

ENVIRONMENTAL AUDIT REVIEW

BY

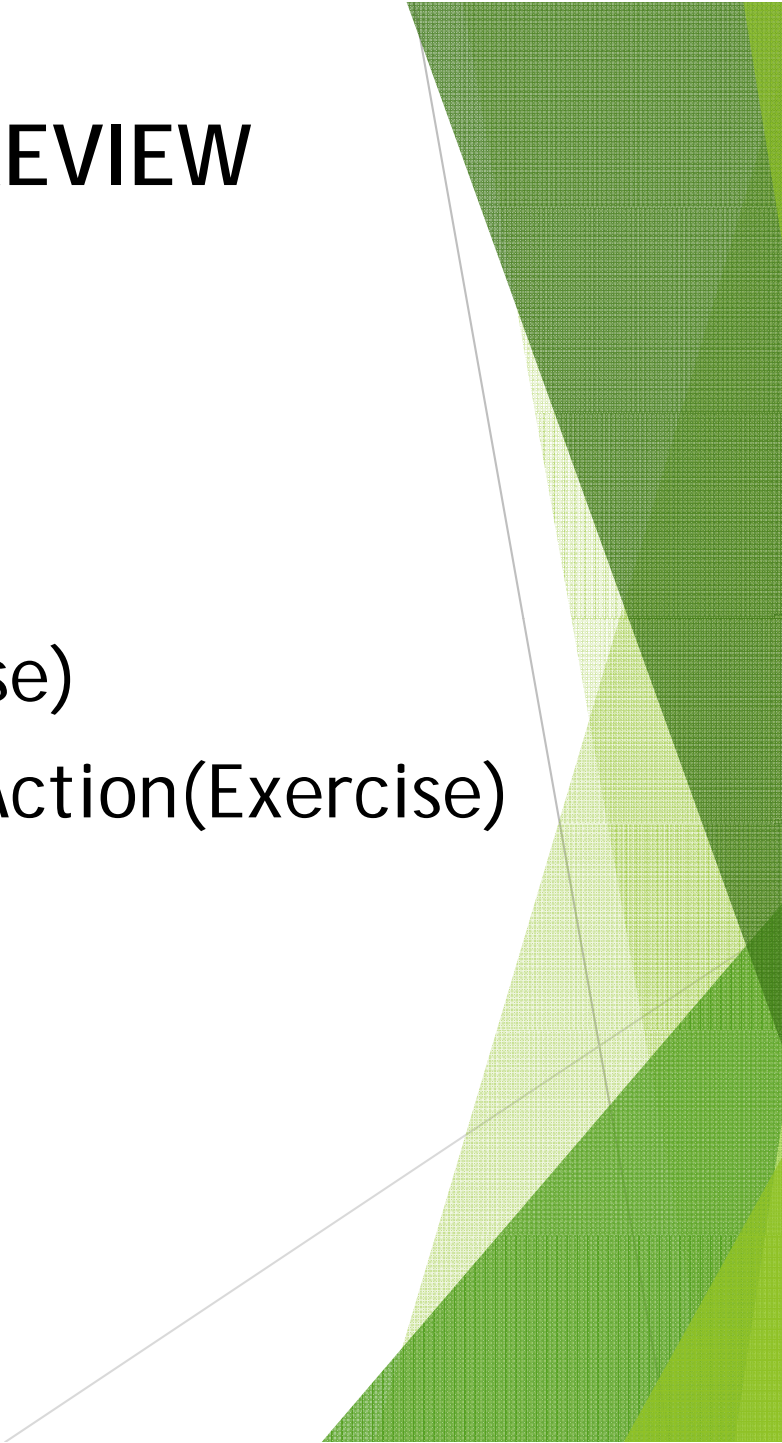
Dr. D.D. BASU

ADVISOR CSE

FORMER ADDITIONAL DIRECTOR, CPCB



AREAS COVERED UNDER REVIEW

- ❖ Methodology adopted
 - ❖ Audit Observations
 - ❖ Check lists
 - ❖ Non Conformances (Exercise)
 - ❖ Corrective and Preventive Action(Exercise)
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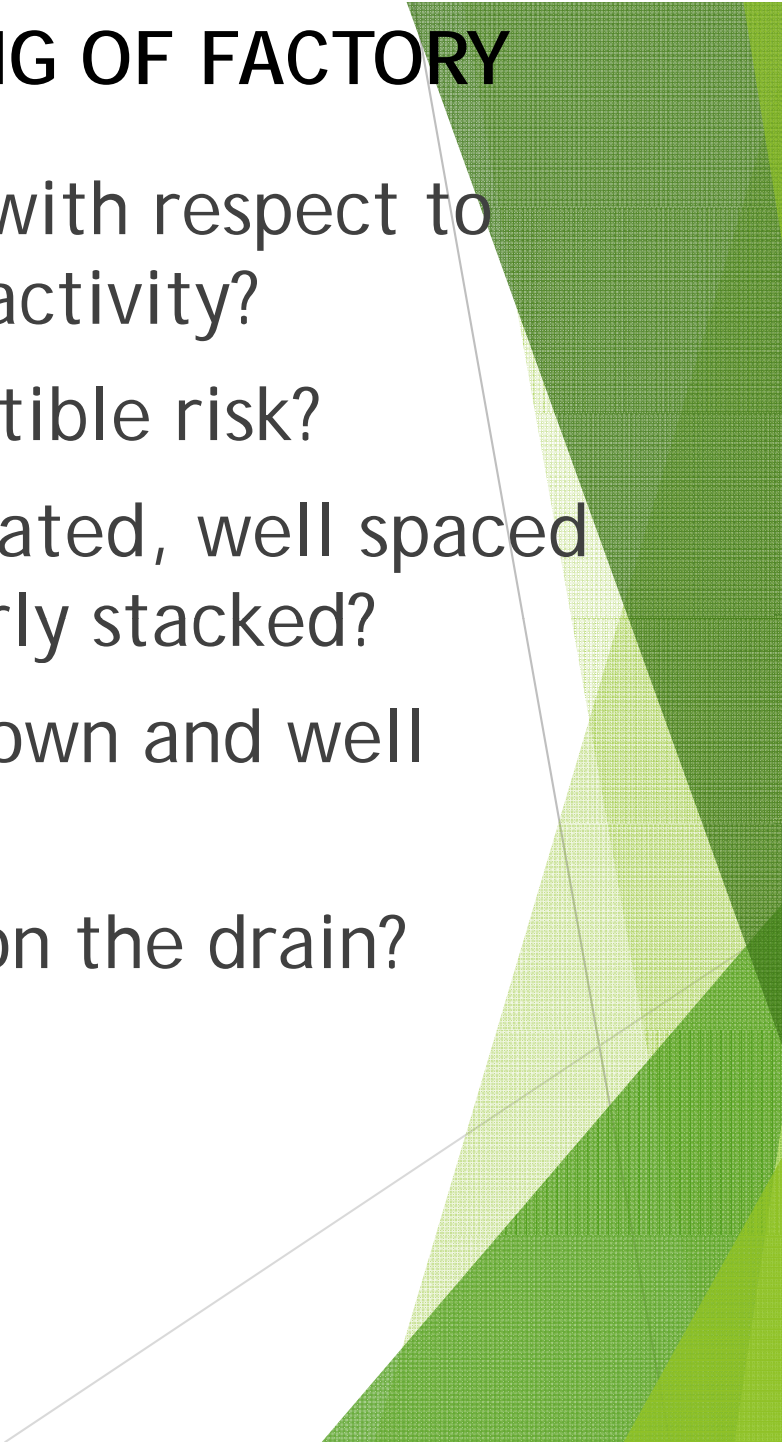
METHODOLOGY

S. No	Period	Subject	Remarks
1.	Pre-audit Period	<ul style="list-style-type: none">• Questionnaire survey• Pre-audit visit to assess the facilities available to team• Identify the key persons and organize at the time of audit	Evaluate the adequacy
2.	Activities at Site	<ul style="list-style-type: none">• Collection and collation of information (review of records)• Material balance• Water balance• Monitoring and verification	Cross checking of records Adequacy of monitoring programme
3.	Post Audit	<ul style="list-style-type: none">• Draft report• Final report	Comments on draft report

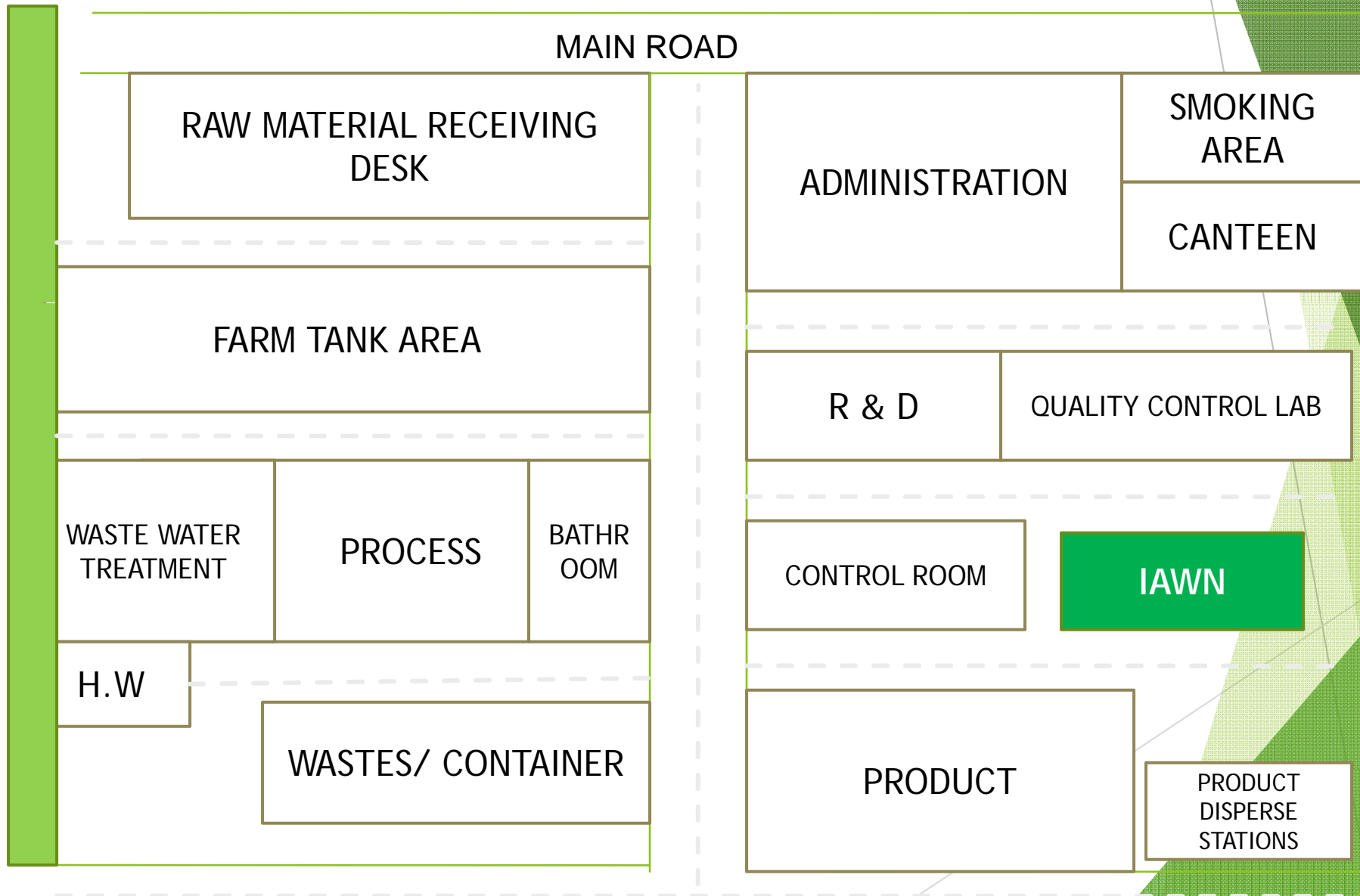
REVIEW OF AUDIT OBSERVATION

- Layout plan and house keeping.
- Observation with respect to data on production and raw material consumption.
- Observation with respect to material balance .
- Water conservation/wastewater generation.
- Adequacy of wastewater treatment plant and its performance.
- Adequacy of air pollution control devices.
- Solid waste (including hazardous waste) management.
- Governance structure and Management Commitment.

REVIEW LAYOUT AND HOUSE KEEPING OF FACTORY

- Is the layout plan properly zoned with respect to low, medium, high contaminated activity?
 - Is there any congestion and susceptible risk?
 - Is the storage area properly ventilated, well spaced and the chemicals are kept properly stacked?
 - Is the storm water properly laid down and well maintained?
 - Is there any spillage and leakage on the drain?
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Layout Plan



GREENBELT



Storage of raw materials



STORMWATER DRAIN

INCORRECT



CORRECT



CHECKLIST FOR MEETING STANDARDS

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
a.	Are all the parameters meeting standards at all times?				
b.	If the answer to 'a' is yes, is it confirmed with the SPCB analysis?				
c.	If the answer to 'b' is no, does it vary significantly?				
d.	Do most of the parameters meet standards, with some parameters exceeding standards occasionally?				
e.	If the answer to 'd' is yes, is the exceedance significant?				
f.	Do most of the parameters exceed significantly?				
g.	If the answer to 'f' is no, is it a marginal exceedance?				

CHECKLIST FOR CLASIFICATION OF HAZARDOUS WASTE

S.No.	Component	Yes	No	NA	Remarks/reason s/any other details thereof
a.	Is it in Schedule I?				
b.	Indicate Classification Number as per Schedule I?				
c.	Is it in Schedule II?				
d.	Indicate Classification Number as per Schedule II?				
e.	Was the basis of classification of hazardous waste approved by the State Pollution Control Board(SPCB)?				
f.	If the analysis has been done, is it through the National Accredited Board for Testing and Calibration Laboratories (NABL)-/Ministry of Environment, Forest and Climate Change (MoEFCC)-recognized laboratory?				

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
g.	Is the quantity of hazardous waste generation more the approved quantity?				Please check with common facilities for membership with it
h.	If the answer to 'g' is yes, has the SPCB been informed?				
i.	If it is less than the approved quantity, has the SPCB been informed?				
j.	Does the industry maintain a logbook?				
k.	Does the industry regularly send annual returns to SPCB (see at least three years' record)?				

CHECKLIST FOR MEMBERSHIP STATUS WITH TREATMENT STORAGE AND DISPOSAL FACILITY

S.No.	Component	Yes	No	NA	Remarks/reasons /any other details thereof
a.	Whether the generator is a member of common facilities?				
b.	If the answer to 'a' is no, is the industry treating the hazardous waste by them?				
c.	If both 'a' and 'b' are no, is the industry recycling their waste within itself?				
d.	If the answer to 'c' is yes, has the industry got authorization from the SPCB?				
e.	If the answer to 'a' is yes, is it authorized by SPCB?				
f.	Does the industry send its waste to another industry/recycler?				
g.	If 'f' yes, is it authorized by SPCB?				

INFORMATION CHECKLIST ON HAZARDOUS WASTE STORAGE

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
a.	Does your industry store hazardous waste on site prior to treatment or disposal?				
b.	Do all containers holding hazardous waste manage to prevent releases according to the requirement?				
c.	What is the time period of internal storage?				

HAZARDOUS WASTE STORAGE



CHECKLIST FOR AIR POLLUTION

S.No.	Component	Yes	No	NA	Remarks/reasons/any other details thereof
a.	Is the air pollution generated through combustion?				
b.	If 'a' is yes, is the quantity of fuel used as per the norms?				
c.	If 'b' is changed, has it been reported to the SPCB?				
d.	Is the appropriate air pollution control device installed??				Is the device is based on the best practicable approach or is it an Improved devices?
e.	Is the stack height is as per approval of the SPCB?				
f.	Are there any air pollutants from the process?				
g.	Is it toxic?				

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
h.	Is appropriate technology installed to control toxic air pollutants?				
i.	Is there any solvent emitted?				
j.	Is it estimated or measured?				
k.	Is there any solvent recovery plant?				Show the efficiency of the solvent recovery plant
l.	Is the problem of fugitive emissions addressed adequately?				Furnish the action taken document
m.	Is there any LDAR programme in the industry?				Please check the protocol of programme
n.	Are there any stack monitoring programmes at regular intervals?				
o.	Is it done manually and as per the CPCB guidelines?				

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/any other details thereof
p.	If the answer to 'n' is no, is it on real time?				
q.	Is it installed as per the protocol of CPCB?				
r.	Are the real-time monitoring devices calibrated?				Show the calibration protocol
s.	Is the result from the real-time monitoring linked with the CPCB/SPCB server?				
t.	Does the result show consistency over the last three months?				Inspector shall check the result and find out the attempt of perjury
u.	Are ambient air quality monitoring stations installed?				
v.	Is the instrument calibrated at regular intervals?				Inspector shall examine the protocol

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
t.	Does the result show consistency over the last				three Inspector shall check the result and find out the attempt of perjury
u.	Are ambient air quality monitoring stations installed?				
v.	Is the instrument calibrated at regular intervals?				Inspector shall examine the protocol

CHECKLIST FOR SELF REGULATION

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
a.	Does the company have well- built environmental division?				
b.	Is the environmental division backed up by an accredited laboratory?				
c.	Is there any well-designed monitoring network for pollution assessment with respect to air and water pollution?				
d.	Is there any programme for performance evaluation for ETP/APCD?				
e.	Any regular assessment for hazardous waste inventorization?				

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/any other details thereof
f.	Is there any reconnaissance survey on storm water drains in order to avoid wastewater discharge into the drain due to leakage and seepage of the closed conduit-carrying effluent?				
g.	Is there any sensor system installed in the hazardous chemical storage area?				
h.	Is there any Leak Detection And Repair (LDAR) programme?				
i.	If 'h' is yes, what is the frequency? M O H Y Y ■ ■ ■ ■				
j.	Is there any corporate report on sustainability?				Check and review the report

Cont...

S.No.	Component	Yes	No	NA	Remarks/reasons/ any other details thereof
k.	Is there any annual report on the environmental performance of the company?				Check and review the report
l.	Is there any system of data management on environment protection?				
m.	Is there any computer-based data management system (MIS)?				
n.	Is there any self-action-taken programme for improvement of environmental pollution?				
o.	Does the inspector get support during inspection?				If not, inspector shall remark

NOTING AND DRAFTING

MODEL NOTING ON REVIEW OF ENVIRONMENTAL AUDIT REPORT

A review can not be complete until results with all relevant evidences are placed in systematic manner, such as, proper noting with suggested draft for issuing direction or action accordingly.

- ❖ **Noting** means a systematic presentation of salient points to higher authority to invite their action under the provisions of various acts.
- ❖ **Drafting** refers to legal proceedings including the direction to concerned industries/auditor regarding their performance.

MODEL NOTING

Sub: Review of the audit report submitted by m/s x industry and audited by m/s Anna Audit Farm.

The undersigned has examined the said report with due diligence the observations are as follows:

(a) The Audit farm - the said audit farm has been impaneled by the SPCB of both the states _ and.

The composition of the Audit team are environmental engineer, environmental chemist and a biologist.

The Audit farm laid down the methodology comprising review of records water and material balances, compliance status of consent conditions by the SPCB under various acts.

The audit farm also collects information through monitoring of the effluent emissions of the industry.

(b) Salient observations of the auditor

- **Product** - it is observed the industry occasionally exceeds the production with respect to consent conditions. However the exceedence is not significant (5%).
- **Water balance** - A company generally follows the norms of water consumption and wastewater generation as per their records but at the time of audit, it is observed that both water consumption and wastewater generation is exceeded as stipulated by the SPCB.
- **Meeting the standard** - it is also observed that the company is complaint with the standard with respect to effluent/emissions on a daily basis, the same is observed by the audit farm.

- **Housekeeping** – the plan has maintained storm-water drain, outlet condition, farm tank area, ETP and hazardous waste storage as desired. Photographic evidence as well as noting on reconnaissance survey is attached herewith for perusal.
- **Self-regulation** – the company has a comprehensive self-monitoring and self-regulatory programme supported by the environmental cell. They also have a good record-keeping and reporting system. Overall, the housekeeping is satisfactory.

In view of above the undersigned is of the opinion the said company is complying most the consent conditions except some occasional exceedances.


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graph TD; A[GOOD QUESTIONS] --> B[RIGHT ANSWERS]; B --> C[CORRECT DECISIONS]
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GOOD QUESTIONS

RIGHT ANSWERS

CORRECT
DECISIONS

THANK YOU

