

*Bord na Móna
Energy Ltd.*

Integrated Pollution Control
Licence Application

ATTACHMENT No. 16

ACCIDENTAL EMISSIONS

Provisions for response to a fire situation within the Derrygreenagh Group are attached.

Various fixed diesel/petrol and oil storage tanks are located at individual workshops, outloading areas and teacentres within the Derrygreenagh Group. These tanks are typically located within bunded areas. However, a selection of tanks may be located in non-bunded areas or within bunds of unknown integrity. In order to contain accidental diesel/oil/petrol spillage's due to tank/drum rupture and/or dispensing activities it is proposed to implement a bunding programme in order to upgrade existing bunding arrangements (inclusive of mobile tank units) to standard bunding specifications i.e. capacity of bund at 110% of the capacity of the largest storage vessel located within the bund, capacity of bund at 25% of the total volume of materials likely to be stored within the containment area, bund integrity assessments to be carried out on all containment units as per BS8007-1987, etc.

The following is the emergency action procedure (the procedure that is posted at individual workshops is attached) to deal with a major diesel/oil/petrol spill in any internal/external area of operations in order to prevent a fire hazard, prevent spillage entering storm/surface water drains and surface water bodies and prevent soil or groundwater contamination

1. When a spill occurs the General Manager must be immediately informed of the incident.
2. The spill must be immediately assessed by the General Manager for potential risks to the health and safety of employees and the potential environmental consequences.
3. If there is a risk of explosion all personnel in the area must be evacuated from the area.
4. The spill should be sourced, isolated and contained with polystyrene booms or dry peat (moisture content of 10%).
5. All effort should be made to prevent the spill from entering a storm drain or nearest outfall.

6. Once the spill has been contained a suitable absorbent (dry peat) to soak the spillage.
7. All possible ignition sources such as electrical equipment, naked lights, machinery should be removed from the area. Any combustibles in the spill area should be removed.
8. Follow-up action measures taken must include the implementation of appropriate remedial work to prevent such a spillage incident reoccurring in future.
9. In the event of a significant spillage the General Manager must notify the Local Authority.

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The general section applies to all Works and is applicable to all aspects of fire prevention. All other categories should be read in conjunction with the general section.

RECOMMENDATIONS

GENERAL

1. The Manager will delegate a member of his staff to be responsible for all aspects of fire safety.
2. All fire equipment not deployed should be stored in a warm dry fire depot.
3. The Manager should specify certain persons who would be contacted in the event of a fire.
4. A formal report on fires involving people, stocks, buildings or equipment should be reported to the Safety Officer via form (Appendix III).
5. Formal records of all inspections and tests of fire equipment should be maintained.
6. There should be a system of re-charging of extinguishers after usage. This system should include a method of delivering extinguishers to a re-charge point.
7. Each Works shall maintain a reserve water supply capable of dealing with any fire emergency on site.
8. Fire wagon or fire depot contents should be as listed in (Appendix IV).
9. A suitable vehicle capable of transporting all fire equipment during a fire emergency should be available and well maintained at all times.
10. Smoking should only be allowed in designated areas.
11. Works with bog areas under their control should have fire crew(s) of trained personnel.
12. Fire Equipment should not be used for any other purposes and should be serviceable at all times.
13. As a matter of urgency all fire alarm systems should be completed and maintained to comply with Section 27B of the Safety, Health and Welfare at Work Act 1989.
14. A full drill, involving sounding of alarms, evacuation and personnel count will take place every six months. A full sequence of the drill should be signposted in all factories.
15. An approved emergency lighting system should be installed in all factories and workshops. Each unit should be tested on a regular basis.
16. Storage or usage of all flammable oil solvents or gases should be in accordance with I.S. 644 1983 and I.S. 3213 1987.

17. A second means of escape should be available from all enclosed areas greater than 12 x 12 metre or multi-storey buildings. Means of escape must comply with Fire Brigade Act 1961.
18. Warning notices should be kept in good condition and must be strictly observed at all times.
19. All electrical appliances and welding plants should be switched off when not in use. Gas bottles should be turned off when not used.
20. Where there is a clearly recognised fire danger, extinguishers shall be deployed as a first means of defence.
21. All lorries, vans, locos and other machines working in a dusty environment should have a suitable fire extinguisher(s) mounted in a convenient position. (Appendix V).
22. Details of all local fire authorities should be displayed at various points throughout the Works.
23. The annual service contract for all fire equipment should be continued.

RECOMMENDATIONS.

FACTORY AREAS

1. All factories will have trained personnel on each shift to be led by their own supervisor.
2. Cleaning throughout the factory must be carried out on a regular basis.
3. A hot work permit system should be implemented in all factories.
4. As a minimum requirement all factories should have hose reels capable of discharging 5 galls/min. at a 6 metre throw on each floor.
5. Changed hydrant outlets should be available on all factory floors. They should have outlets of delivery hose size and should not be more than 30 metres apart.
6. All hydrant points should be clearly marked, accessible and maintained at all times.
7. Fire extinguishers should be grouped to form fire points on each floor. These points should be free of obstruction at all times.
8. Each factory should carry 3 off sets of breathing apparatus complete. Personnel required to use this equipment should be specifically trained in its use. Equipment should be maintained as per written instructions.
9. In storage areas, suitable fire breaks should be made when stacking.
10. Access points should be available at two or three points along the side of the loose stores. These points should be large enough to permit the entry of a Volvo truck.
11. Distribution of briquettes/brickeens should involve the use of swivel conveyors and traversly operated monkeys to ensure that dropping distances are kept to a minimum.
12. The recommended fire fighting medium for carbonaceous materials is water with a wetting agent. A tank of A.F.F.F. should be mounted adjacent to the storage buildings. This tank should be connected to the hydrant delivery line via an inductor or isolating valve.

RECOMMENDATIONS

BOG AREAS

1. A formal review of fire crews should take place every two years. This review should include availability, age and health of all crew members. Rotation of some of the crew members should be considered in order to train a greater number of persons in fire fighting techniques. A current list of fire crew members should be displayed at various points around the works.
2. Roadside signs should be erected in prominent positions and be maintained. They should only be erected during the months of fire dangers.
3. Notices of fire prevention should be located at strategic points to be decided by local management. See Appendix (I and II).
4. All machines must be washed down and cabs cleaned out on a regular basis to minimise the risk of fire. Particular care should be taken with production and loading machinery.
5. Cylinders of gas should be mounted outside of machine cabs and tea centres at all times.
6. A 4.5 kg. powder extinguisher should be mounted in all tea centres.

RECOMMENDATIONS

WORKSHOPS, STORES AND BOILER HOUSES

1. Fire exits should be designated. These doors should be fitted with push-bar mechanisms only. They should be lighted from independent sources. They shall be unobstructed inside and outside at all times and they should open outwards.
2. Petrol and other oils (unless they are stored in non flammable containers to BS 3475) should only be stored in designated oil stores.
3. Batteries should not be charged in working areas unless suitable protection is provided.
4. Flash-back arrestors should be fitted to all oxy-acetylene equipment.
- 4(a). Oxygen cylinders should be stored separately to fuel gas cylinders.
- 4(b). Oxygen and fuel gas cylinders, if stored out of doors, should be protected from sunlight.
- 4(c). All cylinder heads should be kept free of oil and grease.
5. Flame retardant overalls should be worn by all personnel exposed to heat or sparks.
6. Full face visors should be worn by boiler house operators.
7. Clearways to fire exits and means of escape should be unobstructed at all times.

RECOMMENDATIONS

LABORATORIES

1. B.C.F. type extinguisher(s) should be fitted into all laboratories.
2. All gases should be stored outside of laboratory. Piped supplies of gas should be controlled by auto regulating valves.
3. All laboratories should be protected by smoke detectors.

RECOMMENDATIONS

OFFICES AND CANTEENS

1. Each canteen should be equipped with a fire blanket, fire extinguisher.
2. There should be at least one fire point in all office premises.

TRAINING

BOG FIRE CREWS AND FACTORY SHIFT PERSONNEL

Prior to the 16th April of each year fire crews and factory shift personnel should devote one day to training in fire prevention and fire fighting.

This training should include such items as:-

- (a) Checking of contents of transporter or depot.
- (b) Serviceability of items of fire equipment.
- (c) Systems of deployment.
- (d) Practical exercises with pumps, first-aid fire equipment and specialist mediums such as foams, etc.
- (e) Use and care of breathing apparatus equipment.

The training should be carried out by a designated member of the Works staff in conjunction with the Safety Officer.

GENERAL WORKFORCE

Every employee should undergo a minimum of 2 hours training in all aspects of fire prevention, fire fighting and precautionary measures suitable to their own environment in any one year.

APPENDIX (I)

BORD NA MONA

INSTRUCTIONS TO EMPLOYEES REGARDING FIRE DANGERS

There is always danger of disastrous fires occurring on the bog unless great care is taken by everybody. This danger is very great during fine weather. You can do your part by obeying these few simple rules:-

- DON'T** throw away burning matches or cigarette ends. Make sure that they are properly extinguished first.
- DO** remember that big fires have small beginnings.
- DO** put out fires yourself if you can.
- DO** report them immediately to your supervisor if you can't.
- DO** remember that big fires can be prevented and that you can play a big part in their prevention.

Follow these instructions carefully.

Remember that fires may cause personal injury.

APPENDIX (II)

BORD NA MONA

FIRE WARNING

1. Don't leave unattended fires.
2. Ensure that all fires are extinguished before leaving bog.
3. Do not burn gorse or heather in this area during the period beginning on the 15th day of April and ending on the 31st day of August in any year. (Ref: Wildlife Act 1976, Ch. 4 Sect. 40).
4. Don't throw away lighting cigarette ends or matches.
5. Report any fires immediately to local fire authority.

APPENDIX (III)
FIRE REPORT FORM

Works: _____ Date: _____

Date of Fire: _____

Day: _____ Time: _____

Location: _____

Machine No. and Type: _____

Description of Fire: _____

Fire Equipment Available: _____

Injury to Personnel: _____

Estimated Cost of Damage: _____

Was Fire Brigade Called?: _____ Which Brigade?: _____

Who Called Brigade?: _____ Time: _____

Was Fire Crew Called?: _____

Was Hot Work Permit Used?: _____

Cause of Fire (Suspected): _____

Recommendations to Prevent Re-occurrence: _____

COPY TO BE SENT TO SAFETY OFFICER.

APPENDIX (IV)

FIRE WAGON CONTENTS

Quantity	Items
2	4 Gal. Petrol Drum's of Petrol
34	Hoses (75' Lengths)
3	Hose Nozzles
10	Shovels
10	Fire Beaters
8	Helmets
1	Hose Junction
1	5 Gal. Diesel Drum
1	Gal. Rotella Oil
2	Sunction Hose
1	Blank Cap.
1	Hydrant Key
4	Baskets
12	Buckets
2	Spanners
1	Hose Adaptor
1	9 Hole Bar
2	Stand Pipes
7	Flash Lamps
7	Goggles
2	Breathing Apparatus
4	Beacons
1	Stretcher
6	Extinguisher's
1	First Aid Kit
1	Foam Making Machine
1	Manually Mobile Angus Fire Pump
5	Drums of Foam

APPENDIX (V)

Location	Machine Type	Size of Ext.	No. of Exts.	Type of Ext.
	Tractors up to 100 HP	4.5 Kg.	1	ABC Dry Powder
	Tractors over 100 HP	9 Kg.	1	ABC Dry Powder
	Triple Miller	9 Kg.	1	ABC Dry Powder
	Double Ridger	9 Kg.	1	ABC Dry Powder
	Harvester Types, 2, 3, 6, 7	4.5 Kg.	2	ABC Dry Powder
	Ditchers	4.5 Kg.	2	ABC Dry Powder
	Screw Levellers	9 Kg.	1	ABC Dry Powder
	Bulldozers	4.5 Kg.	1	ABC Dry Powder
	MP Loaders	9 Kg.	1	ABC Dry Powder
	Excavators	4.5 Kg.	2	ABC Dry Powder
	Wagonmasters	4.5 Kg.	1	ABC Dry Powder
	Light Loco			
	Road Vehicles Fork Lifts, Volvos	1.5 Kg.	1	ABC Dry Powder SCF

Location	Machine Type	Size of Ext.	No. of Exts.	Type of Ext.
Factory Fire Points		2 Gall. 4.5 Kg.	2 2	Water ABC Dry Powder
Workshop Fire Points		2 Gall. 4.5 Kg. 1.5 Kg.	2 4 1	Water ABC Dry Powder BCF
Tea Centres Control Rooms		4.5 Kg. 1.5 Kg.	1 2	ABC Powder BCF
Office Block		2 Gall. 1.5 Kg.	2 1	Water BCF
Weighbridge		1.5 Kg.	1	BCF
Canteens		1.5 Kg. or Fire Blanket	1	BCF
Boiler Houses		4.5 Kg. 1.5 Kg. - 2 Gall.	1 1 1	ABC Dry Powder BCF Water
Laboratories		1.5 Kg.	2	BCF

FIRE SAFETY AUDIT

Works/Factory: _____ Date of Audit: _____

1. Employee responsible for fire safety records/equipment: _____
2. Date of latest fire crew training: _____
3. Names of fire crew/crews: _____

4. Date fire crew composition last reviewed: _____
5. Contact persons in case of fire: _____ Phone: _____
_____ Phone: _____
_____ Phone: _____
6. Last fire training date all employees: _____
7. Are all fire report incident forms returned to safety officer: _____
8. Date of last emergency lighting check: _____
9. Date of last fire drill: _____
10. Breathing apparatus equipment last serviced: _____ Cert No.: _____
11. Means of escape certificate: Applied for: _____ Granted: _____
12. Hot work permits: No.'s: _____
13. Location of fire depot: _____
14. Location of fire wagon: _____
15. Means of transporting fire equipment: _____ Reg No.: _____
16. Location of fire extinguisher recharging point: _____
17. Are machines equipped with fire extinguishers as per Appendix 5: _____
18. Are fire extinguisher points intact?: _____
19. Are laboratories fitted with BCF extinguishers?: _____

20. Is there either a fire extinguisher or fire blanket in the canteen?: _____
21. Is there a fire point located in the office block?: _____
22. Is there a water reserve available for fire fighting: _____ Location: _____
Capacity: _____
23. Are hydrant outlets available?: _____
24. Are hydrants maintained and clearly defined?: _____
25. Is wetting agent installed in the hydrant line?: _____
26. Are hose reels available?: _____ If yes, No. of: _____ Type: _____
27. Is fire alarm system fully operational?: _____ If no, when will it?: _____
28. Designated "no smoking" areas: _____
29. Are smoke detectors used in laboratories?: _____
30. Are gas cylinders stored outdoors?: _____
31. Are oxygen and fuel gas cylinders separated?: _____
32. Are fuel gas cylinders protected from sunlight?: _____
33. Are auto-valves fitted to laboratory gas supplies?: _____
34. Are clearways unobstructed at all times?: _____
35. Where is battery charging carried out?: _____
If in working area, what means of protection is provided?: _____

36. Are breathing apparatus sets available and serviceable?: _____
37. Is swivel conveyor fitted in loose briquette store?: _____
38. Are fire breaks observed in storage areas?: _____
39. Are access points available to storage areas?: _____
Details: _____

40. Are roadside fire signs available and maintained?: _____
41. Are all relevant fire notices displayed?: _____

FIRE AUDITING SYSTEM

This form should be completed by the designated person for fire safety at the works. The completed form should be signed by the works general manager and sent to the safety officer at six monthly intervals.

Random audits will be carried out by the safety officer to verify the items in this form. Yearly assessments of all works based on audits and returns will be publicized annually.

Sec. Fire Committee.

EMERGENCY PROCEDURE IN THE EVENT OF OIL SPILLAGE

Inform General Manager

General Manager to inform County Council

Block outfall at nearest point

Establish cause and prevent further leakage

Inspect outfall downstream

Establish limit of spillage

Install booms in the outfall

Use dry peat (preferably 10% M.C.) to clean up

Arrange remedial work to prevent future occurrences

Requirements:

- Map of drainage system
- Stock of polystyrene booms
- Stock of dry peat (10% M.C.)