NATURAL RESOURCES & ENVIRONMENT ORDINANCE
Natural Resources and Environment
(Fire Danger Rating System) Order, 2004
(Section 18(h))

In exercise of powers conferred by section 18(h) of the Natural Resources and Environment Ordinance (Cap. 84-Laws of Sarawak 1958 Ed.), Majlis Mesyuarat Kerajaan Negeri has made the following Order:

Citation and commencement

1. This Order may be cited as the Natural Resources and Environment (Fire Danger Rating System) Order, 2004 and shall come into force on 19th day of July, 2004.

Application of Order

2. This Order shall apply to burning of timber and vegetative residues on land for development or establishment of commercial plantations.

Pre-established criteria for Burning

3. Burning of timber and vegetative residues in areas to which this Order applies may be undertaken if the criteria and requirements stipulated in the Schedule to this Order are complied with.

Amendment of Schedule

4. The Minister may from time to time, after consultation with the Natural Resources and Environment Board, amend the Schedule.

SCHEDULE

PART I

Pre-Established Criteria for Open Burning Approvals for Plantation at Mineral Soil Areas

Providing the following criteria are diligently and accurately met, open burning may take place without obtaining a written burning permit for the expressed purposes of:

- Clearing, sanitizing and preparing sites for reforestation (panting), oil palm and other plantations;
- Reducing hazardous fuel accumulations to prevent uncontrolled and haze producing wildfires during periods of extended drought;

Providing that:

1. An approved weather station is established and maintained within the area in which open burning is to take place; and,

2. The readings from such station(s) are taken each day as close as possible to 12:00 noon; and,

3. That such readings consist of the following:

    a) *Relative humidity*
    b) *Noon temperature*
    c) *Wind speed*
    d) *24 hr* Rainfall

4. Such readings are transmitted each day to the Natural Resources and Environment Board; and,

5. The Forest Fire Danger Rating is at MODERATE or low level; the drought code as determined by the Forest Fire Danger Rating System is not higher than 75 and the Air Pollution Index (API) does not exceed 100.

6. The forest fire equipment and crew as specified in Table A are immediately available at the burn site prior to light-up and that such equipment and crew are stationed at the site until mop-up is completed.

7. No toxic fire starting materials, such as tyres, plastic or other hazardous combustible starting materials are used, except that prescribed fire forestry drip torches with clean diesel fuel or fuses.

8. A standard fire guard must be established around the area to be burned and such guard must be constructed to mineral soil, free of roots and debris and must not be less than 18 inches in width and in any case must not exceed one bulldozer blade width and all debris created must be cast to the “cold” side of the fire guard.

9. Light-up should take place as early as possible during the day and mop-up must commence as soon as open flame subsides and must continue until no smoke is visible (except for an overnight break if all visible smokes are not eliminated before dark).

10. A burning plan contained in Table B is completed prior to the burning and is complied with during the burning period, including during the mop-up phase.

11. Mop-up operations must commence as soon as it is safe to do so and such operations must continue until no further smoke is showing.

12. All smoke must be eliminated from the burn area within 24 daylight hours after the burn has been completed and mop-up commenced (24 hour rule).

13. Separate burns of up to 50 ha. may be ignited providing each burn is considered to be, and is dealt with as a separate and distinct burn, each with its own burn plan, crew and equipment.

14. At no time, burning should exceed more than 30 percent of an total area prepared or planned for burning.

15. Prior to light up, the Open Burning and Monitoring Unit of the NREB must be notified in writing or by fax or email of the intention to burn.

For peat soils all the foregoing conditions apply except that the following additional conditions shall also apply and a written permit must be obtained from the NREB prior to burning;

1. **Test holes must be established at several locations (not less than 3 per hectares) on the burn site prior to light-up and;**
2. **Standing water is noted to collect at a depth of not more than ½ meter from the soil surface and;**
3. **At least seven "duff"* probes of not less than two meters each must be added to the standard equipment list as outlined in Appendix A.**

Any fire pursuant to these criteria would have to be immediately extinguished if so ordered by any officer of the Natural Resources and Environment Board, Fire and Rescue Department or Forest Department, if or should conditions under such criteria become adverse or altered adversely or the fire is in danger or spreading uncontrollably or dangerously.

Note 1.
When mobile (wheeled) tankers are available, they should not be used as a stationary source of water in lieu of collapsible relay tanks. Instead they should be used as tenders to keep the relay tanks replenished until such time as the fire has been completely mop up.

Note 2.
In the event that a suitable water source (such as a pond or stream) is within operational distance of the burn site, the requirement for a water relay tank may be dispensed with.

Note 3.
The foregoing list of equipment presumes that all the necessary and ancillary hardwares such as valves, back-checks, nozzles and other hardware will be part of the normal equipment.

* a duff probe is a cylindrical pipe with a hose fitting at one end and the other end pointed and closed; the pipe portion of the probe has several holes to allow water to escape into the surrounding biomass when the probe is driven into the ground.

PART II

Forest Fire Equipment and Crew Size Requirements for Open Burning for the Establishment of Plantations

A. When the burn size is four hectares or less the following minimum crew and equipment must be maintained at the site until mop-up is completed;

- Burn crew must not be less than four (4) persons.
- Collapsible or portable water storage of not less than 1000 liters.
- One light weight fire pump capable of producing not less that 75 psi and a flow of 150 litres per minute.
- Not less than 300 meters of 25mm or 38 mm discharge hose with instantaneous couplings.
- Not less than two (2) back pumps of a minimum size of 16 litres.
- A minimum of two (2) shovels.
- A minimum of two (2) pulaskis.
- For peat sites only – three (3) ground probes with 38 mm instantaneous couplings.

B. When the burn size is greater than four hectares but less than 10 hectares the following minimum crew and equipment must be maintained at the site until mop-up is completed;

- Burn crew must not be less than 6 persons.
- Collapsible or portable water storage of not less than 2000 litres in one or more tanks.
- One light or medium weight fire pump capable of producing a minimum of 75 psi and up to 240 litres per minute flow.
- Not less that 450 meters of 25mm or 38mm discharge hose with instantaneous couplings.

- Not less than four (4) back pumps of a minimum size of 16 litres.
- A minimum of four (4) shovels.
- A minimum of three (3) pulaskis.
- For peat sites only – a minimum of four (4) ground probes with 38 mm instantaneous couplings.

C. When the burn size is greater than 10 hectares but less than 20 hectares the following minimum crew and equipment must be maintained at the site until mop-up is completed;

- Burn crew must be not less than 10 persons.
- Collapsible or portable water storage of not less than 3000 litres in one or more tanks.
- One medium weight fire pump capable of producing a minimum of 75psi and not less than 240 litres per minute flow.
- Not less than 750 meters of 38mm discharge hose with instantaneous couplings.
- Not less than five (5) back pumps with a minimum size of 16 litres.
- A minimum of five (5) shovels.
- A minimum of four (4) pulaskis.
- For peat sites only – a minimum of six (6) ground probes with 38 mm instantaneous couplings.

D. When the burn size is greater than 20 hectares but less than 50 hectares the following minimum crew and equipment must be maintained at the site until mop-up is completed;

- Burn crew must not be less than 15 persons.
- Collapsible or portable water storage of not less than 5000 litres in one or more tanks.
- One medium weight fire pump capable of producing a minimum of 75psi and not less than 240 litres per

minute flow and one high performance fire pump capable of producing a minimum of 350psi and not less than 360 litres per minute flow.

- Not less that 900 meters of 38mm discharge hose with instantaneous couplings.
- Not less than seven (7) back pumps with a minimum size of 16 litres.
- A minimum of seven (7) shovels.
- A minimum of six (6) pulaskis.
- For peat sites only – a minimum of eight (8) ground probes with 38 mm instantaneous couplings.

E. <u>When the burn size is greater that 50 hectares but less than 100 hectares the following minimum crew and equipment must be maintained at the site until mop-up is completed;</u>

Note: **All burns of greater than 50 ha. (regardless of soil type) require written permits from the NREB prior to the burns.**

- Burn crew must be not less than 20 persons.
- Collapsible or portable water storage of not less than 7500 litres in one or more tanks.
- Two high performance pumps capable of producing a minimum of 350psi and not less than 360 litres per minute flow.
- Not less than 1200 meters of 38mm discharge hose with instantaneous couplings.
- Not less than nine (9) back tanks with a minimum size of 19 litres
- A minimum of nine (9) shovels.
- A minimum of eight (8) pulaskis.
- For peat sites only – a minimum of ten (10) ground probes with 38mm instantaneous couplings.

Note 1:
When wheeled tanks are used they should be used as tenders to fill portable or collapsible tanks placed at the burn site. Using wheeled or mobile tanks as a fixed water source at the fire site should be avoided as this will lead to leaving the site without water when the tender (mobile tank) goes dry – the tender should dump into the portable holding tank and then immediately return for additional loads until the fire is mopped-up and there s no further need for water.

Note 2:
If a suitable water source, from which pumps may be operated, is within operational distance of the burn (and noted on the burning plan) the requirement for water storage at site may be dispensed with.

(ABDUL GHAFUR BIN SHARIFF)
Clerk,
Majlis Mesyuarat Kerajaan Negeri