therefore, no detailed scientific investigations whatsoever had been carried out by the Directorate to determine whether the spraying of pesticide having excess alkalinity produced the desired results. Under these

circumstances, the Committee are inclined to think that the active ingredient was not intact in the pesticide found sub-standard in respect of alkalinity.

8 3.8

Ministry of Industrial  
Development & Civil  
Supplies

As regards the specification for suspensibility, the Committee are surprised that the Indian Standards Institution had introduced the 'keeping quality' clause for suspensibility in the specification on an ad hoc basis and also made it applicable retrospectively to the consignments of BHC wdp found sub-standard according to the original specification, even while necessary data in this regard were being collected. The Committee note that this clause and consequent amendment to specification IS: 562 had also been approved initially for six months effective only from 1st November, 1972, on the analogy of a similar specification for DDT introduced on the basis of a study, previously made. The issue of a regular amendment incorporating the 'keeping quality' clause had been finally approved by the Pesticides Sub-Committee, AFCDC-6, only at their 33rd meeting held on 19th and 20th August, 1974. In this context, the Committee find it difficult to accept the argument put forth by the Indian Standards Institution, in their letter dated 19th October, 1972, that since the issue of the amendment was brought about at the instance of Hindustan Insecticides Ltd., the amendment was also to take care of the problem faced by them which, to say the least, is unconvincing.

9 3.9

Ministry of Health &  
Family Planning (De-  
partment of Health)

Yet another unsatisfactory feature of this case is the way in which the question of penalty for the sub-standard pesticide was

handled by the Ministry and the NMEP Directorate. The Committee find that a penalty of Rs. 9,300 has been imposed on Hindustan Insecticides Ltd. only in respect of 275 tonnes of the pesticide with suspensibility below 45 per cent and partly deficient in alkalinity as well, on the basis of the recommendation made by the Indian Standards Institution. In respect of the remaining 1080 tonnes which were also sub-standard, according to the original specifications, the Indian Standards Institution had advised that no penalty need be levied on this quantity as the material was usable and most of it had actually been used. The Committee are unable to appreciate the logic of this argument. The fact remains that this quantity was also below the specifications stipulated in the purchase order.

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3.10

Ministry of Health &  
Family Planning  
(Department of Health)

Since the material accepted was not according to the original specifications, the Committee are surprised that the NMEP Directorate, as the purchaser of the pesticide, took no action to explore the possibility of a reduction or refixation of price for the quantity found sub-standard with the suppliers but merely remained content with accepting the advice of the Indian Standards Institution, thereby abdicating their rights and responsibilities as buyers. The Committee desire that responsibility should be fixed for this costly lapse on the part of the Directorate. The possibility of obtaining a price reduction for this quantity of 1080 tonnes or recovering an adequate penalty should also be explored.



- 11 3.11 Ministry of Industrial Development & Civil Supplies The part played by the Indian Standards Institution in this case is unsatisfactory. The Committee feel that the proper role of Indian Standards Institution is to enforce strict quality control. It should not have expressed a definite view in regard to the acceptability of a sub-standard supply, without adequate laboratory and field trials and tests. It is true that in this case the Indian Standards Institution proceeded on the basis of opinions expressed by two experts, one of whom specifically advised reference to its relevant Sub-Committee. Such an approach, in the Committee's opinion, is hardly becoming an organisation entrusted with certifying the quality and efficacy of products. The Institution has also functioned beyond its jurisdiction by advising that no penalty was leviable in respect of bulk of the material found sub-standard.
- 12 3.12 Ministry of Health & Family Planning (Department of Health) Ministry of Industrial Development & Civil Supplies To sum up, the Committee are of the opinion that (a) the decision to utilise 550 tonnes of pesticide, with alkalinity, 1.1 per cent to 1.4 per cent was not justified; (b) the introduction of a 'keeping quality' clause in the specification on an *ad hoc* basis retrospectively by the Indian Standards Institution to apply to the supply of 530 tonnes of pesticide found sub-standard in suspensibility is unconvincing; (c) there has been a costly lapse on the part of the NMEP Directorate in remaining merely content with accepting the advice of the Indian Standards Institution on the question of penalty, thereby abdicating their responsibilities as the purchasers of the pesticide; (d) the Indian Standards Institution has clearly functioned beyond its jurisdiction in advising that no penalty was leviable in respect of bulk of the material found sub-standard; and (e) there has been an

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13	3.13	<b>Ministry of Health and Family Planning (Deptt. of Health)</b> <hr/> <b>Ministry of Petroleum and Chemicals</b>	<p>avoidable delay of nearly four months in issuing necessary sanction for the purchase in this case which in turn led to deviations in the procedure for inspection and testing. These errors of omission and commission, besides resulting in monetary loss to the Government, have also caused a set-back to the Malaria Eradication Programme in the States in which the sub-standard pesticide has been used. The lapses summarised above are serious and call for fixation of individual responsibility in each case. The Committee desire that this should be done immediately and appropriate action taken against the officials concerned under advice to the Committee.</p> <p>The Committee are of the view that appropriate action should also be taken against the four private formulators [Pesticides India, Udaipur, Devidayal (Sales) Private Ltd., Bombay, Krishichemin Products, Bangalore and Venkateshwara Agro Chemicals and Minerals, Madras], after proper investigation.</p>
14	3.14	-do-	<p>The Committee have also been informed that the order for the supply of the pesticide had been placed on Hindustan Insecticides Ltd. on a special approach made by the undertaking to the Health Ministry that if the Ministry had any need for BHC, they should preferably buy it from the undertaking. The background for this request was that in the year Hindustan Insecticides Ltd. commenced production of BHC from their plant, there was a 'terrific glut' in the BHC market and 'it was extremely difficult to sell the BHC in the prevailing competition.' The Committee, however, find that in</p>

actual practice, Hindustan Insecticides Ltd. had procured 450 metric tonnes of Technical BHC from M/s. Tata Chemicals and 963 metric tonnes from M/s. Kanoria Chemicals. The Committee are unable to understand how the procurement of Technical BHC by Hindustan Insecticides Ltd. from other private producers was agreed to by the Ministry of Health when the Hindustan Insecticides were claiming a glut in production and difficulty in disposing of their stock. The Committee, therefore, desire that the circumstances leading to the procurement of Technical BHC from private producers by Hindustan Insecticides Ltd. should be thoroughly investigated and responsibility therefor fixed and the Committee informed.

- 15            3.15 Ministry of Petroleum and Chemicals            The Committee are also concerned to find that a public sector undertaking preferring to trade in sub-standard pesticides rather than to gearing up its own production to meet the requirements of the Government health and Agricultural programmes.
- 16            3.16 Ministry of Industrial Development and Civil Supplies            The Committee also like to be informed of the final decision taken by the Indian Standards Institution about the safe alkalinity limit for BHC wdp. Since the existing limit of 1 per cent is already high compared to the WHO limit of 0.2 per cent, the Committee see no justification for deviating from that limit.
- 17            3.17 Ministry of Health and Family Planning (Deprt. of Health)            The Committee feel that the sorry state of affairs reflected in this transaction was not entirely unavoidable. This could have been prevented had adequate advance action for the procurement of the pesticide been taken. The delays in procuring pesticides for the
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Malaria Eradication Programme have also been examined by the Committee in the past and they had then been informed by the Ministry of Health and Family Planning that a programme for the advance procurement of insecticides, one year in advance, had been drawn up and the delay factor had once and for all been eliminated. The Committee note that despite this assurance having been given to them earlier, the proposals for the procurement of BHC wdp for use during the 1972-73 spray season (first round of spraying to commence in March, 1972) had been sent to the Director General of Health Services only by the end of July 1971 and necessary sanction was received by the middle of November 1971. The Secretary of the Ministry admitted during evidence that it had not been possible so far to reach the ideal pattern of finalising all the details one year in advance. The Ministry have subsequently informed the Committee that because of various formalities involved, viz., screening of the proposals by the DGHS, the Ministry and its Associate Finance and clearance by the Department of Economic Affairs and the DGTD in the case of imports, the issue of formal sanction for advance procurement of insecticides is liable to delay. Since the Department of Economic Affairs and the DGTD are concerned only with imports from abroad, the delay of nearly four months for issuing sanction in this case of indigenous procurement needs to be explained. The Committee are also of the opinion that the various difficulties expressed by the Ministry are not insurmountable.

The picture that emerges from the statement furnished to the Committee by the Ministry, containing the details of proposals for procurement of different insecticides, issue of sanctions and delivery schedules is depressing. For instance, in respect of procurement of Malathion for the 1974-75 spray season, the Committee find that while the proposal had been sent on the 30th April 1973, the sanction had been received only on 19th March 1974 and even though the supplies were to be completed by 31st May 1974 (by which time the first round of spraying should have been completed) the orders had been placed only in July and August 1974. Similarly, sanctions in respect of DDT 75 per cent, proposals for which had been sent on 30th April 1973, had been issued as late as March and May 1974. The Committee can only deplore such glaring instances of delays and desire that the existing procedures for the issue of sanctions and procurement should be thoroughly reviewed and streamlined so as to obviate emergency and distress purchases. The Committee would like to be kept informed of the changes effected in this regard.

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