1.0 INTRODUCTION

In continuation of implementation of UNIDO component of stage I of the HPMP project, UNIDO in collaboration with the BASF West-Africa co-organized a training workshop tagged “Safer Production and Business Development in the Refrigeration, Air Conditioning & Foam sector” for the remaining beneficiaries in the Refrigeration & Air conditioning Manufacturing Sector in Northern region on safe handling of polyurethane chemicals used for foaming operations in the manufacture of ice making machines and other Refrigeration & Air conditioning equipment. The training was done as part of events for distribution of chemicals and safety equipment to the beneficiaries and was recommended to hold during the last training workshop in Lagos. The event was held from 20 – 21 August, 2019 at BON Hotel, Asokoro, Abuja.

2.0 OBJECTIVE: - To train some Beneficiary Enterprises in the Refrigeration & Air conditioning (RACM) sector and other relevant industries pertained to building under the HPMP Project on Safer Production of PU foam for insulation in Refrigeration equipment.

3.0 FMENV PARTICIPANTS:
   i. Engr. Idris A.I - AD (Ozone) / National Ozone Officer
   ii. Yaru Mahmud Nurudeen - SSO (Ozone)
   iii. Eze Ogechukwu Franca - SOI (Ozone)

DAY 1, 20 August, 2019

4.0 OPENING:

The training was opened at 10:10 am. Present were some FMENV Staff led by the National Ozone Officer; Engr. Idris A.I, Mr. Yomi Banjo; UNIDO Rep. Jean-Marc Ricca; Managing Director BASF W/ Africa, Director from Ministry of Works, GIZ Rep, Mr. Akahhue; NARAP President, NARAP Members, Management & some staff of BASF, Media and some other Private sectors / industries in the building sector such as Julius Berger, Bilaad Realty, etc.

Good will message was received from Jean-Marc Ricca; Managing Director BASF W/ Africa, who thanked UNIDO and the Ministry for great partnership received from them to conduct these trainings and which provided opportunity for the beneficiaries to participate and perform better in their operations. Engr. Idris in his welcome address welcomed everyone and appreciated UNIDO for co-organizing above workshop with private chemical company BASF. He stated that the Ministry is proud to be associated with UNIDO & BASF and commended their effort towards supporting the government in its efforts towards preservation of the Ozone layer. He further reassured the continuous partnership of the Ministry with UNIDO to ensure our obligations under the Montreal Protocol to phase out ODS is fulfilled in line with the protocol’s phase out schedule.

Keynote address was delivered by Mr. Yomi Banjo, UNIDO who elaborated various interventions of UNIDO in the country especially in the environment sector. He acknowledged excellent collaboration of UNIDO with the government through the National Ozone Office of the Federal
Ministry of Environment in the implementation of the MP and appreciated BASF’s partnership towards contributing to a national project. He further recognized the businesses, artisans and technicians that were present. Then he reaffirmed UNIDO’s commitment towards supporting the Nigerian government to promote Inclusive and Sustainable Industrialization Development without compromising the environment. Finally, the President NARAP, on behalf of the beneficiaries expressed his appreciation towards the government and UNIDO for providing an enabling environment for them thrive.

5.0 PRESENTATIONS:

Presentations made at the workshop include amongst others:

- Chemistry of Polyurethanes (PU) by Mr. Mpfareleni Luvhengo, BASF – This focused on technologies involved in PU applications including chemicals/materials, equipment and PU processing methods
- Polyurethanes in Industries by Mr. Mpfareleni Luvhengo, BASF – Here, various areas of application where PU can be used was stressed including Construction- Spray & Panel, Consumer- Appliance & Mattress, Consumer-Footwear. References were made on where it has been applied within the country and outside
- Global Ozone Layer Protection Program by Mr. Yomi Banjo, UNIDO. Here, the presenter gave overview of the topic, particularly as experienced by the UNIDO
- Machinery and Safety by Samuel Addo, GRACO Consultant. This was centered on machinery availability and safety habits
- Raw material sourcing, involving market dynamics / route to market; presented by Oyewale Akeredolu - BASF
- Spray Foam presentation towards Customer success by Okechukwu A. from Comart.

General questions asked during the workshop amongst others, include fire safety during operation, mixing ratios for chemicals, other applications of foaming machines, how to purchase the chemicals or receive additional training. The questions were answered appropriately by BASF, Tecmac and Graco representatives.

DAY 2, 21 August, 2019

Day 2 was opened with BASF technical officer thanking participants for attending since yesterday. He explained how to carry out PU spray foaming operations on a substrate in preparation for the practical session of the workshop. Topics were also presented on Trouble Shooting and Safety Measures, Durability and protection of the spray foam, etc by BASF.

Among questions asked include spraying to form a layer on the substrate first before attaining the final thickness of the foam/insulation, how disposal of the wastes chemical can be achieved. Responses were that the first layer serves as a primer and the layer must dry before attaining the final thickness of the spray foam and the disposal can be carried out through the best environmental disposal practices provided by the Ministry. Beneficiaries can temporarily and safely store their wastes collectively, then notify the NOO for onward storage and final disposal. The meeting was followed by a practical session conducted outside training hall.

6.0 PRACTICAL SESSION

The practical session started with a brief remark by the Director, Federal Ministry of Works. Then introduction of the companies present to display spray foaming operations using their machines.
Participants were briefed on the safety measures to be followed before commencement of the practical. Companies present include Tecmac Ltd, with their Low Pressure Foaming Machine, Graco with their Single Phase Spray Foaming Machine and Comart with a Gusmer Spray foam machine. Safety equipment such as eye googles, respirators and PPEs were distributed to trainees for commencement of spray foaming operations.

Batches of 4 trainees were invited to see the Gusmer machine which was in a truck where they were shown how to sprayfoam from the truck. Graco could not perform their foaming operation because of some technical issues. However, Tecmac representative displayed how the machine is operated and gave some maintenance tips for safe and effective use of the machine. This was followed by a spray demonstration done by a female representative of the Ministry and one of the male beneficiaries, while allowing to dry then continue foaming to the desired thickness. Certificates of participation were presented at the end of the session and the Ministry’s staff were also given the certificate of participation.

The training workshop ended with a closing remark received from the National Ozone Officer, Engr. Idris and NARAP President., Mr. John Akhbue Engr. Idris enjoined the trainees / beneficiaries to take the training serious and make good opportunity of the enabling environment provided for through the training workshop. The workshop came to an end at about 4:20 pm on 21st August 2019.

7.0 RECOMMENDATIONS / FOLLOW UP:

i. The Ministry should carry out follow up monitoring visits to Beneficiary Trainees to ascertain they put the training into practice vis-à-vis storage, handling & operation of the chemicals;

ii. The Ministry should further encourage beneficiaries to procure high quality chemicals for efficient and cost effective production of PU foam for insulation in Refrigeration equipment;

iii. The Government should provide enabling environment for local producers of PU insulation foams to thrive and compete with foreign companies through policy review. Incentives, reduced tax and increase in import duty tax can help in encouraging local producers and discouraging importation;

iv. The Ministry should continue to strengthen collaboration with the private sector towards successful implementation of the MP’s HPMP project;

v. The Ministry should strengthen the existing RAC associations and develop a database of RAC technicians with registered companies for more efficient documentation

Submitted by;

EZE Ogechukwu Franca
SO1 (NOO)

22/08/2019
Photographs:

Jean-Marc Ricca (BASF), Engr. Idris (FMENV), Mr. Yomi (UNIDO), Mr. Akabhue J. (NARAP) during the workshop

Engr. Idris delivering his goodwill message

Cross-section of the Participants
Practical session: