

DENR Memorandum Circular

No. 2000-03

February 09, 2000

SUBJECT : Water Quality Variance for Geothermal Exploration.

Pursuant. to the provisions of Section 6 and 8 of Presidential Decree 984, otherwise known as the "Pollution Control Decree of 1976," and by virtue of Executive Order No. 192, Series of 1987, the Department of Environment and Natural Resources hereby provides variance in water quality criteria and standards for geothermal exploration that encounters reinjection constraints but with provision for adequate protection of beneficial use of water bodies downstream of the geothermal project.

Section 1. Scope. This Memorandum Circular shall apply to discharges of geothermal brine from existing and future geothermal exploration.

Section 2. Definition of Terms:

- a. Variance refers to the temporary suspension in the compliance with effluent standards and reasonable temporary relaxation of selected ambient water quality criteria for specified period of time in order to allow time to study, institute and/or finance an appropriate and adequate control system, equipment or technology to meet regulatory standards or requirements.
- b. Geothermal exploration refers to preliminary activities consisting of drilling and testing of exploration wells to confirm the presence of a commercially viable geothermal resource and to delineate the boundaries and capacities of the production and reinjection sectors

of the geothermal field. These activities include the drilling and testing of reinjection wells to determine their capacity to accommodate discharges of production wells to be able to firm up the resource development plan/strategy. Short-term, activities such as the flushing of the fluid collection and recycling pipelines to ensure safe transport of geothermal fluids to the power plant and the reinjection wells for the long-term closed reinjection system are included here.

- c. Geothermal fluid refers to substances derived from a naturally occurring geothermal resource.
- d. Geothermal resource refers to the heat that is derived from hot geothermal fluids and that can be tapped for various purposes.
- e. Geothermal system refers to the total subsurface hydrologic system associated with a geothermal resource. It includes all parts of the hydrologic flow unit and the associated structural components.
- f. Geothermal prospects refer to the geographic area where a geothermal resource may occur.
- g. Geothermal well refers to a cased bore or a hole which serves as a conduit for production or for reinjection of geothermal fluid.
- h. Reinjection refers to the process of returning the separated geothermal brine from the earth surface back to the ground as part of the geothermal reservoir management.
- i. Reinjection constraints refer to the non-feasibility of reinjecting the geothermal fluid or brine due to various reasons.

Section 3. Rationale for the Issuance of Water Quality

Variance

- a. Geothermal energy is a vital component of the Philippine energy mix. In its thrust to accelerate energy development and attain energy self-reliance in the country, the Department of Energy (DOE) supports the exploration, development and utilization of geothermal energy.
- b. Sourcing of geothermal energy involves exploration of geothermal prospects where wells are drilled, and geothermal fluids are allowed to discharge to determine the heat capacity of the well and the resource area.
- c. The discharge involves the separation of geothermal fluids into the gas/stream and water/brine components. Ideally, the separated brine component from the geothermal fluid are reinjected. However, there are reinjection constraints encountered during geothermal exploration, which require controlled disposal minimal amount of the brine to the surface waters in order to proceed with the testing and evaluation of the geothermal resource,
- d. Reinjection constraints include but not limited to the following: (a) absence of reinjection wells in geothermal exploration areas, especially for the first well- (b) very high cost of reinjection pipeline between the production well and the distant reinjection well, especially in rugged terrain; (c) rapid reinjection fluid returns resulting to rapid and non-representative discharge chemistry of the production wells; or (d) drastic reduction in the reinjection capacity as a result of mineral deposition along the line within the well, or in the formation. Exploration in two adjacent rugged watersheds may require two reinjection areas.

- e, There are no proven economically feasible means of treating geothermal brine for its naturally high boron and arsenic content.

Thus, there is a need to set a water quality variance for boron and arsenic for geothermal exploration. The mechanism of implementation are provided herein.

Section 4. Water Quality Variance for geothermal Exploration

The following water quality variance is prescribed for geothermal exploration:

- a. Regulated discharge of geothermal brine and temporary suspension of effluent standards for arsenic and boron;
- b. Temporary relaxation of the boron ambient water quality criteria from 0.75 mg/l to 2 mg/l for Class "D" waters, provided that no citrus plants are encountered downstream of the geothermal discharge;
- c. Temporary relaxation of arsenic ambient water quality criteria from 0.05 mg/l to 0.2 mg/l for Classes "B", "C" and "D" waters;
- d. Extension of the mixing zone from the point of discharge to the point immediately upstream say 10 meters, from the most critical use of the receiving body of water (e.g. irrigation intake).

Section 5. Restriction and Conditions. Provisions contained on this Memorandum Circular will be subject to the following:

- a. Annual review by the DENR, the variance for each geothermal project shall be valid for 5 years which shall be advised by the

project proponent upon its formulation of a definite geothermal development strategy/plan and the completion of geothermal pipeline flushing activities. The variance duration shall exclude the periods of time when there are no brine discharge activities, e.g. project deferment or suspension. The variance becomes effective for each project upon notification by the project proponent to the DENR of the need to avail of the variance for such project;

- b. In case an existing source or intake for drinking water and/or citrus plantation is encountered downstream of the geothermal project, that particular stretch shall be by-passes or an alternative water source may be provided by the project proponent. Proponent shall submit the detailed notices from any deviation from any work activities due to this constraint and for those activities that will affect the source of drinking water of people downstream of the geothermal discharge;
- c. The project proponent shall be liable/accountable for the damages incurred and pay a just and fair compensation for damages traced back to the geothermal exploration or operations. In addition, project proponent shall undertake remediation of the damage incurred on land and water resources;
- d. The variance period shall be covered by appropriate regional permits, e.g., Authority to Construct (.A)'C) and Permit to Operate (P/O) for facilities that may be installed to ensure compliance to this Memorandum Circular;
- e. Determination and identification of mixing zones related to the geothermal activities shall be done by the project proponent to facilitate monitoring activities; and

- f. Monitoring of compliance to the variance shall be effected by the DENR.

This Memorandum Circular shall take effect immediately.

(Sgd.) ANTONIO H. CERILLES
Secretary

Published at:

PHILIPPINE STAR

February 28, 2000

DENR Memorandum Circular
No. 2000 – 04
February 16, 2000

**SUBJECT : ASEAN Environment Year 2000
(AEY 2000).**

All DENR Offices and Attached Agencies are hereby informed of the approval by the 32nd ASEAN Standing Committee (ASC) designating the year 2000 as ASEAN Environment Year (AEY 2000). AEY 2000 will carry the theme "**OUR HERITAGE, OUR FUTURE**".

Pursuant to this, and in accordance with the Philippine commitment to ASEAN Unity, all DENR Offices and Attached Agencies are hereby ordered to highlight this event in its program and activities for the year. For your information, and reference, attached is a background paper on the event. Further guidelines will be issued as soon as the lead country Brunei Darussalam has furnished the Philippines with the AEY 2000 Press Kit and other information papers.

(Sgd.) ANTONIO H. CERILLES
Secretary

DENR Memorandum Circular

No. 2000-10

April 25, 2000

SUBJECT : List Of Classified Water Bodies In 1999.

Pursuant to DENR Administrative Order (DAO) No. 34, Series of 1990 which amended Sections 68 and 69, Chapter III of the NPCC Rules and Regulations specifically Section 68 (c) - General Provisions of Water Classification and in accordance with the Manual of Procedure for Water Classification, the following water bodies are hereby officially classified as follows:

Name	Station	Location	Region	Class
1. Nagan River	Upper	Pudtol Apayao	CAR	AA
	Lower	Pudtol, Apayao		A
2. Ambayaoan River		San Nicolas, Pangasinan	1	C
3. Ambuyo River		Castaneda Nueva Vizcaya	2	C
4. Naujan Lake		Oriental Mindoro	4	B
5. Dalanas River		Antique	6	A
6. Iloilo Coastline	Boulevard to Anhawan /Villa Rica	Iloilo	6	SB
	Wesvico to Fishing Port	Iloilo		SC
7. Guadalupe	Upstream of	Cebu City	7	B

River	Sandayong			
	Downstream of Sandayong	Cebu City		C
8. Guihulngan River	Upstream of Nagsaha	Guihulngan Negros Oriental	7	A
	Downstream of Nagsaha	Guihulngan Negros Oriental		B
9. Cancabato Bay		Tacloban City	8	SC
10. Labangan River	Upper	Zamboanga del Sur	9	A
	Lower	Zamboanga del Sur		B
11. Bolong River	Upper	Zamboanga City	9	A
	Lower	Zamboanga City		B
12. Kalawaig River		Talakag, Bukidnon	10	A
13. Sumlog	Brgy. Tagugpo to Headwaters Upstream	Banaybanay, Davao Oriental	11	A
	Sumlog Bridge to Tagugpo	Banaybanay, Davao Oriental		B

	Confluence of Sumlog River to Davao Gulf	Banaybanay, Davao Oriental		C
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Henceforth, all industrial establishments, business, commercial and agricultural firms, political subdivisions, government-owned or controlled corporations and other similar entities and instrumentalities, including persons discharging liquid wastes into the said water bodies are hereby required to observe and comply with the foregoing classification.

This Memorandum Circular shall take effect immediately.

(Sgd.) ANTONIO H. CERILLES
Secretary

DENR Memorandum Circular
No. 2000 – 12
June 07, 2000

**SUBJECT : Schedule of Fees for RA 6969
(Chemical Substances and
Hazardous Wastes).**

Pursuant to the provisions set forth under Section 37 of the DENR Administrative Order No. 92-29 (implementing Rules and Regulations of Republic Act 6969), the DENR hereby adopts the following schedule of fees:

A. TITLE II (TOXIC CHEMICALS SUBSTANCES)

1. Pre-manufacturing
and pre-importation
notification for new
chemicals (abbreviated form) P 2,150.00/chemical
2. Pre-manufacturing and
pre-importation notification
for new chemicals
(detailed form) P 3,750.00/chemical
3. Registration for chemicals
under chemical
control order (CCO) P 2,250.00/chemical*
4. Renewal of registration
for chemicals under
chemical control

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| order (CCO) | P 1,450.00/chemical* |
| 5. Importation clearance for chemicals under CCO | P 700.00/chemical* |
| 6. Certification of chemicals in the PICCS | P 450.00/chemical |
| 7. Certification for PCL biennial report | P 500.00/company |
| 8. Letter of Intent for small quantity importation | P 500.00/chemical |
| 9. Interim importation clearance for other chemicals | P 500.00/chemical |

B. TITLE III (HAZARDOUS WASTES)

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| 1. Registration of hazardous waste generator | P 600.00/generator |
| 2. Annual Registration of transporters | P 500.00/transporter |
| 3. Issuance of transport permit | P 410.00/hazardous material |
| 4. Permit to Construct | P 5000.00 |
| 5. Annual fee for a Permit to | |

* as per DENR AO for CCOs

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| Operate Treatment,
storage and disposal (TSD) facilities | P5000.00/facility |
| 7. Issuance of an Export Clearance | P2000.00/clearance |
| 8. Issuance of an Importation
Clearance | P2000.00/clearance |

As such the above fees shall be collected by the Authorized Collecting Officer Environmental Management Bureau upon filing of application.

This Memorandum Circular (MC) shall take effect immediately fifteen days upon publication in any newspaper of general circulation.

(Sgd.) ANTONIO H. CERILLES
Secretary

PUBLISHED AT:

MALAYA - June 17, 2000

DENR Memorandum Circular
No. 2000 - 21
October 24, 2000

**SUBJECT : Clarifying certain provisions of
DAO 2000-28 regarding
Engineering Geological and
Geohazard Assessment as
additional requirement for ECC
applications.**

In line with the rational implementation of DAO 2000-28 - "Implementing Guidelines on Engineering Geological and Geohazard Assessment as Additional Requirements for ECC Applications Covering Subdivisions, Housing and Other Land Development and Infrastructure Projects" - Sections 1 and 3.2 of the above Administrative Order are hereby clarified, respectively, as follows:

1. Coverage

All private or government subdivision and housing projects are required to undergo Engineering Geological and Geohazard Assessment as additional requirement for ECC applications. Other land development and infrastructure projects shall likewise undergo Engineering Geological and Geohazard Assessment in connection with their ECC applications should this be required by the Environmental Management Bureau (EMB). In this connection, guidelines shall be prepared by EMB, in consultation with MGB.

2. Qualifications

Engineering Geological and Geohazard Assessment shall be undertaken by a licensed professional Geologist with a minimum experience of five (5) years as a practicing geologist or by a licensed Engineer with the following qualifications:

- a) minimum of five (5) years experience in land development and/or infrastructure development; and,
- b) at least six,(6) months training in Engineering Geology / Structural geology or post-graduate diploma in Engineering Geology/Structural Geology.

With respect to the monitoring of compliance to the recommendations in the Engineering Geological and Geohazard Assessment Report (EGGAR), this shall be the responsibility of the concerned Local Government Unit and EGGAR preparer.

(Sgd.) ANTONIO H. CERILLES
Secretary