



**FUGRO-BKS LTD**

*Environmental Aspects*

Date	Amendment No.	Section	New issue	Details	Authorised by
01/11/2008	-	All	1	First issue	Systems Administrator
20/04/2009	1	All	2	General format changes and information upgrades	Systems Administrator
27/07/2009	2	Register of Aspects	2	Aspects 16/3.03 17/4.01 altered from significant to standard.	Systems Administrator
31/03/2010	3	Register of Aspects	3	Aspects 1.08 frequency adjustment	Systems Administrator
31/03/2010	4	Register of Aspects	3	Aspects 2.04 improvement on control regime - reduced score from 3 to 1 (Total reduction from 39 to 13)	Systems Administrator
31/03/2010	5	Register of Aspects	3	Aspects 4.05 reduce frequency of WEEE collection from monthly to annually (subsequent score reduction from 3 to 1)	Systems Administrator
31/03/2010	6	Improvement Objectives	3	Addition Item 5, code 4.01 General Waste	Systems Administrator

## **INDEX**

Register of Aspects

Improvement Objectives

Register of Legislation and Other Requirements

Legal and Other Requirements Compliance Check

### RATING CRITERIA

	Frequency	Environmental Effect	Legislation and/or Other Requirements	Cost	Controls
1	> year	Insignificant environmental effect, or positive environmental effect	Indirect legislation/no relevant legislation	< £100	Procedure + barrier method/ alarm/ automation or no need for control
2	6 monthly	Potential for localised environmental impacts	Complies with legislation	£100 - £1,000	Barrier method/alarm/automation
3	Monthly	Environmental damage of minor local significance being caused	Close to top limit	£1,000- £10,000	Procedure
4	Weekly	Environmental damage of major local significance being caused	Borderline	£10,000 - £100,000	Informal or inadequate controls
5	Daily	Environmental damage of major local and or national significance being caused	Breaching legislation	>£100,000	No control
<b>Rating = (Frequency + Environmental Effect + Legislation + Cost ) x Control</b>					

**Rating Significant if over 40 or legislation 3 or more**

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	1.01	N	Vehicular Emissions	The Company have 14 vehicles. All are cars (11 diesel, 3 petrol). The Company operate one aircraft – a Piper Aztec PA 23/250, twin engine, propeller driven model. In 2007 the plane was airborne for 300 hours, using 30000 litres of fuel (Avgas 100L). All vehicles are serviced externally at regular intervals by reputable service centres. Records are maintained. The airplane has an annual overhaul, carried out by Woodgate Aviation, Aldergrove, in order to maintain it's Civil Aviation Authority license.	5	2	3	3	3	39	FALSE	Ensure vehicle servicing and relevant records kept up to date
	1.02	N	Asbestos	The Company's operations are based in a building in Coleraine. The building was built in the early 1960's. There are a considerable number of ACMs ( asbestos containing materials ) on the site. There was a comprehensive survey carried out in 2004 (by Birstalls Ltd.), and a register produced. There are no plans to remove an of the ACMs as this is not considered necessary, and the Company are considering acquiring new premises within the next 2/3 years	5	2	1	2	1	10	FALSE	Obtain specialist advice before considering any movement of asbestos containing materials
	1.03	N	Boiler Emissions	There are 2 boilers on site ( one used normally the other an ancillary stand-by boiler). The boilers are serviced regularly and use 35 sec. Heating oil. There have been no issues regarding emissions (last tested 2006) and fuel is obtained from an approved and licensed supplier. The fuel tanks are bunded and regularly pumped out.	5	2	2	2	2	22	FALSE	Service and system analysis carried out January 2009

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Emissions to Air	1.04	N	Volatile Organic Compounds (VOCs) arising from spills	There are two heating oil tanks ( 2200 Imp.gallons approx 10000 litres capacity each , cylindrical cast iron). Both tanks are properly bunded and there are two oil spill kits kept on site. There is a diesel powered generator on site. This is not normally used, is for emergency purposes only and tested regularly.	5	2	4	4	2	30	FALSE	Bund integrity confirmed
	1.05	N	Air Conditioning System	There are 6 operational air conditioning units on site. These are becoming obsolete but the filters are cleaned monthly and the mechanism serviced annually by BelAir. Disused units have been degassed. It is not known what refrigerant gas is used in the system.	5	2	2	3	4	48	TRUE	Confirmed R22 gas used (see reference notes in Air Conditioning file). Units will be removed from service prior to cut-off date for cessation of R22.
	1.06	E	Emissions in the Event of a Fire	The Company have a number of fire extinguishers (CO2 and water) on site. These are serviced annually by Chubb. None of the Company vehicles have fire extinguishers but do not carry any extra materials and so this is not necessary. There is a fire alarm on the site which is tested weekly and a fire drill is carried out annually. There are no fire wardens appointed and there is no formal fire-fighting training given other than at induction stage where information on assembly points and fire escapes is given	1	2	4	4	1	11	FALSE	Fire procedures currently being upgraded

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	1.07	N	Dust and Particulates	None of the companies operations on site produce dust or any particulates other than that associated with the burning of fossil fuels, which are controlled. The Company do not incinerate any waste and have no processes emitting dust or particulates. There have been no complaints or issues regarding dust or particulates	1	2	1	1	1	5	FALSE	
	1.08	N	Emissions from Aircraft	The Company operate one aircraft – a Piper Aztec PA 23/250 – a twin engine propeller driven model. Operations carried out by this aircraft will now be minimal owing to the change from conventional to digital photography.	3	2	2	2	2	18	FALSE	Current aviation operations being reviewed
	2.01	N	Foul Water Drainage	The site is connected up to the main foul sewer system. The only effluent discharges to this system are from the toilets and washing area. Effluent goes to the local waste water treatment works. There have been no complaints or issues relating to discharges from the site.	5	2	2	2	2	22	FALSE	N/A
	2.02	N	Storm water Drainage	The site is connected to the storm water drainage system. This leads indirectly to the River Bann, approx. 600 metres away. Storm water from the grounds and roof go to the system, as well as a clean water discharge from the photo processing plant.	4	2	1	2	1	9	FALSE	None necessary

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Discharges to Water	2.03	E	Fuel and Oil Spillage	The company have 2 X 2200 Imp. Gallon heating oil tanks on site. Both are adequately bunded. Rain water that collects in the bund is pumped out regularly. At one of the tanks, the interior of the bund wall has a pipe that goes into the ground. This pipe is the old feed pipe for the generators and is now sealed at that end. The top of the pipe is open. There are two spill kits on site to deal with small spillages. Absorbent booms are used to remove any oil from inside the bund prior to pumping out. There is no other fuel stored on site.	5	2	4	3	2	28	FALSE	Emergency procedures in place
	2.04	N	Underground Storage	On the site there is a 1000 litre waste chemical storage tank (plastic). This is underground but inside a bund. The tank contains waste from the photo processing equipment (a dilute mixture of developers, fixers, replenishers etc. – mainly organic/ aqueous solutions with e.g. azo compounds / acetic acid / formaldehyde etc). This tank is emptied regularly by a waste contractor who removes it as hazardous waste. There is a level indicator installed in the tank to indicate when it needs emptied. The inside of the bunded area is visually checked when the tank is emptied. (Note- the visual check for integrity of the tank is sufficient given the nature of conditions. However no evidence of inspection is kept)	5	2	3	3	1	13	FALSE	Confirm inspection regime in place.

**REGISTER OF ASPECTS**

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Land Contamination	3.01	A	Land Contamination From Past Use	The site was a Greenfield site until the early 1960s when the present building was erected. There was no evidence of previous contamination and no issues raised regarding past use	1	1	1	1	1	4	FALSE	
	3.02	A	Contamination from present use	All liquids stored externally on the site are bunded and protected. There is an electricity transformer at the side of the site. This transformer is owned and operated by NIE. It has been in place since feb 08 an does not contain PCBs or SF6. FUGRO-BKS Ltd have no input or influence in the transformer or it's use. It is believed the transformer is on land owned by FUGRO-BKS Ltd	5	2	3	3	1	13	FALSE	NIE confirm substation environmentally compliant
	3.03	N	Chemical storage	The Company use a range of photo-chemical for use in it's photo processing operations. The only other chemicals (other than fuel) are small items such as toilet cleaners, washing-up liquid etc. The photo-chemicals are generally well kept in a storage area. However, there are a number of 25 litre size plastic containers that are on the ground with no secondary protection. There is the potential for a spill with the liquid entering the storm drain.	5	2	1	1	2	18	FALSE	Bunded storage protection purchased

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	4.01	N	General Waste & Office Stationery	General waste from the office and process areas are placed in a skip which is removed when filled (McCartney Waste) . There are approx 4 removals per annum, and a waste transfer note is provided and kept on file. This waste consists mainly of kitchen waste and small amounts of wrapping, paper, food, plastic wood, etc. Most office waste is segregated and stockpiled for recycling. The company have only received one transfer note for the last three collections. Since recycling of office waste began, the volume of waste landfilled has been reduced by around 66%. The Company does not transport any waste to or from the offices. It does not hold a Waste Carriers Licence. Waste removal costs around £1500 p.a.	3	2	2	2	3	27	FALSE	Obtain waste transfer notes for collection of waste or identify a different supplier. CBC now collect and dispose of office waste.
	4.02	N	Waste Packaging	The Company produce small amounts of waste packaging but not enough to have to qualify for registration under the Producer Responsibility Obligations (Packaging Waste) Regulations (Northern Ireland) 2006. Packaging materials are either recycled or disposed of to landfill via the general waste containers	4	2	2	2	1	10	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Management	4.03	N	Fluorescent tubes and Batteries	The Company produce very small number of waste batteries from handheld GPS and other similar equipment. Fluorescent tubes (including energy saving bulbs) are classed as hazardous waste and cannot be landfilled. When these lights are replaced, the old tubes are removed by a local treatment facility (City Electrical Factors) for safe & legal disposal	2	2	2	1	4	28	FALSE	
	4.04	N	Printer & toner cartridges	All waste printer and toner cartridges are collected and stored until there are sufficient quantities to justify removal. They are then taken away by Interlink on behalf of Redeem plc for recycling. Transfer documentation is maintained	4	2	2	1	3	27	FALSE	
	4.05	N	Waste Electrical & Electronic Equipment	All obsolete and unwanted computer equipment is stored and then removed legally by AMI security. This is necessary as some sensitive and confidential information may remain on the systems. (FUGRO-BKS Ltd carry out work for various Governments and Government departments including the MoD). Records are maintained. Other WEEE (e.g. kettles, fridges etc.) is rarely removed. When this occurs, it is taken to the local (Coleraine) civic amenity site for legal disposal	1	2	2	2	3	21	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Waste	4.06	N	Vehicle Waste (inc. tyres, batteries etc.)	The Company maintain 14 vehicles (all cars). These vehicles are regularly serviced at approved service centres. All waste ( including oil filters, oil waste etc.) is removed by the service centre. The Company pay a fee every time tyres are changed on the vehicles. When not flying, the Company aeroplane is kept at Aldergrove Airport, under the control of Woodgate Aviation. Woodgate maintain and clean the aircraft, as well as carrying out routine checks. They are also responsible for carrying out 50 hour and 100 hour checks.	3	2	2	2	2	18	FALSE	
	4.07	N	Confidential Waste	The Company produces a significant amount of confidential waste. It is bagged and stored on the premises until there is a sufficient quantity present when Shredit comes and shreds it on site before removal. This has not happened to date but documentation will be maintained.	3	2	1	2	1	8	FALSE	
	4.08	N	Organic (gardening etc.) Waste	There are grassy areas (lawns) and a high hedge around the site. These are maintained by a contractor engaged for that purpose. A mulching mower is used to so no grass cuttings are actually collected. No waste of any type is incinerated on the site or by the Company.	4	2	1	3	3	30	FALSE	
	4.09	N	Empty Drums Barrels etc.	All empty containers are made of plastic, When empty, these are rinsed out (the washings go to the waste liquid tank) and recycled with the other waste plastic materials	4	2	2	2	3	30	FALSE	Containers collected by Coleraine Borough Council (CBC)

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	4.10	N	Hazardous Waste	Liquid waste from the processing equipment is directed to a 1000 litre storage tank. When the tank is close to being full a warning light comes on. It is emptied and the effluent taken by the licensed waste contractor Silver Lining. Consignment notes cover the removal. There are very occasionally oil contaminated booms collected when the bunds are emptied. These are bulked up prior to removal by a licensed waste removal company	3	2	3	3	3	33	FALSE	
	4.11	N	Recycled Material	In the office, the following materials are segregated and removed for recycling:- Paper (including waste process paper); Cardboard; Plastic (HDPE, LDPE, PET, PP, PS); Aluminium cans. These materials are removed by the licensed waste contractor Waste Not. There are no transfer notes or other documents to cover these collections	5	1	1	1	4	32	FALSE	Recycle waste now removed under agreement with local Council as part of regular fortnightly collection.
	5.01	N	Paper Usage	At present, the Company monitor paper use. In 2007 a total of 369 reams of paper were used. This is both photocopy and print quality paper. This is an increase of 16% from 2006. The use of paper is controlled. There has been a general downturn in photocopy and other areas, but the newly centralised printing operations resulted in an increase in volume. This volume will be used as a baseline for future efforts to significantly reduce the use of paper (both photocopier and printing)	5	1	3	2	3	33	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Use of Resources	5.02	N	Electricity Use	The Company monitors electricity use in it's premises. The statistics are recorded as units of electricity per production hour. 2008 electricity consumption was reduced by 3.73% in 2009. Units per hour decreased slightly. The Company have targets to reduce electricity use further.	5	1	3	4	2	26	FALSE	Continue monitoring
	5.03	N	Vehicle fuel	Car use (mileage and fuel use) is monitored and recorded for each of the Company's 14 vehicles. There is a slight overhead increase but this is largely outside the control of Company (fuel costs, overheads etc.).	5	1	3	4	1	14	FALSE	Continue monitoring
	5.04	N	Aviation fuel	The airplane consumes approx. 100 litres per hour, giving a flying time of around 5 hours. Servicing is carried out after 50 and 100 hours flying time with a full annual CAA inspection	5	1	3	4	2	30	FALSE	See Flying Manager for necessary records
	5.05	N	Heating oil	Use is recorded monthly. In 2009 a total of 34,794 litres were used (an increase of 3.73%). This equates to 0.40 litres per hour production. A target has been set to have no increase on 2008 figure. Efficiency measures such as new timers on the boilers have been introduced	5	1	3	4	2	26	FALSE	Continue monitoring

**REGISTER OF ASPECTS**

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	5.06	N	Water usage	Water is used for domestic and processing purposes. In 2009 the total plant consumption was 1791 m3 . This is for both water and process chemicals. The Company intends to reduce water consumption significantly over the next few years. They have purchased a new digital camera which is undergoing trials at present. When this is commissioned, the water and processing chemicals used by the Graphics Department should reduce significantly by 2010 and then be phased out completely. There will still be a requirement for water for domestic purposes and this will continue to be monitored.	5	2	3	2	3	36	FALSE	Water used in the photographic process is monitored and reported on
	5.07	N	Process Chemical Usage	The Company use process chemicals for developing and fixing film. Use is monitored and there are targets in place to reduce the consumption of these chemicals by around 25% per annum, and anticipate that within 5 years the use of process chemicals will have been phased out due to the introduction of new technology	5	2	3	3	1	13	FALSE	At current production levels the expected decrease has occurred, however, some client requirements may increase this during 2009. Will be monitored accordingly.
	6.01	N	Noise	There have been no noise complaints attributed to FUGRO-BKS Ltd. The nature of their operations at the offices do not produce significant amounts of noise. The Company aircraft produces high noise levels but these are normally contained within airport precincts and flying. No abnormal noise levels are produced	5	2	1	2	1	10	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Local Environmental and Community Effects	6.02	N	Odour	There are no significant odours produced at FUGRO-BKS Ltd plant or by any of their operations	1	1	1	1	1	4	FALSE	
	6.03	N	Visual Impact	The offices are situated in a residential area with farmland and a school nearby. The site covers an area of 2.3 acres, with the main building covering 3118 m2. There are three car parks (2304 m2) with the remainder being grass. The offices fit in well with the surroundings, and is landscaped. There is a high hedge around the site to reduce the visual impact even more. There have been no issues or complaints regarding the site. The site is kept clean and tidy with no litter visible	5	2	1	3	3	33	FALSE	
	6.04	N	Effect on Ecosystems	None of the Company's operations have any significant effect on local ecosystems. There are no areas of special scientific interest nearby. The nearest waterway is the River Bann, approx. 600 metres away. There have been no issues or complaints regarding ecosystems	5	2	1	1	1	10	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
	6.05	N	Transport / Traffic Movements	Access to the site is via a gate on Ballycairn Road, Coleraine. They transported 1200 shipments (by land) and 280 shipments (by air) worldwide, mainly to Republic of Ireland, mainland UK, and the EC. For large shipments, the Company use TNT Express, DHL, and Royal Mail. Company vehicles travelled 246,365 miles in 2009. Fuel use is monitored for cost effectiveness and identification of reduction opportunities. Their vehicles do not contribute significantly to traffic congestion.	5	1	3	3	3	36	FALSE	
	7.01	N	Control of Sub-contractors	The Company use a number of contractors, mainly on a labour only basis. This consists of operations such as certain maintenance and repair, waste removal and other office based tasks. The Company works with other businesses in its mapping and photographic operations, and used Woodgate (Aldergrove) to maintain it's aircraft. The Company have a questionnaire which it sends to contractors. Response is poor and no further action is taken at present.	5	1	2	2	3	30	FALSE	

### REGISTER OF ASPECTS

Category	Code	Condition	Aspect	Description of Impact	Frequency	Legislation	Effect	Cost	Control	Score	Significant If True	Action
Indirect Effects	7.02	N	Upstream Electricity Manufacture	The Company use electricity for heating, lighting and process purposes. They are considering using energy saving initiatives and monitor and record use for these purposes. All electricity is obtained from NIE (mains) sources, although there is a generator (diesel driven) on site for use in emergencies. Electricity is generated by NIE using heavy fuel oil and gas. FUGRO-BKS Ltd have no influence over power generating methods.	5	1	3	3	1	13	FALSE	Review the energy audit
	7.03	N	Future Operational Matters	The Company have recently invested in a new digital camera for its operations. This camera will reduce significantly the amount of process chemicals and water used by the company. Within about 5 years, it is expected that no process chemicals will be used by the Company. Other environmental impacts (e.g. electricity, fuel etc.) are monitored and recorded with targets being set to reduce use. Due to financial constraints (the digital camera cost £500,000) it is intended to use the current aircraft for some time yet. When it is replaced, fuel and emission figures will be one of the factors considered when choosing the make and model of the replacement.	4	2	1	4	2	22	FALSE	

**Improvement Objectives 2009/2010**

<b>Category</b>	<b>Code</b>	<b>Related Aspect</b>	<b>Target</b>	<b>Objective</b>	<b>Responsibility</b>	<b>Suggested Completion</b>	<b>Status</b>	<b>Completion Date</b>
Emissions to Air	1.01	Vehicle Purchasing	Replace all vehicles with low emission type	To source vehicles in tax bands C to G 101-165 (g/km)	JL/LEN	2014	Ongoing	
Emissions to Air	1.05	Air Conditioning System	Discontinue use of or repair suspect units	Have system tested for efficiency and leakage, and determine refrigerant gas used	JL	Apr-09	Confirm R22 as gas type Spring/Summer service booked Efficiency servicing ongoing	Completed
General Waste	4.01	Disposal to Landfill	Discontinue use of paper hand wipes	Source alternative means of hand drying, e.g. electric blow-dryers	JL	Dec-10	Investigating cost implication	TBC
Use of Resources	5.02	Power Consumption	Enhance switch off scheme	Reduce by 5000 kvh or 2%	JL/GK	Dec-10	Ongoing	
Use of Resources	5.03	Fuel/Oil Consumption	Investigate possibility of independent D.H.W. system	Sustain 2008 figure	JL/GK	Dec-10	Ongoing	
Use of Resources	5.03	Vehicle Mileage	Increase consolidation of independent travel	Reduce by 3% to sustain 10% over 2 years	JL/GK	Dec-10	Ongoing	Achieved
Use of Resources	5.06	Water Usage	Set target for water reduction	Monitor 6 monthly and implement reduction regime	JL/SAB/GK	Dec-10	Ongoing	

