REGULATORY ASPECT AND CLEANER PRODUCTION IMPLEMENTATION FOR PHILIPPINE VCO INDUSTRY

Ronaldo P. Parreno Jr

Regulatory Agencies for Philippine VCO Industry

As government policies become more stringent and industry specific, it is best that industry players are aware of the regulations governing their business. The following are the Regulatory Agencies that implements regulations on the Philippine VCO Industry.

Philippine Coconut Industry (PCA)

The government agency that regulates the marketing and export of coconut products and by-products for purposes, among others, of ensuring the quality of the such products based on adopted standards.

Bureau of Food and Drugs (BFAD)

The government regulatory agency that ensures the safety, purity and quality of foods, drugs and cosmetics being made available to the public.

Department of Environment and Natural Resources (DENR)

The primary government agency responsible for the conservation, management, development and proper use of the country's environment and natural resources.

Environmental Management Bureau (EMB)

An agency under the DENR which formulates environmental quality and discharge standards as well as the standard for the management of Solid Waste and Toxic and Hazardous Waste. The bureau also provides technical assistance to the secretary and regional officers in implementing environmental and pollution laws.

Pollution Adjudication Board (PAB)

The regulatory body that sets fines for noncompliance with regulations regarding air and water pollution and issues notices of plant closures due to noncompliance with pollution control measures and regulations. The board is authorized to *(a)* issue cease-and-desist orders to compel compliance with environmental regulations, *(b)* require the discontinuance of pollution, and *(c)* serve as arbitrator for determining damages and losses resulting from pollution.

Laguna Lake Development Authority (LLDA)

LLDA has permitting and enforcement authority, issues and monitors compliance with standards for industrial and municipal dischargers, and issues cessation orders. LLDA has nearly 1,200 industrial establishments under its jurisdiction, of which 34 percent use water for processes.

Land Transportation Office (LTO)

The Land Transportation Office under the Department of Transportation and Communications (DOTC), guided by the policy of promoting and maintaining safe, efficient, comfortable and economical land transportation services throughout the country by providing a rationalized system of motor vehicle registration, license issuance, law enforcement and adjudication of traffic violation cases.

Department of Science and Technology (DOST)

The Department of Science and Technology is the premier science and technology body in the country and is charged with the twin mandates of providing central direction, leadership, and coordination for all scientific and technological activities as well as formulating policies, programs, and projects to support national development.

Industrial Technology Development Institute (ITDI)

The Industrial Technology and Development Institute is largely responsible for the technology development and technology transfer activities of the Department of Science and Technology. The institute is the leading government agency for testing and metrology and manages the Philippine Laboratory Accreditation System. The institute also manages most of the GOP's industry research institutes, except for private sector research institutes in the Philippines for textiles, metals, and forest products. The Environmental Division maintains information on environmental technologies (primarily end-of-pipe) and performs industry waste audits on request. The Integrated Program on Cleaner Production Technologies (IPCT) also known as CleanTech, provides technical services and information assistance on industries through Cleaner Production, Energy Efficiency and Environmental Management System.

Department of Trade and Industry (DTI)

The Department of Trade and Industry is the leading agency for development and implementation of industrial development policy. The department is organized around three major groups: industry and investment, international trade, and consumer welfare.

Metropolitan Waterworks and Sewerage System (MWSS)

The Metropolitan Waterworks and Sewerage System is a public corporation with jurisdiction over all 'waterworks and sewerage systems in Metro Manila and surrounding municipalities. To privatize the system, the International Finance Corporation has agreed to supervise the Philippines' sale of MWSS and will design an operating and investment plan as well as oversee competitive bidding.

Department of Health (DOH)

The Department of Health works to protect and monitor public health as it is affected by air and water pollution and quality and oversees the management of hospital wastes.

National Water Resource Board (NWRB)

The government agency that oversees the conservation, utilization and management of surface and groundwater.

Local Government Units (LGU'S)

Local Government Units are empowered to implement measures that will sustain the ecological balance within their jurisdictions, enforce laws and regulations on the environment, and enact ordinances to protect the environment and impose penalties for infractions. Under the Pollution Control Law, LGUs may impose higher standards for pollution control and mitigation than those provided by DENR, subject to DENR's approval.

Regulatory Requirements for Philippine VCO Industry

The following are the regulations and regulatory requirements applicable to the Philippine VCO Industry.

Implementing Agency	Applicable Law/s	Requirements
DTI	DTI/SEC Regulations	DTI/SEC Registration Business Permit BFAD Registration BIR Registration SSS/Pag-Ibig/Philhealth Registrations
DENR-EMB LLDA	PD 1586: Establishing an Environmental Impact Statement System PD 2146: Environmentally Critical Areas and Projects DAO 96-37: The EIS/ECC Process and Requirements	Environmental Compliance Certificate (for critical area) Conditions of the ECC Certificate of Non-Coverage (for non-critical area)
DENR	DAO 26: Amending Memorandum Circular No. 02 Series of 1981 – Appointment/Designation of Pollution Control Officers	PCO Accreditation
NRWB	PD 1067: Water Code of the Philippines	Permit to install deep well Permit to draw-out groundwater
DENR-EMB	PD 1152: Environment Code DAO 35: Revised Effluent Regulations of 1990 RA 9275: Clean Water Act DAO 10: Implementing Rules and Regulations (IRR) of Clean Water Act	Authority to Construct Permit to Operate Compliance to Effluent Standards Self-monitoring Reports
DENR-EMB	RA 8749: Philippine Clean Air Act DAO 81: IRR of Clean Air Act	Authority to Construct Permit to Operate Compliance to Air Standards Self-monitoring Reports
DENR-EMB LGU	RA 9003: Ecological Solid Waste Management Act	Solid Waste Management Plan

LLDA	RA 4850: Laguna Lake Development Authority Act Resolution No. 33 (Series of 1996): Rules and Regulations Implementing the Environmental User Fee System in the Laguna de Bay Region	LLDA Clearance Discharge Permit Annual Renewal of Discharge Permit PCO Designation
DENR LGU DOLE	PD 984: Pollution Control Law PD 856: Sanitation Code of the Philippines PD 1185: Fire Code of the Philippines PD 442: Occupational Health and Safety	Compliance with Ambient Noise Quality Standards Sanitation Permit Certificate of Fire Inspection Electrical Permit Mechanical Permit Building Permit Designation of Safety Officer
DA-PCA-BAFPS BFAD	PNS/BAFPS 22:2004: Philippine National Standard for Virgin Coconut Oil BFAD AO No. 01 Series of 2005: Implementing Rules and Regulations to Enforce Standards in the Production and Marketing of Virgin Coconut Oil (VCO) BFAD Issuance BC 2006-18: Additional Requirements in the Registration of Virgin Coconut Oil Food Supplement with Flavor	Annual Registration Permit to Operate from BFAD Compliance with PNS/BAFPS 22:2004 Registration of Flavor/s
BFAD	BFAD AO No. 37 Series of 1979: Registration of Food and Food Products Intended for Import/Export with the Food and Drug Administration	Registration for Import/Export
BFAD	AO 153 Series of 2004: Guidelines, Current Good Mfg. Practice in Manufacturing, Packing, Repacking or Holding Food AO 88b Series of 1984: Rules and Regulation Governing the Labeling of Prepackaged of Food Products Distributed in the Philippines MC 2 Series of 1999: Amendment to BFAD MC No. 25 s.1992 otherwise known as "Additional Labeling Requirement for Food Supplements"	Compliance of Guideline Labeling requirement / Product labeling
LGU	Local Building Code Environmental Ordinances	Building Permit Code Solid waste Management Plan

PNS / BAFPS 22:2004

Philippine National Standard for VCO Industry

Table 1. Fatty Acid Composition

Fatty Acid	Carbon Chain	Percent
Caproic	C 6:0	ND – 0.7
Caprylic	C 8:0	4.6 – 10.0
Capric	C 10:0	5.9 – 8.0
Lauric	C 12:0	45.1 – 53.2
Myristic	C 14:0	16.8 – 21.0
Palmitic	C 18:0	7.5 – 10.2
Palmitoleic	C 16:1	ND
Stearic	C 18:0	2.0 – 4.0
Oleic	C 18:1	5.0 – 10.0
Linoleic	C 18:2	1.0 – 2.5
Linolenic	C 18:3, C 24:1	ND – 0.2, ND

Table 2. Essential Composition and Quality Factors

Property	Sensory/Specification
Color	Water white clear
Odor	Natural fresh scent
Taste	Mild coco nutty
Food Additives	Not permitted
MC and VC, % Max	0.2
FFA (expresses as lauric acid), % Max	0.2
Peroxide value, meq/ kg oil, Max	3.0
Contaminants Volatile Matter at 105 °C, % Max	0.2
Heavy Metals, mg/kg oil, Max	
Iron (Fe)	5.0
Copper (Cu)	0.4
Lead (Pb)	0.1
Arsenic (As)	0.1

Color – Water white
FFA (as oleic) – 0.25% Max
Moisture – 0.1% Max
Peroxide value – 1
Iodine value – 4.5 to 15
Vit E content (as tocopherol) - 4 mg/kg Min.
Aroma – fresh coconut scent
Lauric Acid content – 45% Min
Microbiological Quality

- Total plate count - < 10 cfu/ml
- Coliform – 0
- Molds and Yeast - 0

PCA Administrative Order No. 01 Series of 2005

Good Manufacturing Practices

Producers of virgin coconut oil shall adopt a suitable manufacturing practice or a "kitchen-clean" plan in the processing of the product, sanitation controls, use of facilities, handling of raw materials, storage, packaging and repackaging of finished or semi-finished products and waste disposal to avoid or minimize the introduction, generation, retention or multiplication of particulates, microbial organisms and other contaminants which may compromise the quality and safety of the final product.

For this purpose, producers shall be guided by the principles and guidelines on current Good Manufacturing Practices in manufacturing, packing, repacking, or food handling developed by the Bureau of Food and Drugs Department of Health Administrative Order No. 153, s. 2004.

Plant Inspection

In consonance with the preceding Section, all virgin coconut oil manufacturing or processing plant shall be inspected by the PCA Coconut Production and Regulation Officer upon application for registration as provided under Paragraph IV (a) of this Order, to ascertain that the applicant producer has complied with the good manufacturing practices herein prescribed.

On-site inspections shall include not only the plants and its peripheries but also the adjacent sites, taking into consideration the following:

1. Adequate location of the plant or enclosure thereof away from the presence of domesticated animals (pigpens, poultry farms), or entry of stray or similar animals or pets into the processing premises;
2. Plants should be amply isolated from dumpsites, open sewerage or esteros, open canals, or drainage within or outside of the plant;
3. Plants should be located distant enough from any other industrial, manufacturing or processing plants, which can likely contaminate or cause a cross-contamination of virgin coconut oil products.
4. Plants should be provided with adequate lighting, ventilation and running faucet water and lavatories; adequately constructed and tiled toilets, washrooms and dressing rooms. The plants' premises must be totally free from pests and disease carrying insects and animals like flies, cockroaches, rodents, birds, larvae, etc.
5. Processing plants shall be designed that is conductive to good housekeeping and maintenance of sanitary operation including the construction of water-proof, non-absorbent, washable and non-slip tiled floor areas with adequate liquid drains and trapped outlets;
6. Containers and utensils used in contact with food materials should be of food grade quality; Work tables, panels and walls coming in contact with the virgin coconut oil product or its raw materials, shall be constructed with plan surface, preferably made of stainless steel sheet, white ceramic tiles, or other non-porous and non-absorbent surface like marble or granite table tops;
7. Workers in direct contact with the product should be free from any communicable diseases. They must strictly observe personal hygienic practices to the extent necessary to protect the products against contamination, such as but not limited to wearing of outer garments and working shoes, through washing of hands, removal

of jewelries or other objects that might cause cross contamination, wearing of surgical mask, gloves, and hairnet/head cap.

References

Best Available Technologies (BAT) and Best Environmental Practices (BEP) Guidelines for Meat Establishments (2007), Integrated Program on Cleaner Production Technologies, DOST-ITDI

Cleaner Production Assessment Training Manual, Developed by Integrated Program On Cleaner Technologies, DOST-ITDI

Guidelines for SMEs on the Establishment of Environmental Management System (EMS), Developed by Integrated Program On Cleaner Technologies, DOST-ITDI

Implementing Rules and Regulations to Enforce Standards in the Production and Marketing of VCO, PCA AO No. 01 s. 2005

Philippine National Standard VCO, PNS/BAFPS 22:2004

Websites

BFAD: http://www.bfad.gov.ph/
DENR: http://denr.gov.ph
DOST: http://dost.gov.ph
EMB: http://emb.gov.ph
IPCT, ITDI-DOST: http://cptech.dost.gov.ph
LLDA: http://www.llda.gov.ph/
LTO: http://www.lto.gov.ph/
PAB: http://www.emb.gov.ph/pab/template/mainpab.htm
PCA: http://pca.da.gov.ph/