Strengthening Environmental Enforcement and
Compliance Capacity Technical Assistance
(SEECCTA) Project

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Main Report
Strengthening Public Disclosure Program
(Component 3)

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TECHNICAL REPORT

1.0 Introduction

Component 3 is intended to improve the capacity of the Department of Environment and Natural Resources-Environmental Management Bureau (DENR-EMB) in environmental management and protection through a strengthened public disclosure of industries environmental performance relative to regulations and community monitoring program. Specifically, the component has the following objectives:

- To assess, monitor and evaluate industry/enterprise environmental performance through public disclosure;

- To strengthen EMB's industrial compliance monitoring system that will serve as the backbone for the public disclosure program.

- To institutionalize public disclosure similar to the concept of Ecowatch and recommend mechanisms to strengthen collaborative efforts among government, industries and communities and enhance the environmental monitoring and reporting of performance of the different sectors in civil society; and

- To develop an integrated industrial database and computerized management information systems that will serve as a powerful tool in strengthening DENR and EMB enforcement and compliance monitoring capacity

This report covers the activities and outputs of the component except for those related to the information system which is covered by a separate report.

2.0 Conceptual Framework

To deal with environmental issues brought about by developmental activities, different countries have adopted various environmental management strategies. These strategies generally involve legal requirements that must be met by individual and facilities that cause or may cause pollution. These requirements are an essential foundation for environmental and public health protection – but these are just the first step. The second essential step is compliance – getting the regulated community to fully implement the requirements. Without compliance, environmental requirements alone will not achieve the desired results. Compliance does not automatically happen once regulations are issued. Achieving a significant degree of compliance requires a huge investment in efforts to encourage as well as compel the necessary behavioral changes in the regulated community to achieve compliance.

The Public Disclosure Program is intended to support the main thrust of DENR's enforcement strategy through compliance promotion.

2.1 Environmental Governance

Compliance is defined as the full implementation of environmental requirements. Compliance occurs when requirements are met and the desired level of performances are achieved, e.g., processes or raw materials are changed, work practices are changed so that, for example, discharges or emissions satisfy environmental standards, industrial waste is disposed of at appropriate facilities, permits or clearances are obtained before new products or chemicals are imported or marketed, etc. The formulation of requirements (e.g., permitting system) affects the success of an environmental management program. If requirements are well designed, then compliance will achieve the desired environmental results. If the requirements are poorly designed, then achieving compliance and/or the desired results will likely be difficult.

On the other hand, enforcement is the set of actions that governments or others take to achieve compliance within the regulated community and to correct or halt situations that endanger the environment or public health. Enforcement by the government usually includes:

- Inspections to determine the compliance status of the regulated community and to detect violations.

- Negotiations with individuals or facility managers who are out of compliance to develop mutually agreeable schedules and approaches for achieving compliance.

- Legal action, where necessary, to compel compliance and to impose some consequence for violating the law or posing a threat to public health or environmental quality.

Enforcement may also include compliance promotion (e.g., educational programs, technical assistance, subsidies) to encourage voluntary compliance. Non-government groups may also become involved in enforcement by detecting non-compliance, negotiating with violators, commenting on government enforcement actions, and where the law allows, taking legal action against a violator for non-compliance or against the government for not enforcing the requirements. In addition, certain industries such as the banking and insurance industries may be indirectly involved in enforcement by requiring assurance of compliance with environmental requirements before they issue a loan or insurance policy to a facility.

One of the primary goals of an environmental enforcement program is to modify human and social behavior, especially on the part of the regulated community, so that environmental compliance is achieved. A successful program must motivate the regulated community to comply, remove barriers that prevent compliance, and overcome existing factors that encourage non-compliance. Such program must be crafted with due considerations of the many factors that affect compliance. Such factors include economic circumstances of the regulated community, cultural norms, and individual personalities. Thus, a multi-prong strategy of (1) promoting compliance through education and incentives, and (2) identifying and taking action to bring violators into compliance, would be most appropriate and effective.

A successful enforcement program that is essential to achieve widespread compliance must consider the following:

- Deterrence – the element that encourage members of the regulated community to change their behavior to avoid a sanction (e.g., fines or penalties). Enforcement deters detected violators from violating again, and it deters other potential violators by sending a message that they too may experience adverse consequences for non-compliance. This multiplier or leverage effect makes deterrence a powerful tool for achieving widespread compliance.

- Economics – the economic condition greatly affects compliance. Poor economic condition is a negative factor for compliance. Industry has often used the poor economic condition as an excuse for not complying with environmental requirements. From another perspective, members of the regulated community may be more likely to comply in cases where enforcement officials can demonstrate that compliance will save money (e.g., achieving compliance by recycling valuable materials instead of discharging them to the environment may yield a net profit), or when the government provides some form of subsidy for compliance. Conversely, the higher the cost of compliance, the greater may be the resistance to compliance in the regulated community.

- Institutional Credibility – the enforcement agency, both at the national and local level, must be credible in order to achieve widespread compliance. The agency must be perceived to possess the political will and adequate resources to enforce.

- Institutional Capacity – the enforcement agency, both at the national and local level, must have the requisite human and technical capacity to enforce and monitor compliance. Personnel must be familiar with the necessary technology to prevent, monitor, control, or clean up pollution, and they must know how to operate it correctly. A lack of knowledge or technology can be a significant barrier to compliance. This barrier can be removed by providing education and technical assistance.

- Social and Psychological Factors – personal and social relationships are important in influencing behavior. For example, in some situations, industry may voluntarily comply with requirements out of a genuine desire to improve environmental quality. They may also comply out of a desire to be a "good citizen" and maintain the good will of their local communities or their clients. Industry (especially those involved in consumer products) may also fear a loss of prestige that can result if information about non-compliance is made public. On the other hand, psychological factors also affect compliance rates. One of these is fear of change - the belief that familiar ways of operating are safe and new ways are risky. People tend to resist change because of the perceived effort it will require to enact the change.

Monitoring compliance – collecting and analyzing information on the compliance status of the regulated community – is one of the most important elements of an enforcement program. Monitoring is essential to detect and correct violations, provide evidence to support enforcement actions, and evaluate program progress by establishing

compliance status. For compliance monitoring to be successful, it must be undertaken at both national and local levels.

In the Philippines, as with other countries, there are four primary sources of compliance information: inspections conducted by program inspectors; self-monitoring, self-recordkeeping, and self-reporting by the regulated community; citizen complaints; and, monitoring environmental conditions near a facility. An essential support mechanism to the compliance monitoring program is an information system that allows enforcement officials ready access to data and information such as monitoring data, self monitoring reports, and incident reports.

2.2 Public Disclosure Program

Under conventional environmental regulatory system, the performance of a firm is categorized either as “in compliance” or “not in compliance”. These compliance criteria are evaluated based on the prescriptions and requirements of environmental regulations. On the other hand, the rating system under the EcoWatch deviated from the dichotomous approach of conventional regulatory system – instead, environmental performances are assessed in terms of several categories. Also, the premise of EcoWatch is compliance promotion through the public disclosure of the environmental performances of firms composing the regulated community.

A rating system should be based on economic principles, a feasible legal framework and the most updated scientific and technical information. These three dimensions of a rating system were synthesized into measurable indicators during the original Ecowatch program. Proxy indicators were used to represent the damages and costs of pollution control and enforcements. For example, the discharge standards vary by the characteristics of untreated pollution that is generated by a firm, which to a certain extent, is related to the abatement cost. Similarly, the absence of complete information on the acceptable threshold levels of pollution can be addressed using public complaints and the extent of deviation from the discharge standards as indicators of damage. Other important factors considered were obstruction of entry into the firm premises or discharge of pollution through unauthorized outlets that make detection of non-compliance difficult and expensive.

3.0 Project Assessment

3.1 Some Problems in Environmental Governance

At the national level, the enforcement function is primarily vested on DENR by virtue of existing legislations. Most of the legislations were enacted during the Martial Law years and were mostly adapted from American environmental legislations. Except for the low fines imposed on environmental offenses by these relatively old laws, the regulatory tools are essentially comprehensive. One of the most feared tools available to DENR is the authority or power to issue Cease-and-Desist Order (CDO).

Parallel to the refinements and strengthening of the American laws, the Philippine Congress likewise passed new legislations on toxic substances, air pollution and solid

waste – albeit, a bit late. Nonetheless, these new laws provided DENR with better enforcement powers (e.g., higher fines, imprisonment or criminalization of environmental offenses) and the authority to adopt new measures (referred to as new environmental protection initiatives in other materials) such as the use of market based instruments (sometimes referred to as economic instruments), self regulation by the private sector, and most notably, a greater role for local government units and civil society. Furthermore, the new laws included a mechanism for DENR to better utilize any revenue it may generate by establishing an Environmental Trust Fund.

Environmental governance at the national level is hampered by the presence of political pressure or influences. Theoretically, DENR personnel are insulated from political pressures or influences by the virtue of their being technocrats. However, such bureaucratic intentions have never been respected by politicians. The tendency of the country's leadership to appoint politicians to the top management position of the department further aggravates the threat. To address this concern, there are pending bills (proposed since the mid-1990s) to convert the Environmental Management Bureau (EMB) of DENR into an independent agency similar to the US Environmental Protection Agency. It should be noted that the Clean Air Act has a specific provision that refers to this legislative initiative. In addition to providing a shied against political pressures and influences, institutional re-engineering will allow DENR to be more flexible and responsive to emerging environmental concerns.

The lack of manpower and the lack of training of some personnel of DENR have also hampered national efforts on environmental governance. Out of 1.2 million regular employees of the national government, EMB has only 599 personnel, both technical and administrative, at the central and regional levels. For example, at the NCR Regional Office, 113 personnel are responsible for monitoring air quality (collecting 640 samples in Year 2001), monitoring the quality of five major water bodies, and overseeing the performance of no less than 1,200 industrial firms as well as issuing permits and clearances to industrial clients. It is estimated that EMB needs about 3,662 personnel to adequately respond to its mandates.

The inadequate budget for environmental governance is another barrier to effective enforcement program. It should be noted that additional functions have been given to DENR, especially with the enactment of the Clean Air Act and the Ecological Solid Waste Act, but the budget allocation of EMB in particular has not been increased. In fact, it has been decreasing. In terms of percentage of national government expenditures, a UNDP report pointed out that the environment's share (reported under natural resources) has been decreasing from 1.67% for the 1975 – 1985 period to 1.54% for the 1986 – 1992, and finally to 1.42% for 1993 – 1998. In 2000, the expenditure for natural resources was 0.99% of the national figure. Given the already relatively low share of DENR in the national government expenditure, the allocation for EMB from DENR's budget is small compared to other sectors – considering that EMB is the bureau primarily tasked for environmental management. Data show that EMB has been allocated, on the average, less that 5% of DENR's total budget (1998 – 2002). For 2002, the budget for the entire DENR bureaucracy was PhP 5,433 Million (or 0.009% of the total national budget). Of this amount, EMB was only allocated PhP 362 Million to handle its mandate on air, water, solid and toxic waste pollution.

Related to the lack of financial resources, another problem is the lack of equipment. This inadequate level of equipment can be significantly felt in terms of monitoring function. For example, in Metro Manila, the EMB NCR Regional Office has only 10 stationary sampling facilities (and no mobile equipment) to monitor the air quality (primarily TSP only) of the entire metropolitan area of about 640 square kilometers.

3.2 ECOWATCH: The Public Disclosure System of DENR

The Industrial EcoWatch System was officially adopted on 29 June 1998 through the issuance of DAO 98-51. However, only one public disclosure exercise was undertaken by DENR. The SEECCTA Project undertook a series of assessments to determine elements and factors that affected the sustainability of the System – specifically, to determine the needed intervention measures to insure the regular implementation of the System.

The assessment was mainly sourced from several workshops conducted for DENR personnel and representatives from the private sector, civil society (NGOs/POs) and other government units (both national agencies and local government units). The workshops were conducted in NCR, Cebu and Davao. The workshops also served as a venue for public consultation of the proposed scheme for a strengthened Industrial EcoWatch System. The workshop details are as follows:

- Orientation Workshop (DENR 7) – 26 participants
  Conducted 19 – 20 November 2002, Waterfront Hotel, Cebu

- Multi-sectoral Consultation Workshop – 26 participants
  Conducted 18 November 2002, Waterfront Hotel, Cebu

- Orientation Workshop (DENR 11) – 21 participants
  Conducted 27 – 28 November 2002, Mandaya Hotel, Davao

- Multi-sectoral Consultation Workshop – 26 participants
  Conducted 28 November 2002, Mandaya Hotel, Davao

- Multi-sectoral Consultation Workshop (NGAs/LGUs) – 31 participants
  Conducted 4 December 2002, PAWB Visitor Center, Metro Manila

- Multi-sectoral Consultation Workshop (NGOs/POs) – 18 participants
  Conducted 5 December 2002, PAWB Visitor Center, Metro Manila

- Multi-sectoral Consultation Workshop (Private) – 31 participants
  Conducted 30 January 2003, Innotech, Metro Manila

Based on inputs from the participants, both during the workshop proceedings and responses to the survey/questionnaires, several elements or factors were cited as either strengths or weaknesses of the System.

The System was cited as most helpful in encouraging compliance among firms. This perception is also validated by results of the Lason Award, which shows that first cited for violation were mostly found to have improved their performance in the succeeding years. However, due to its relatively limited implementation, no significant impacts were observed in terms of improvement in ambient quality.

The System was also instrumental, in some cases, in improving compliance of selected firms in terms of timely submissions of SMRs and increased environmental awareness (especially at top management level. At the community level, it also increased the level of awareness and provide the impetus for public pressure for an improved compliance by firms.

On the other hand, some reservations were raised on the possibility of "*over-aggressive*" participation by NGOs and POs that may lead to closure of erring firms or pull-out of potential investors. Also, there were concerns that the negative publicity resulting from *failing* rating may also lead to the same results. Some sectors also cited that present economic crisis hampers the ability of firms to comply with environmental standards. From another perspective, the "*ningas cogon*" factor was the major factor cited by those skeptical about the program. This was reinforced by the relatively short-lived implementation of the EcoWatch program.

Some of the other factors that were cited as significant factors affecting the sustainability of the System were the lack of resources for DENR to implement the program. Based on the original design, EcoWatch mandates that rating be based on actual sampling and analysis to be conducted by DENR. Such a requirement is a significant drain on limited DENR resources (i.e., human, financial and equipment). It was also cited that, except for those directly involved in the Project, the other personnel were not adequately informed about the program. Some participants also cited the "*tediousness*" of the procedures used in the rating.

The lack of clear political support from and/or low priority accorded by top DENR management were also cited as highly significant factors that determine the success or failure (and the long-term sustainability) of a program.

The lukewarm support from industry was essentially caused by the fear that the system will be used for harassment or will become another *opportunity* for graft and corruption. Another significant factor is the lack of incentives and the relatively poor information dissemination activities for the program. Interestingly, one participant cited the lack of relevance of the program to a firm whose market is exclusively foreign buyers.

4.0 Project Recommendations

4.1 A Strengthened Self-Monitoring Report (SMR) System

As discussed earlier, monitoring compliance is one of the most important elements of an enforcement program. Monitoring is essential to detect and correct violations, provide evidence to support enforcement actions, and evaluate enforcement progress by establishing compliance status.

There are four primary sources of compliance information: inspections conducted by government inspectors; self-monitoring, self-recordkeeping, and self-reporting by the regulated community; citizen complaints, and monitoring environmental conditions near a facility.

Self-monitoring, self-recordkeeping, and self-reporting are three ways in which firms can be required to track their own compliance and record or report the results for government review. Increasingly, these self-monitoring approaches are recognized as providing essential data to supplement and support inspections.

In self-monitoring, facilities measure an emission, discharge, or performance parameter that provides information on the nature of the pollutant discharges or the operation of control technologies. For example, facilities may monitor groundwater quality by periodically sampling and analyzing effluent for the presence and concentration of particular pollutants. Facilities may also be asked to monitor operating parameters of pollution control equipment (such as line voltage) that indicate how well the equipment itself is operating. Operating parameters are generally inexpensive to monitor and provide data that give a more accurate and representative picture of emissions than occasional sampling and analysis of the emissions. This monitoring scheme has proven to be a cost-effective way for enforcement programs and facilities to assure themselves that controls are operating correctly.

Self-recordkeeping means that facilities are responsible for maintaining their own records of certain regulated activities (e.g., shipment of hazardous waste).

Self-reporting requires that facilities provide the enforcement program with self-monitoring or recordkeeping data periodically and/or upon request.

Self-monitoring, self-recordkeeping, and self-reporting provide more extensive information on compliance than can be obtained with periodic inspections. These approaches also shift some of the economic burden of monitoring to the regulated community, and they provide a mechanism for educating this community about the compliance requirements. The approach may also increase the level of management attention devoted to compliance, and may inspire management to improve production efficiency and prevent pollution.

Self-monitoring requires that reliable and affordable monitoring equipment be available to the regulated community. Self-monitoring, self-recordkeeping, and self-reporting rely on the integrity and capability of the facility to provide accurate data. The data will be misleading if the facility either deliberately falsifies the information or lacks the technical capability to provide accurate data. Therefore, programs using these approaches will need to establish some way to help ensure accuracy, e.g., by requiring self-monitoring only in facilities with the appropriate technical capability, by developing quality control standards for monitoring and recordkeeping, etc.

SMR System Design

In line with these premises, the Project developed a Procedural Manual that includes a standardized **Self Monitoring Report (SMR)** format that is recommended for use nation-wide. **(See Volume 2, Report 4).**

The Self-Monitoring Report or SMR has two basic objectives:

- It allows firms or establishments to demonstrate their compliance with environmental regulations (e.g., P.D. 984, P.D. 1586, R.A.6969, R.A. 8743), and

- It allows EMB to confirm or validate that firms or establishments comply with environmental regulations or requirements.

The SMR consists of seven modules:

- MODULE 0. General Information Sheet – this module provides basic information about the establishment, firm or facility. This module shall only be prepared once.

- MODULE 1. General Information – this module provides background information about the establishment, firm or facility including changes or modifications of Module 0.

- MODULE 2. R.A. 6969 – this module provides information on compliance with the requirements of R.A. 6969. This module is composed of three sub-modules: A) Compliance with CCO-related requirements, B) for hazardous wastes treater and recycler, and C) for hazardous wastes generator.

- MODULE 3. P.D. 984 – this module provides information on compliance with the requirements of P.D. 984.

- MODULE 4. R.A. 8749 – this module provides information on compliance with the requirements of R.A. 8749.

- MODULE 5. P.D. 1586 – this module provides information on compliance with the requirements of P.D. 1586.

- MODULE 6. Others – this module provides additional information that are not exclusive to any of the other module/s.

Submission of SMR

The SMR submission should only include the module/s applicable to the facility or establishment (for example, the SMR of a facility with no emissions should not include Module 4).

The submission of the SMR may be done through:

- Printed or hard copies – Submission of the required number of (completed, signed, and notarized) copies to the EMB RO concerned.

- Electronic submission:

  ✓ E-mailing the completed report to the EMB RO concerned.

  ✓ Faxing or delivering one (1) copy of the completed, signed and notarized Module 6 (NOT the entire report) to the EMB RO concerned.

The SMR is a facility-based documentation with focus on the activities and environmental performance at individual facilities. Thus, a complex or combination of production and processing units including its support system located in a geographically contiguous area shall accomplish one (1) complete/integrated SMR.

Frequency of SMR Submission

In accordance with the provisions of DAO 26 (Series of 1992), ALL firms satisfying the criteria as enunciated in Annex A and Annex B of the said DAO are required to submit regular SMR.

Unless provided otherwise, the firm shall submit the SMR on a quarterly basis. SMR covering activities in a quarter shall be submitted within seven (7) calendar days after the end of the said quarter. The respective DENR ROs shall establish and define the individual date of reckoning for the quarter that will be used by establishments/facilities in the preparation and submission of the SMR.

Evaluation of SMR

It will take EMB approximately 15 working days to review and evaluate SMRs.

If necessary, a "Notice of Deficiency" shall be sent to the submitting party indicating the need for additional elaboration, clarification and/or information. If such notice have not been sent or received by the submitting party within fifteen (15) days of the receipt of the submission, then the SMR document/s is deemed to have complied with the requirements of DAO 26 (Section 7).

The procedural Manual also provides the necessary administrative instrument and other support materials to operationalize a national SMR format. It contains the DAO proposed DAO amending DAO 26, DAO 29, and DAO 2000-81. **(See Vol. 3, Report No. 3)**

4.2 A Strengthened Industrial EcoWatch System

Basic Framework

The basic framework for the Industrial ECOWATCH System, as a component of the entire compliance monitoring system of EMB, is as follows:

- To promote industrial compliance to environmental laws, rules and regulations through public pressure;

- Encourage pollution reduction beyond compliance through public recognition and praise;

- Create incentives for polluters to develop internal environmental management systems; and,

- Develop foundations for international environmental standards such as the ISO 14000 series.

Thus, the Industrial ECOWATCH System was strengthened to reduce the administrative and technical requirements on the part of EMB while maintaining the institutional and regulatory integrity of environmental governance. In addition, the paradigm of mutual trust and respect between regulators and the regulated community is given emphasis.

Identification and Definition of Rating Criteria

As with the original EcoWatch, the rating system is essentially based on the broad parameters of:

- Environmental damage from pollution released by factories, and
- The extent of management effort by factories to control pollution

Based on these parameters, performance indicators and the corresponding broad categories of performance rating were identified:

Performance Indicator	Broad Category	Color Code
Efforts beyond legal requirements	Excellent	GOLD
	Outstanding	SILVER*
Effort level sufficient to comply	Very Good	GREEN
	Good	BLUE
Effort not sufficient for compliance	Bad	RED
No effort to comply	Very Bad	BLACK

Note: (*) new category

Experiences from the original EcoWatch show extreme degrees of compliance with environmental regulations. On one hand, there are world-class firms that use clean technology, while on the other extreme, some firms go to extraordinary lengths to resist regulatory efforts to reduce pollution. Considering this continuum, the rating system for the original EcoWatch of Gold, Green, Blue, Red and Black provided a simple and sufficiently effective way to categorize the environmental performance of firms to communities and the market. However, based on the regional consultations conducted

under the project, a new category was introduced to distinguished "*excellent*" and "*outstanding*" environmental performance – the former, at the level of a "*Hall of Fame*" status.

Based on the experiences of the original EcoWatch, a set of viable criteria was identified and a new category was introduced.

Performance Indicator	Color Code	Criteria
Efforts beyond legal requirements	GOLD	• Pre-requisite: SILVER rating for 2 years • EMS in place • Commitment for waste reduction in all media • Community environmental outreach program in place • Products are eco-labelled
	SILVER	• Pre-requisite: GREEN rating • Clean technology, energy and water conservation program in use
Effort level sufficient to comply	GREEN	• Pre-requisite: BLUE rating • Effluents/emissions better than standards by 20% • Well-functioning flowmeter/measuring devices • Easily accessible discharge/emission point/s
	BLUE	• Pollution level of effluent/emission is better than standards • Full compliance with ALL regulatory requirements • Average or well-maintained pollution control facility/system • Self-monitoring report complete and accurate
Effort not sufficient for compliance	RED	• Failure to comply with effluent/emission standards despite presence of fully-operational pollution control devices
No effort to comply	BLACK	• Failure to comply with effluent/emission standards • Inspectors were refused entry into the firm premises • Absence or lack of required pollution control device/s • Inaction to an existing and legitimate complaint • Misrepresentation or falsification of report/s

Rating Scheme

Inasmuch as the rating criteria are defined on a hierarchical basis, the rating procedures shall likewise have a similar approach. A firm shall first be assessed in terms of the "worst" performance, and subsequently, be rated progressively based on the hierarchy of rating. In this sense, a firm that had been rated "RED" does not satisfy any criteria

under the "BLACK" category. Likewise, a firm rated "SILVER" had passed all applicable criteria for the "GREEN" and "BLUE" categories.

Under this approach, it is possible for a firm to be rated "GREEN" on the first year but can only be rated "SILVER" on the second year at the earliest and "GOLD" on the fourth year at the earliest after satisfying the criteria for the "BLUE" category.

Administrative Incentives

One effective mechanism to promote compliance is by providing incentives for compliance. Incentives should be linked to the environmental performance of the firm or entity. Under the EcoWatch program, the initial set of administrative incentives shall be through an "extended" life of the permit and/or lesser frequency for monitoring report submissions. These incentives are premised on the principle that firms with exemplary records in terms of environmental performance will require less monitoring as compared to a "delinquent" firm. These proposed incentives are subject to the approval of such provisions in the Administrative Order and Implementing Rules and Regulations of DENR-EMB National Environmental User Fee.

For firms rated as "**BLACK**" or "**RED**", the following administrative measures shall be undertaken:

- Filing of appropriate case/s in the Pollution Adjudication Board (PAB) for violation/s of applicable guidelines on environmental standards.

- For firms with accredited PCO, the investigation of responsibilities or culpabilities of the PCO concerned and the application of administrative sanctions upon conclusion of the investigation.

- For firms without accredited PCO, the filing of case/s in the PAB for violation/s of DAO 26.

Pending issuance of final guidelines on other financial incentives that may be granted under applicable laws (e.g., Clean Air Act), the following administrative incentives shall be awarded to firms rated as "**BLUE**", "**GREEN**", "**SILVER**" or "**GOLD**":

- Extended effectivity of the permits (e.g., Permit to Operate) under PD 984, Clean Air Act and other applicable laws and regulations:

  For firms rated as "**GREEN**" – two (2) years
  For firms rated as "**SILVER**" – three (3) years
  For firms rated as "**GOLD**" – five (5) years

- Lesser frequency for the submission of Self-Monitoring Report/s (SMRs):

  For firms rated as "**BLUE**" – semi-annual
  For firms rated as "**GREEN**" – annual
  For firms rated as "**SILVER**" – annual
  For firms rated as "**GOLD**" – annual

- In addition, the following discounts for the payment of the *Environmental User Fee (EUF)* shall be extended to firms with above average environmental performances:

  For firms rated as "**GREEN**" – five percent (5%)
  For firms rated as "**SILVER**" – ten percent (10%)
  For firms rated as "**GOLD**" – twenty percent (20%)

> Volume 2, Report No. 2 and Volume 3, Report Nos. 3 and 4 also provide the necessary administrative instrument and other support materials to implement the Industrial EcoWatch System. These documents contains the draft DAO and the *Procedural Manual*.

5.0 Conclusions

5.1 Recommended Implementation Scheme

The most optimal (sequential) scheme for implementing the Industrial ECOWATCH System is as follows:

- Adoption of the revised Self-Monitoring Report (SMR) format

  The revised SMR format is intended to provide a standard for reportorial requirements of the EMB compliance monitoring system. It is designed for implementation nationwide, including in areas under the jurisdiction of LLDA. The format also served as the basis for the design of the Environmental Information System.

  In addition, the format was designed to provide the data requirements for the Industrial ECOWATCH System and the proposed Environmental User Fee (EUF) system. It was formulated in such a way to minimize the need for DENR to do additional collection and analysis of samples.

- Adoption of the strengthened Inspection and Monitoring Protocols

  The project team formulated an Inspection and Monitoring scheme that will complement efforts on the Industrial ECOWATCH System and the EUF system. One critical aspect of the scheme is a paradigm shift from a 100% inspection target annually to a scheme that is based on risk and priorities. Such a paradigm shift is deemed to be necessary to allow more activities on the identification of non-complying firms given the limited resources of EMB.

- Implementation of the Environmental Information System

  The Environmental Information System is intended to provide the EMB with the necessary technological tool to support its compliance monitoring system. Also, it is

intended to provide central and top management with updated information from the regions.

As a technical tool, it was designed to provide automation supports for the actual rating exercise of the Industrial ECOWATCH System as well as the assessment process of the EUF system.

The implementation of the information system includes the building up of the database system at the regional level including the necessary conversion of existing systems and digitization of available documents.

- Implementation of the Industrial ECOWATCH System

  The third stage of the proposed scheme is the actual implementation of the Industrial ECOWATCH System. At this time, with the SMR implemented and the information system operational, the implementation of the Industrial ECOWATCH System would be greatly facilitated.

It should be noted that these stages or phases are not intended to be mutually exclusive (i.e., strictly sequential). The adoption of the revised SMR formats, the inspection and monitoring protocol, and the implementation of the information system may be done simultaneously, while the Industrial ECOWATCH System may be implemented one year later.

The minimum requirements for implementation, in terms of human and technical resources, are discussed in a succeeding section.

5.2 Expedited Implementation of the Industrial ECOWATCH System

In line with the decision to expedite the Industrial ECOWATCH System, the following measures are recommended:

- Issuance of the DAO 51 amendments

  The project team prepared a draft DAO containing the proposed amendments (attached tot Aide Memoire) for consideration of EMB. The draft instrument primarily contained the revised rating scale and the corresponding administrative incentives.

  It is further recommended that the necessary issuance/s for the implementation of the Industrial ECOWATCH System in areas under the LLDA be prepared and issued.

- Limited scope of initial coverage

  The scope of the initial coverage may be limited in two aspects: spatial and technical.

On the spatial aspect, it is recommended that the initial implementation of the Industrial ECOWATCH System be limited to the National Capital Region (including areas under the jurisdiction of LLDA), Region 7 and Region 11.

On the technical aspect, it is recommended that the initial implementation of the Industrial ECOWATCH System be limited to water quality specifically the Biochemical Oxygen Demand (BOD). It should be noted that compliance with other appropriate or applicable water parameters will be considered in the rating, but the rating will be based mainly on BOD.

- Rating Coverage

  In terms of time frame, it is recommended that the rating exercise will cover the period of one year (January to December, 2002).

  Furthermore, it is recommended that the category "under assessment" be allowed in the interim. (In the proposed DAO amendment, ratings of "under assessment" must be resolved within 6 months.)

- Target Sectors

  For the interim, the target sectors recommended for NCR are: food and beverages, malls and sewage treatment facilities. For Region 7 and 11, the recommended sectors are beverages and selected food sub-sectors – depending on logistics availability.

5.3 Barriers to Implementation of the Industrial ECOWATCH System

There are some barriers to the successful implementation of the Industrial ECOWATCH System such as:

- Availability of data

  The current system on the SMR (as contained in the PCO Report) does not provide data at level of the desired adequacy. In particular, the data available for Region 11 is of significant concern. Based on field interviews, quantitative data (especially on sampling and analysis) are insufficient and primarily depend on DENR monitoring or inspection results. For NCR and Region 7, data availability are sufficient for rating based on BOD, but not the entire range of water quality parameters.

- Information System

  Existing information systems, if any, are not suitable for automated rating exercise. In the interim, rating exercises will be undertaken manually. Thus, it represents additional workload on top of existing assignments for DENR personnel.

- Data Integration

Another significant factor is the need to integrate available data into the information system. At present, available data are mainly contained in permit-based information system/s. As such, there is a need to "migrate" the existing (electronic) data to the new system. And, of more substantial concern, the magnitude of efforts needed to encode additional data to "populate" the database for the new system.

- Technical Support

  Related to the level of available data, Region 11 (and to a lesser extent, Region 7) requires additional support in terms of water sampling and analysis for BOD. This is based on the presumption that the rating exercise will be based on the available PCO reports.

  However, should the rating exercise cover ALL firms in the target sectors, then all regional offices will require such additional support (both manpower and technical).

5.4 Support System for Implementation

- Capability Building Programs

  In the interim, during the expedited implementation phase, the conduct of a standardized workshop is strongly recommended. Such workshop will enable personnel at the central office and the regional offices concerned to acquire a standardized process for the rating exercise. It will also provide opportunities for leveling of expectations and standards. For such purpose, a two-day workshop would be sufficient.

  In the course of the expedited implementation phase (estimated to last for six months), it is recommended that a Debriefing workshops be conducted on a monthly basis to keep track of progress and discuss issues/problems that may developed in the course of implementation.

  For the full implementation of the Industrial ECOWATCH System, the conduct of a comprehensive orientation workshop for all regional offices is strongly recommended. Such workshop (to be held in a single session) will provide an opportunity to standardize the process, orient personnel on the use of the SMR, and level both expectations and standards. For such purpose, a two-day workshop would be sufficient. The use and maintenance of the information system will require a separate session, tentatively estimated to require 2 – 3 days.

- Logistical Support

  If the intention is to institutionalize the Industrial ECOWATCH System, it is essential that the necessary support systems are instituted in two critical aspects: manpower and equipment.

  On the aspect of manpower, it is essential that a focal person (as mandated by DAO 51) be designated to oversee the implementation of the Industrial ECOWATCH

System. Such designation, in order to be effective, should be exclusive. Thus, an additional person should be recruited to takeover the assignments that may be deloaded from the designated focal person.

On the aspect of equipment, it is also critical that a dedicated computer system will be provided for the Environmental Information System. Such equipment should be dedicated for the information system – primarily to ensure the security and integrity of the system (in terms of data access and/or contamination). Initially, the system is proposed for implementation on a one-user basis to clearly delineate responsibilities (although the system is designed with a multi-users feature). In terms of specifications, the computer system should be based on Pentium 4 or equivalent/better models and the Office System must be XP version.

It should be noted that one basic assumption of these recommendations is that the laboratory resources of the regional offices are capable of serving the requirements of the Industrial ECOWATCH System.

5.5 Industrial Ecowatch System Evaluation

In order to evaluate the effectivity and relevance of the Industrial EcoWatch System, the following aspects should be monitored and evaluated on a regular basis:

- Institutionalization Aspect

  The extent and stability of the institutionalization, in terms of mainstreaming, of the Industrial EcoWatch System should be evaluated every six (6) months for the first three (3) years of system evaluation. After which, the evaluation can be done every 2 – 3 years.

  Such evaluation should cover the following elements:

  - Staffing Level – evaluation of the number of personnel assigned or designated to implement the Industrial EcoWatch System at the central and regional office. At the minimum, one (1) personnel in the central office and in each regional office shall be *exclusively* assigned (full-time) to manage and/or implement the system. At the regional level, a ratio of one personnel for every 500 firms rated should be adopted as a minimum benchmark.

  - Capability and Training – evaluation of the capability and capability building activities for personnel assigned or designated to implement the Industrial EcoWatch System. The attendance of staff directly involved in the Industrial EcoWatch System in a minimum of one training per year may be adopted as a minimum benchmark. Such training shall be in the subject area directly related to public disclosure and/or compliance monitoring.

  - Program Funding – evaluation of the adequacy of funding and other resources allocation for the implementation of the Industrial EcoWatch System. The minimum benchmark should be the inclusion of a *regular* item

in the budget program at the central and regional offices *exclusively* for the Industrial EcoWatch System by the second year of implementation.

- Operationalization Aspect

  The effectivity and efficiency of the implementation of the Industrial EcoWatch System should be evaluated every year. Such evaluation should cover the following elements:

  - Overall Coverage – evaluation of the expansion of the coverage of the Industrial EcoWatch System. The evaluation shall be based on the schedule of implementation phases as issued by EMB.

  - Sector Coverage – evaluation of the expansion of the sectoral coverage of the Industrial EcoWatch System. The minimum benchmark for this element is the addition of one sector every year in each region.

  - Parameter Coverage – evaluation of the expansion of the parameter (e.g., BOD, TSS, TSP) covered by the Industrial EcoWatch System. The minimum benchmark for this element is the addition of at least one parameter every year in the coverage of the Industrial EcoWatch System.

  - Firm Coverage – evaluation of the number of firms covered by the Industrial EcoWatch System. The minimum benchmark for this element is an increase of at least 5% every year in the number of firms covered of the Industrial EcoWatch System.

- Social Acceptability Aspect

  The extent of social acceptability of the Industrial EcoWatch System should be evaluated every year. Such evaluation should cover the following elements:

  - Timeliness – evaluation of the timeliness of the public disclosure of rating under the Industrial EcoWatch System. The minimum benchmark for this element is the release of rating exercise as per prescribed schedules on a regular basis.

  - Participation – evaluation of the desirability of participation in the Industrial EcoWatch System. One of the possible benchmark for this element is the number of firm *voluntarily* desiring participation in the system.

  - Public Participation – evaluation of the degree of public participation in the Industrial EcoWatch System. One of the possible benchmark for this element is the number of third party (e.g., NGO, PO, LGU) participating or actively involved in the entire process (from rating to disclosure) of the Industrial EcoWatch System.

These evaluation criteria are not exhaustive or definitive. Revisions and/or additional criteria/benchmarks may be undertaken to fine tune the evaluation process. At the minimum, these evaluation criteria should be reviewed every three years to assess their appropriateness and/or relevance.