



Involvement of Third Party in Environmental Performance Monitoring The Gujarat Experience

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Third Party Involvement in Environmental Performance Monitoring

Two schemes operational in Gujarat :

Environment Audit Scheme :

- ✗ An outcome of the judgment of Hon. High Court of Gujarat

Third Party Monitoring Scheme in identified industrial clusters:

- ✗ An instrument used by the GPCB & Government of Gujarat to identify the defaulting industries and broader issues of the identified clusters – for better regulation and management

1. Environmental Audit Scheme



Environmental Audit Scheme

An outcome of the landmark judgment of Hon'ble High Court of Gujarat in SCA 770/95

- ✗ Need was felt for strengthening of the environmental monitoring and environmental infrastructure
- ✗ Difficulties in regular monitoring of thousands of industries scattered over the entire state due to shortage of manpower and infrastructure
- ✗ Environment Audit scheme - modification of Rule 14 of the Environment (Protection) Rules 1986

Principles of Environment Audit Scheme

- ✗ Principle of “Polluter Pays” incorporated
- ✗ Scheme is based on the principle of “Continual Improvement”
- ✗ It is an extension of Environmental Statement Submission under Rule 14 of Environment (Protection) Rules – Environment Statement

ENVIRONMENT AUDIT SCHEME

Introduced in December 1996 with a view to :

- ✗ enforcing discipline amongst industries;
- ✗ arming GPCB as well as the associations of industries with required data; &
- ✗ doing regular monitoring of various industries from different angle

Qualified technical professionals would become a link between the individual industries on one hand and GPCB as well as associations of industries on the other hand with vital element of accountability

SALIENT FEATURES OF EA SCHEME

- ✘ Classified industries in to two schedules (I & II) according to their pollution potential - Industries with more pollution potential classified in schedule I
- ✘ The industries are audited by the auditors recognized by the Board as per the qualifications and experience prescribed
- ✘ Scheme applies to all industries manufacturing and/or processing any one or more of the products mentioned in the Schedule- I or Schedule-II
- ✘ Schedule-I industry shall carry out EA through Schedule-I Auditors and Schedule-II industry shall carry out EA through Schedule-II Auditors recognized by the GPCB

SALIENT FEATURES OF EA SCHEME

- ✘ Schedule-I auditors are credible institutes with high technical capabilities like Academic & R&D Institutes
- ✘ Schedule-II auditors are agencies / consultants having technical capabilities
- ✘ Both Schedule-I and Schedule-II auditors are recognized – constituted a committee – officers from Board, Government and experts / professionals
- ✘ Reporting formats are standardized & defined - uniformity

SCHEDULE – I

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

No.	Classification of Industries	Products
1	2	3
I	DYES-INTERMEDIATES	
A)	Naphthalene based intermediates (irrespective of effluent going to CETP or not)	<ul style="list-style-type: none"> • H-acid • Diazo Naphthyl Sulphonic acid • Beta Naphthol • Alpha Naphthyl Amine • C-acid
B)	Naphthalene derivative based intermediates (if effluent not going to CETP)	<ul style="list-style-type: none"> • Bon Acid • K-acid • J-acid • N-M-J-acid • Gamma Acid • Sulpho tobias Acid • Tobias Acid

SCHEDULE – I

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

C)		
i	Aniline based intermediates (irrespective of effluent going to CETP or not)	<ul style="list-style-type: none"> • Vinyl Sulphone • Acetyl Sulphonyl Chloride (ASC)
ii	Aniline based intermediates (If effluent not going to CETP)	<ul style="list-style-type: none"> • DASA (Manufacturing using chlor-Sulphonation process)
II	PIGMENTS	
	Metal Phthalo Cyanine based (If effluent not going to CEPT)	<ul style="list-style-type: none"> • CPC Blue • CPC Green • Alpha Blue
III	Common Effluent Treatment Plant (CETPs), TSDFs, all Bio medical waste incineration facilities	

SCHEDULE – I

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

No.	Classification of Industries	Products
IV	All industrial plants manufacturing products/involving processes mentioned in column no. 3 and discharging effluent in quantity 1 lac ltr/day or more (if effluent not going to CETP)	<ul style="list-style-type: none"> • Fermentation including Distillery • Sugar • Fertilizers • Oil refinery • Caustic Soda • Petrochemicals • Formulation and/or mfg. of Pesticides & / or Pesticides & insecticides • Formulations and/or mfg. of Basic drugs & Pharmaceuticals • Dyes/Dyes intermediates/Pigments • Agro based pulp & paper Manufacturing units • Tanneries
V	All industrial Plants mentioned in column 3	<ul style="list-style-type: none"> • Cement Plant (with Horizontal Shaft Kilns) • Thermal Power Plant • Integrated Iron & Steel Plant • Zinc smelter • Copper Smelter • Aluminum Smelter

SCHEDULE – II

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

No.	Classification of Industries	Products
1	2	3
I	Dyes-Intermediates	
A)	Naphthalene Derivative based intermediates (if effluent going to CETP)	<ul style="list-style-type: none"> • Bon Acid • K-acid • J-acid • N-M-J-acid • Gamma acid • Sulpho Tobias acid • Tobias acid
B)	Benzene based (if effluent not going to CETP)	<ul style="list-style-type: none"> • 4-CAP • PAABSA • PABA
C)	Nitrochloro benzene based (if effluent not going to CETP)	<ul style="list-style-type: none"> • Anthranilic acid • NADPSA • APDA • ONCBSA

SCHEDULE – II

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

D)	Aniline based	
	(I) If effluent not going to CETP	<ul style="list-style-type: none">• FC Acid• DABSA• DASDA• NAPSA• OAPSA• OPDA• SPCP• DASA (if manufactured from ASC)
	(II) If effluent going to CETP	<ul style="list-style-type: none">• DASA (if manufactured from chloro sulphonation process)

SCHEDULE – II

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

No.	Classification of Industries	Products
II	Dyes	
	If effluent not going to CETP	
(I)	Direct Dyes (CPC based)	<ul style="list-style-type: none"> • Direct Turquoise Blue
(ii)	Reactive Dyes (CPC based)	<ul style="list-style-type: none"> • Reactive Turquoise Blue
(iii)	Vat Dyes	<ul style="list-style-type: none"> • Vat Dye • Vat indigo
III.	PIGMENTS	
	Metal pthalo cyanine based pigments (if effluent going to CETP)	<ul style="list-style-type: none"> • CPC Blue • CPC Green • Alpha Blue
IV	All industrial Plants (Except those mentioned at item IV in Schedule-I) discharging effluent one lac litres per day or more (irrespective of effluent going to CETP or not)	

SCHEDULE – II

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

V	Textile Processing Industries with Carbonizing Units	
VI	Textile Processing Industries having daily effluent discharge of one lakh ltr per day or more	
VII	Stainless Steel rolling and rerolling Mills.	
VIII	All industrial Plants manufacturing Products Metioned in Column 3 of item IV in Sch-I discharging effluent less than one lac lts. but more than 25,000 ltrs. per day (If effluent not going to CETP)	
IX	Lead recovery units from scrap	

SCHEDULE – II

(To Environmental Audit Scheme as per the H.H.C order dt.20/12/1996 and modified vide its order dtd. 13/03/1997)

X	All Industrial plants manufacturing/plants/involving process mentioned in column No. 3 and discharging effluent quantity one lakh liter per day or more.(If effluent going to CETP)	<ul style="list-style-type: none"> • Fermentation including Distillery • Sugar • Fertilizers • Oil refinery • Caustic Soda • Petrochemicals • Formulation and/or manufacturing of pesticides and/or insecticides • Formulation and/or manufacturing basic drug and pharmaceuticals • Dyes/Dyes Intermediates/Pigments • Agro based pulp and paper manufacturing units • Tanneries
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SALIENT FEATURES OF EA SCHEME

- ✘ In addition to adequate laboratory facilities, the Auditors must have atleast 4 technical team members
- ✘ Each team of auditors shall comprise of :
 - a person possessing a degree in Environmental Engineering or a degree in Civil Engineering with specialization in Environmental engineering
 - a person possessing a degree in Chemical Engineering/Technology
 - a person possessing a degree in Chemistry or Environmental Science
 - a person possessing a degree in Micro Biology / Bio-Chemistry / Chemistry / Biotechnology / Zoology / Environmental Science / Climate Change / Forensic Science / Life Science or similar other subjects
- ✘ Provisions of levy of scrutiny fee
- ✘ Provisions of random back checks

Auditors Recognized & Industries Covered

- ✗ At present there are 34 Schedule-I auditors (Institutes) and 83 Schedule-II auditors (Consultants) recognized by GPCB
- ✗ Total No. of Common facilities and industries covered under the EAS are 1111
 - Schedule I : 205
 - Schedule II : 906

Other Provisions of EA Scheme

- ✗ If the EAR is incorrect, the industry shall be subject to directions including closure
- ✗ If an Auditor submits incorrect data in EAR, auditor shall be de-recognized
- ✗ Non-compliance to be viewed seriously
- ✗ GPCB is empowered to issue directions for closure to the unit if it fails to submit the EARs
- ✗ GPCB is empowered to add products in either schedules depending upon pollution potential

Modifications to the EA Scheme

Reputed individual Non-Governmental Organization viz. J-PAL has carried out independent evaluation and evidence based policy research for its better effectiveness of the scheme. The said NGO conducted a comprehensive research for three years and came out with the report containing the recommendations that aimed to increase the effectiveness of the audit system and were implemented

Modifications to the EA Scheme

In January, 2015 the original EA Scheme was modified and few of the salient changes are:

- 1) Auditor Assignment: The GPCB would centrally conduct the assignment of industries to auditors each year with the method of random assignment.
- 2) Backchecks of Audit Work: GPCB would retain Schedule I auditors to backcheck the work of Schedule-II auditors in the field after select audit as envisioned by the original audit scheme.
- 3) Audit payments: GPCB would fix the structure of payments to auditors, collect proof of payment and verify the payment amount against the fixed pay structure.

Advantages of EA Scheme

- ✗ Increased monitoring - complimentary to existing regulatory mechanism
- ✗ Overall assessment of environmental performance by an industry
- ✗ Better compliance - adequacy of the EMS ascertained
- ✗ Element of voluntary compliance - encourages industry to think beyond the compliance
- ✗ Recommendations given by the Auditors lead to Good / Green practices
- ✗ EA Reports provide important technical inputs to Board
- ✗ Environment Auditors are hold responsible for the false / misleading reporting – blacklisting

Limitations of EA Scheme

- ✗ Repetitive in nature - stereo type reporting in a long run
- ✗ Auditors are appointed by industries
- ✗ Competition amongst the auditors results into reduced auditing fees – poor quality
- ✗ Auditors monitor the industries for grab samples
- ✗ Auditors rely upon the data supplied by the industries
- ✗ Does not apply uniformly in entire country – most of the industries feel that its burden
- ✗ Need for further strengthening and R&D to make it more effective



For further details visit

<https://gpcb.gujarat.gov.in/webcontroller/viewpage/details-regarding-environment-audit>

A copy of the Environment Audit Scheme is available at

<https://gpcb.gujarat.gov.in/uploads/environment-audit-scheme.pdf>

2. Third Party Monitoring in Identified Industrial Clusters



Third Party Monitoring

It is a scheme in which the inspection and sampling of

- ✗ industrial units,
- ✗ pumping sumps (wells) and manholes of the underground drainage system,
- ✗ CETP (at different stages)
- ✗ streams passing through the identified cluster, etc.

carried out by an external agency – Third Party

(Engineering Colleges/Institute with high credibility & technical strength)

Agency is decided the GPCB / Government for the identified cluster

On the polluter pays principle

Background

First implemented in Vapi industrial estate – then extended to Ankleshwar and now in Vatva - (Ahmedabad) region

Issued Directions to CETP Management to institute Third Party Monitoring through SVNIT (an Engineering College)

Reasons :

- ✗ CETP not meeting with the norms at its inlet & outlet
- ✗ Industrial units not disciplined - clandestine discharge
- ✗ Limitation of the Resources of the Board-mainly man power
- ✗ Round the clock Monitoring by the CETP Management could not bring desired results

Intentions of Third Party Monitoring for Individual Unit

- ✗ To know sources of various pollutants contributing COD, BOD and Ammonical Nitrogen
- ✗ To Study individual's Effluent Treatment Scheme
- ✗ To carry out rigorous sampling & to create the sound database of outlet quality contributed by the industries
- ✗ Statistical Analysis - mean, deviation from norms, etc.
- ✗ To promote the concept of the segregation of concentrated stream at source by individual industrial unit
- ✗ Methodology of sample collection and reporting is pre-defined

Intentions of Third Party Monitoring for Industrial Cluster

- ✘ Monitoring and sampling of :
 - manholes of underground drainage system,
 - pumping sumps (wells) of the underground drainage,
 - CETP,
 - streams passing through estate etc.
 - to identify the pockets having black-sheep industries for further focus
- ✘ To prepare a comprehensive report with statistical analysis - trend analysis, deviation analysis, performance analysis etc. through independent credible agency

Advantages of Third Party Monitoring

- ✗ Increased frequency of Monitoring of both sources and sinks
- ✗ Independent and rigorous monitoring of individual units
- ✗ Can be implemented in the selective area/s based on need
- ✗ Different Agencies can be deployed in different areas- Independent modalities of monitoring can be derived as per the need analysis
- ✗ Both the monitoring (By the Board and by the Third Party) can be planned in such a manner that they are in complimentary and mutually strengthen overall monitoring resulting in to less stress on the regulatory authority - Man power, vehicles etc.

Advantages of Third Party Monitoring

- ✗ Generation of good database due to increased frequency of monitoring
- ✗ Third Party monitoring can play better role as facilitator than regulator
- ✗ It is a contract mechanism - Third party can be removed if found not performing properly
- ✗ Inputs from the Third Party Agency (Expert Credible Institute) are available in the form of observations along with the Report
- ✗ Statistical Analysis like trend analysis, deviation analysis etc. can be used as planning tool for the strategy framing and also helps in sound decision making

Advantages of Third Party Monitoring

- ✗ Can help Board in implementation of the Action Plans -Progress Monitoring and on site monitoring aspects
- ✗ Targets of the Monitoring are maneuverable as per the requirement of the Board (Not bound by the rigid rules)
- ✗ Value addition in the performance of the Board
- ✗ Increased frequency of monitoring
- ✗ Third party data (inputs) helps in planning different timings and strategies to identify habitual defaulter industries
- ✗ Involvement of experts in performance evaluation based on their expertise, availability and necessity
- ✗ Better networking and trust building

Limitations of Third Party Monitoring

- ✗ Industries feel it excessive - burdensome
- ✗ Legal Status and statutory provisions ?
- ✗ Disciplinary actions ?
- ✗ Success is dependent on the capacity and integrity of the Third Party Agency
- ✗ Monitoring and Reports can not be considered absolute
- ✗ Effective and economically viable only where the industries are located in cluster and common environment infrastructure like CETP are available
- ✗ More of a planning than regulatory tool

When & Where to Implement?

- ✗ Can be used as trouble shooter in critically polluted industrial clusters
- ✗ Can be implemented in phased manner :
- ✗ To generate the database in first phase to identify the gross polluters / violators / habitual defaulters / particular pollutant contributors (e.g. refractory COD or NH₃-N) etc.
 - helpful in preparation of Action Plan for the cluster
- ✗ As a facilitator in second phase for identified units to prepare an action plan based on the detailed study and preparation of individual industries' action plans



Thanks!

Any questions?

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