CASE EXAMPLE AND LOW COST MODEL FOR SOUND MANAGEMENT OF ULAB

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Workshop on Sound Management of Used Lead Acid Batteries

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The Time Line

I. THE PAST

II. THE PARADIGM SHIFT

III. INITIAL OUTCOMES

IV. LATEST ADVANCES
I. THE PAST

High slag generation (32%)
High cost acid neutralization and disposal ($1.50 each battery)
High energy use ($15,000 per month)
High use of chemicals ($350.00 per ton)
High health and occupational risk (45 µg/dl Pb in blood)
Problems with environmental authority (the Plant was closed)
II. THE PARADIGM SHIFT

Decision to change
Learnt Cleaner Production – understanding the process
Learnt ISO 14000
Learnt Basel Convention technical guidelines
Learnt Technical Assessment of ULAB Recycling
Received support from BCRC-CAM, ILMC, SBC and UNIDO/UNEP National Cleaner Production Center
III. INITIAL OUTCOMES

Obtained first Green Lead Award
Ministry of Environment authorized importation of ULAB
Obtained two national and two regional Cleaner Production Awards
Obtained second Green Lead Award
III. INITIAL OUTCOMES

✓ 70% increase in energy efficiency (140,000 Btu used oil vrs 98,000 Btu LPG)
✓ 64% increase in furnace charges (56,000 pounds vrs 36,000 pounds)
✓ 13% productive increase in 24 hours (73% vrs 60%)
✓ 54% reduction in exhaust gases
✓ 27% reduction in solid waste generation (27% vrs 32%)
✓ 54% reduction in fossil fuels (Used oil instead of Diesel)
✓ 80% reduction in the use of chemical reagents
IV. LATEST ADVANCES

✓ Slag reduced to 1.76% (with Hydrogen fuel cell will move to 0% by first quarter 2016)
✓ Reconditioned electrolyte to sulfuric acid for sale to other industries (soap, metal cleansing, cooling towers, etc)
✓ 98% reduction in the use of chemical reagents
✓ Continuous desulfurization process
IN PREPARATION

✓ Made plastic timber planks from polypropylene
✓ Washing stack exhaust gases with marine algae (to clean CO2)
✓ Increase fuel efficiency by direct tapping to the refining kettle
THANKS!

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