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20668

Hmawbi, 27 Feb. 1994

To:
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UNDP - YANGON — Attn. Mr. RAHEEM

MYANMAR AGRICULTURE SERVICE, YANGON
Pesticide Formulation Plant, Hmawbi Attention U MYINT SWE

SICPLANT INTERNATIONAL - VARESE

Re.: DP/MYA/80/011. Hmawbi Pesticide Formulation Pilot Plant - Status Report after establishment of Incinerator IMEF PS/2 and additional modifications carried out.

GENERAL

This Report is the continuation of the one presented on July 1990.

Arrived back in Myanmar on 31 January 1994.
After a round inspection of the Plant we have noted the following improvements and deficiencies.

Erection of new buildings:

1. Large warehouse for solvents;
2. Rooming canteen with kitchen and facilities for having tea-breaks and lunch, provided by Plant at political prices;
3. Building with rooms for showers, changing clothes and laundry for overalls;
4. Building for incinerator and gas-oil tank;
5. Drums crushing equipment installed.

The following new machineries and devices have been noted:

- Filling machine (TRANSICOM ENGINEERING P.TE LTD. - SINGAPORE)
  air operated, with room for 2 bottles manually placed underneath the nozzles, filled in and shifted away for manual capping.

- Capping machine (TRANSICOM ENGINEERING P.TE LTD. - SINGAPORE)
  electrically operated for filter proof caps - but caps of international standard are not fitting their proper glass bottles made by moulds (OSG) with neck longer than cups.

- System (ALLMAN) for treatment of water effluent.

- Drums crushing machine (AKTENVERNICHTER BALLENPRTESSEN - T.U.V., HANNOVER A.V.)
  with six punches producing 6 holes on the upper basis of crushed drums.

- All the machineries in the production Plant are working properly, except:

  Forklift operative up to 3 months ago. The batteries are exhausted and not keeping charge for more than a few minutes. (Please suggest as to how this could be repaired or charger replaced).

  Capping Machine completely by-passed. For proper operation this machine requires proper designed bottles and caps of defined weight and measure.
  M.A.S. have partially overcome the problem by using PET bottles with plastic cap and security under-cap to be broken by pulling ring. However when using glass bottles M.A.S. have still to seal them with plastic caps and scotch tape.
  LONGONI (bottling machine) to be inquired about the possibility of fitting their labelling machine, with label dispenser and device to stick labels on corrugated, horizontally ondulating, PET bottles.

Production

The production of E.C during the past years has been performed according to the needs and requirements of Agriculture Service (see exhibit No. 1).
Actually, in view of rainy season, M.A.S. are producing household insecticide bottles with active

ingredients Cyphermethrin by Sumitomo and Deltatetramethrin and artisan made coils for fumigation against mosquitos, flies, ants etc.
M.A.S. are mixing milled Pyrethrum flowers (kind of small chrysanthemum) with sawdust, milled bark of special tree with sticking properties (like cautchouc) another milled bark promoting ignition and some tapioca yeast to give smoothness to the spirals that are dried at sun (see exhibit No. 1).
The staff is working quite properly. However they have been furnished with goggles, mask, gloves, boots and protective apron, that are using when needed.

Incinerator

The incinerator has been transferred, by means of crane, from the containers to the erection place and assembled properly.
The building is situated on the corner of Plant area, behind the laboratory.
We have connected the 380V power from the pole situated on the corner, digging deep underground canal until the electric panel.
Proper earthing has been connected to the incinerator.
Some delays occurred awaiting availability of crane, power connection and supply of gas-oil.
Special stainless steel cup, to protect the top opening of chimney from infiltrations by water during the rainy season, has been constructed by our technician and mounted on place.
The gas-oil tank has been positioned on two masonry supports, adequately shaped in a separated local of incinerator building, and connected by four copper pipes, in underground canal, to the two burners of incinerator.
The under "no-load" test has been carried out on Feb. 15 visit day of UNDP and UNIDO representatives at Yangon, and the under "on-load" test on Feb. 16. Due to lack of gas-oil the further "on-load" tests have been performed on 22, 24 and 26 Feb. With the first two batches we have incinerated two trucks full of wet sawdust bags, waste papers, waste rugs, empty cans of active ingredients, practically all the solid waste accumulated from 1990 up to date, and with the last two squeezed drums and liquid waste.
On the post combustion chamber has been reached a temperature of 1205°C and on the pyrolysis chamber of 900°C.
Little quantities of ashes remained on the bottom of furnace.

Additional lines in the Production Plant

- One 2" st.st. filter with flanges has been positioned between the mixers (MT1-MT2) and the pump P5 to avoid cloggage of impeller that we have found full of strips and filaments of tow and jute sacks.

- A new line of 1" st.st. pipe with filter and four st.st. stop valves has been constructed to make direct connection from Pilot mixer to the Bottling Machine.
  To be noted that all the welding operations have been carried out in the workshop and not in place, after dismounting of previous lines.

- The second line for direct transfer of finished products in drums from P3-P4 to the filling tanks, after pondered considerations, management staff of M.A.S. has decided to do nothing (and however we have not received authorization to weld on place) for the following main reasons:

  1. M.A.S. are not supposed to receive finished products in drums to be transferred directly to the bottling machine and however in case M.A.S. will never be allowed by the Government to do this, since the main purpose for the establishment of the Pesticide Plant in Myanmar was to cut the costs and save money using kerosene and solvents for the production of E.C.

  2. The production area has no online gas and with the production line full of chemicals and pipes directly welded without interruption by flanges, and for this reason it was needed to use flame and welding on the spot.

  3. M.A.S. were needing an additional 2" filter between the filling tank FT3 and the bottling machine, since when bottling Endosulphan and some product remaining in the FT3 for all the night time giving phenomena of crystallization with consequent jamming and occlusion of the nozzles of the bottling machine.
     Therefore we have dismounted the line and have positioned the 2" filter, supposed to be utilized for the above mentioned line, just before the entrance of bottling machine (see photo).

A list of equipment and spare parts needed for operating the plant for the next five years is provided by Exhibit No. 2.

Recommendations

Strongly recommended:

1. To complete the coverage of the roof around the incinerator.

2. After the above operation to construct a metallic conical protection tightened on top by band belt on the third stadium of incinerator and spreading out on top of roof to avoid during the rainy season penetration of water down to the burners and electric panel.

3. Check before star-up the availability of gas-oil in order to avoid shortage during the operation and consequent gripping and stop of gas-oil pump.

4. To look for a person with enough experience in burners and boilers in order to give maintenance to the incinerator at least twice a year and to intervene properly when needed.

5. To change the consumed tires of UNIDO minibus prior to ..... and not after.

PI 1720

Exhibit No. 1

HMABWI PESTICIDE FORMULATION PLANT

SUMMARY OF PRODUCTION (in litres and coils) FROM JANUARY 1, 1994 up to FEBRUARY 23, 1994.

Pos. No.	Commodity	Unit	Quantity
1	HOUSEHOLD INSECTICIDE (liquid)	Litres	22.644
2	MOSQUITO COILS	Coils	22.000

SUMMARY OF PRODUCTION IN LITRES

Pos. No.	Period	Fenitrothion 50EC	Diazinon 40EC	Phenthoate 50EC	Endosulfan 35EC	Cypermethrin 10EC	TOTAL
1	From 01/04/90 to 31/03/91	127.122	50.832	42.576	45.666	71.910	338.106
2	From 01/04/91 to 31/03/92	107.064	55.440	57.876	128.364	63.594	412.338
3	From 01/04/92 to 31/03/93	65.730	--	312	31.884	--	97.926
4	From 01/04/93 to 31/12/93	107.884	26.721	33.140	41.837	103.668	313.250

Exhibit No. 2

SPARE PARTS REQUIREMENT

POS.	DESCRIPTION	Q.TY
	FILLING MACHINE	
1	5/2 Way valve (NC)	6
2	Impulse generator (81-507-504)	3
3	Micro switch for door	6
4	Micro switch for contact bottle	6
5	Double acting cylinder	4
6	Gasket for syringe	8
7	Valve for filling nozzle	4
8	Inlet-outlet valve	10
	CHAIN CONVEYOR BELT	
9	Worm & worm wheel of gear box	2 sets
	CAPPING MACHINE	
10	3/2 Way valve (NC)	3
11	Pneumatic valve (NOT) (81-504-025)	10
12	Pneumatic valve (YES) (81-503-025)	6
13	Pneumatic valve (MEMORY) (81-523-601)	16
14	Micro switch of contact bottle	6
15	Single acting cylinder	2
16	Micro switch for door	6
17	Pneumatic motor	2
18	Worm & worm wheel of gear box	2 sets

POS.	DESCRIPTION	Q.TY
	LABELLING MACHINE	
19	Micro switch of contact bottle	6
20	Single acting cylinder	6
	CAPPING MACHINE	
21	Power valve at 5 passage BE3150 E	4
	ELECTRIC FORKLIFT	
22	Field coil (324-357-2010)	2 sets
23	Carbon brush (000-971-8149)	8 sets
24	Groove ball bearing (9-503-003-610)	8
25	Coil 24 V (324-357-2010)	2
26	Discharge indicator 24 V (000-946-0713)	2
27	Main current section 325-355-5200	1
28	Thyristor (000-972-0904)	1
29	Thyristor (000-972-0904)	1
30	Thyristor (000-972-0907)	2
31	Diode (000-972-1105)	3
32	Capacitor (047-MF-400V 7-9165-40-706)	5
33	Brushes device assembly 323-375-4520	1
34	Carbon brushes 000-971-8114	8
35	Control plate U200 325-365-0118	2
36	Capacitor uF 000-972-0802	2
37	Diode (000-972-1106)	3

POS.	DESCRIPTION	Q.TY
	FIRE ALARM SYSTEM	
38	Battery 112V 57Ah-s Dryfit 300A	8
	11KV TRANSFORMER	
39	Fuse VTF 11/1A 32.5KA 11KV	6
	33KV TRANSFORMER	
40	Fuse 33/1A	6
	VIBRATOR	
41	Control circuit	2
	BATTERY CHARGER	
42	Contactor 220 V 50 Hz	1
	ELECTRIC FORKLIFT	
43	Electric card	1
	HOT WATER BOILER	
44	Rod thermostat	3
	ELECTRIC FORKLIFT	
45	Battery 24V 400 Ah 000-971-51-10	1

POS.	DESCRIPTION		Q.TY
	INCINERATOR PS/2		
1	Lamp 220 V		
2	Contactor 3P+1NO 9A 220 V - 50/60 Hz		1
3	Thermal relay from 1 to 1,6 Amp.		1
4	Thermal relay from 1,6 to 2,5 Amp.		1
5	Ceramglass gasket 25 x 25 mm		10,5 m
6	Refractory cement SIRCAST 45		25 kg
7	Atomizer		3
8	Danfoss Gigleur Usa/Gal 5.00 - 60°		2
9	CBM Gigleur 60 kg/h 60° A4		2
10	Photo-resistance QRB1	2.51.00.03	1
11	T16MC transformer	2.17.00.02	1
12	Ignition electrode MFP4S	2.08.02.08	2
13	Gas-oil pump VM2LR2	2.59.00.09	1
14	Burner nozzle for G 30	3.09.00.18	1
15	Tropicalized engine G 30	2.18.00.16	1
16	Electric equipment LOA21	2.02.04.09	1
17	Photo-resistance QRB1	2.51.00.03	1
18	Ignition electrode PGR 5	2.08.02.03	2
19	Burner nozzle for PGR 5	3.09.10.62	1
20	Pump AJ6C6 for PGR 5	2.59.01.03	1

POS.	DESCRIPTION		Q.TY
21	Tropicalized engine PGR 5	2.18.05.02	1
22	Timer TM2e 220 V - Lovato		1
23	Timer TM3e 220 V - Lovato		1
24	Diagram paper packs		24
25	Weber fuse 5 x 20 2,5 AF 250 V		10
26	Legrand fuse 10-133 - 4 Amp.		10
27	Legrand fuse 10-133 - 6 Amp.		10
28	Relay MY2 Omron 220 V		1
29	Relay MY4 Omron 220 V		1
30	Green lamp Ø 14 - 220 V		3
31	LP filter cartridge 100-12-30 degree 10		2
32	Pen for Linax L200 5K2/7K2		6
33	Thermocouple Aisi 446 normal 350 x 21		5
34	Aisi 420 gear for liquid pump		2
35	Graphite bushing for liquid pump		4
36	O-ring mod. 2112 for liquid pump		2
37	T.M viton gasket Ø 12 for liquid pump		1
38	Inspection glass in Pyrex		1
39	Transmitter 4-20 mA - Oxygen		1