

WATER ABSTRACTION AND IMPOUNDMENT CONTROL REGIME FOR NORTHERN IRELAND

Final Regulatory Impact Assessment

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1. TITLE OF PROPOSAL

1.1 The Water Abstraction and Impoundment (Licensing) Regulations will prohibit the abstraction or impoundment of water unless authorised by the Department and carried out in accordance with that authorisation.

1.2 Two levels of authorisation are to be provided:

- Permitted Controlled Activities: the Regulations will provide authorisation for specific activities undertaken in accordance with the relevant rules. Low risk small-scale activities, such as abstractions of less than 20m³ per day, would be authorised directly by the Regulations without the need for a licence.
- Licence: where the level of control requires site specific assessment and the imposition of site specific conditions. There will be two types of licence:
 - (a) Simple licence – where environmental impacts are predictable but where cumulative impacts are likely.
 - (b) Full licence – to control those activities posing the greatest risk to the environment and where site specific conditions will apply.

1.3 The Regulations will provide that applications for licences must be made to the Department in writing and be accompanied by all such information as the Department may reasonably require.

The Regulations will also provide for the modification, transfer, surrender and revocation of licences.

1.4 Provision will be made for enforcement notices, provision of information, and maintenance of a register, offences and appeals.

1.5 A charging scheme will be drawn up to recover the Department's costs and will set out the charges to be levied in relation to licences. This will be the subject of separate consultation.

2. BACKGROUND AND RATIONALE

2.1 Introduction

2.1.1 The Department of the Environment, through its Agency the Environment and Heritage Service is responsible for protecting the aquatic environment in Northern Ireland. As part of this role, the Agency monitors the quality of water, not only to ensure that it is safe for human use, but also to protect the many species and habitats which rely on it for their survival. Much of the Department's policy is driven by the need to comply with EU legislation.

2.2 Habitats Directive

2.2.1 In response to an ongoing Habitats Directive infraction case, Northern Ireland has made a commitment to have an abstraction control scheme in place by the end of 2006. It is generally accepted that water abstraction/impoundment is capable of having significant effects on the conservation of sites designated under the Habitats Directive and, as such, should be regulated in accordance with that Directive.

2.3 Water Framework Directive

2.3.1 A further imperative for the increased management of water abstraction and impoundment lies in the need to implement the Water Framework Directive (2000/60/EC). The aim of the Water Framework Directive (WFD) is to develop a holistic approach to the management of all water bodies in the EU.

2.3.2 The Water Framework Directive covers all types of water body e.g. rivers, lakes, groundwater, transitional and coastal waters. Among the many requirements of the Directive is a need to have in place a register of those bodies of water used for the abstraction of drinking water or intended for future use and a requirement for prior authorisation of any abstraction or impoundment as part of the measures required to achieve environmental objectives.

3. OBJECTIVES

3.1 The aim of the regulations is to provide a regulatory framework to protect sites designated under the Habitats Directive from adverse impact caused by water abstraction or impoundment. There are a number of linked objectives of this new scheme. These are listed below. Note that these are not in any order of priority:

- To contribute to an improvement in water quality in NI;
- To improve the control and management of water abstractions in NI;
- To improve the control and management of water impoundments in NI;
- To assist NI in meeting its obligations under the Water Framework Directive;
- To contribute to the protection of the aquatic environment in NI.

4. OPTIONS

1. The Status Quo - Not acceptable to EC in respect of Habitats Directive and Water Framework Directive.
2. Authorisation according to perceived risk to the environment as set out in the proposed Regulations.
3. Full Licensing Scheme for all abstractions/impoundments regardless of volume/size.

4.1 Explanation of Options

- 4.1.1 The status quo is the do nothing option. It is included as a baseline option and represents the situation at present, which does not facilitate the implementation nor requirements of the Habitats Directive. For this very reason it can be discounted immediately as an option.
- 4.1.2 Under option 2 some low risk activities (referred to as “Permitted Controlled Activities”) would be notified to EHS. Other activities (those abstracting a greater volume or those which pose a higher environmental risk) would require authorisation under the conditions of a licence issued by EHS. No charge would apply to permitted controlled activities. Activities requiring a licence would incur an application fee and an annual subsistence charge based on the volume abstracted/impounded.
- 4.1.3 Under option three all activities falling under the scope of the Regulations would need to be licensed. The cost of acquiring a licence would be uniform across the board and all licence holders would attract an annual charge linked to volume and environmental risk.

5. COSTS AND BENEFITS

5.1 Sectors and Groups Affected

5.1.1 Limited information is available on industrial sectors that currently abstract or impound water and would thus be affected by the introduction of Regulations. The sectors affected and the predicted extent of their water use is set out below in section 5.4 under a sectoral analysis.

5.2 Direct Costs

It is envisaged that there will be two types of costs:

- Application fee/costs; and
- Annual subsistence charges

The annual subsistence charges would be based on a banded system linked to the abstracted or impounded volume and would cover monitoring, inspection and enforcement costs. In option 3 all users will be required to pay for a licence. It is likely that this will be a flat charge across the board, therefore in relative terms this could prove disproportionately expensive for small abstractors/impounders of water. Under options 2 & 3 users abstracting/impounding less water will have this reflected in their annual subsistence charge, which will be proportionately less in accordance with the amount of water abstracted or impounded.

5.2.1 There are likely to be two sets of costs for businesses that abstract/impound water – the costs associated with applying for a licence and those involved in complying with the conditions of the licence.

Application Costs

5.2.2 In order to grant a licence, the Department will require information that it deems reasonably necessary to make a decision. The information required will differ according to the risk posed by the activity to the local water environment. For example more detailed information may be required for a proposal to abstract groundwater during the summer at a location where groundwater significantly contributes to low river flows, and where the river supports an important fishery and sensitive ecology. The Department will supply the appropriate abstraction / impoundment application form accompanied by guidance notes.

5.2.3 Under options 2 and 3, for higher risk activities, the Department may require detailed information to support a licence application, including an environmental report. In the most complex cases, applicants may

need to employ consultancy advice and commission environmental surveys in compiling such reports.

Annual Subsistence Charges

5.2.4 As with the application; the annual subsistence cost levied for each licence will vary according to complexity. Factors considered will include the number and type of abstraction, the abstracted volume and the volume subsequently returned to the aquatic environment, the monitoring regime required to assess compliance and the risk imposed by the activity on the aquatic environment. Each abstraction or impoundment licence will have conditions that the water user must abide by.

To manage the risk to the water environment from abstraction, EHS will require that a site operator establish or demonstrate flow measurement, volume control and leakage management and provide access for inspection. The level of measurement accuracy requested will, to an extent, be proportionate to the size / nature of the abstraction, and the sensitivity of the aquatic environment at a site specific location, with more detailed information being necessary where the risk of an adverse impact is determined to be higher.

Impoundments will need to be managed and operated to ensure that natural river flow, the in-river habitat, and the passage of fish are maintained and protected.

There are compliance costs associated with options 2 and 3 regardless of the level of abstraction. Under option 2 the water abstractor/impounder will be required to be compliant on a self regulatory basis, therefore the operator may incur costs in the form of obtaining and operating monitoring equipment. Under option 2's tiered licensing approach a large abstractor of water must pay a compliance cost that is proportional to the amount of water abstracted/impounded.

5.2.5 Costs to Government are covered in section 5.4 of this document.

Potential Indirect Costs

5.2.6 A further potential cost to business would arise if it has to change its productive processes as a result of the risk assessment carried out on the abstraction/impoundment. That is, if for example, the risk assessment determines that abstraction should be reduced or eliminated, then a business may find itself having to face a cost for finding another source for water or from having to change its activities. It is considered highly unlikely that businesses will be faced with this prospect. The scale of this potential cost is difficult to estimate at this time as it will be dependant on specific factors such as type of firm,

nature of industry, role of water in the production process, nature of consumer market etc.

5.3 Sectoral Analysis

5.3.1 Table 5.1 below shows the current abstractors/impounders of water likely to be affected by the new regulations.

5.3.2 Available information on the number of firms within a particular industrial sector is mixed. To reflect this uncertainty table 5.1 factors in ranges and assumes that the midpoint for that range is the best estimate of firms abstracting/impounding within a particular sector.

*Table 5.1 – Abstraction/Estimates by Sector**

'Predicted' numbers - Water Resource Licences N.I

Abstraction / Impoundment	Total (or range)	Midpoint estimate	Daily max. Volume 20-100m3/d	Daily max. Volume >100m3/d
Public Water Supply	60	60		100%
Hydro Power	60 - 80	70	20%	80%
Agricultural - Dairy	1000 - 1400	1,200	100%	
Agricultural - Pigs and Poultry	250 - 450	350	100%	
Agricultural - Spray irrigation	10	10		100%
Agriculture - Horticulture	75 - 125	100	70%	30%
Agriculture - Mushroom	60 - 80	70	100%	
Agriculture - Other (beef/sheep etc.)	300 - 500	400	100%	
Commercial / Industrial	150 - 300	225	50%	50%
Nurseries	50	50	100%	
Fish Farms & Hatcheries	40 - 60	50	10%	90%
Put & Take Fisheries	300 - 400	350	30%	70%
Quarrying / Mineral washing	140 - 200	170	30%	70%
Food & Drink	50 - 170	110	20%	80%
Local Councils & Health Trusts	40 - 60	50	80%	20%
Golf clubs / courses	100 - 200	150	10%	90%
Hospitals / Schools	30 - 60	45	20%	80%
Amenity, Leisure and Recreation	20 - 40	30	50%	50%
Other Services (airports)	3	3		100%

*Based on internal EHS Research

Water Service

5.3.3 The Water Service is the sole public provider in Northern Ireland of water and sewerage services. It is, therefore, obviously, in terms of volume, a major abstractor/impounder of water, as indicated by the table above.

5.3.4 The costs to Water Service will therefore depend on a number of factors:

- the number of abstractions/impoundments which are found to be adversely affecting the water environment;
- the degree of risk imposed by these abstractions/impoundments;
- the level of information currently collected by Water Service on current abstractions/impoundments.

5.3.5 The ultimate cost for Water Service is therefore uncertain. While there will be costs associated with applying for licences, it is difficult to determine at this stage what the costs will be of complying with the conditions of any licence. Furthermore, if, as a result of the risk assessment process, the pattern of abstraction is changed for Water Service, this may lead to them having to adjust their planned supply and demand patterns. Thus, Water Service could have to take action, such as finding new sources, further using existing sources and so on.

5.3.6 A risk assessment exercise of the impacts of Water Service abstractions on sites protected under the Habitats Directive has recently been completed, and found no significant issues to be dealt with.

Other Industry

5.3.7 The data that is available suggests that, in most cases, the number of enterprises that are currently abstracting water forms a relatively low proportion of the overall number of firms in that industry. It is accepted that abstraction data is still only provisional and not definitive. Many Sectors require a supply of water to facilitate their production processes; some rely on Water Service to supply the volume requirements and some source a private water supply through abstraction/impoundment. It is likely both will incur a cost, the former through costs passed on from Water Service and the latter will be charged in accordance with the Regulations. It is not possible to accurately estimate nor compare these costs at this time.

Electricity

5.3.8 The electricity-generating sector, although not identified specifically above, is heavily reliant on the abstraction of water, largely for cooling in the production process. There are three power stations in Northern Ireland. A 2004 SNIFFER Report¹ provides the following information on these power stations:

- *Ballylumford*: uses 3 of its 6 pumps on average, with each abstracting 393,000 m³ per day for cooling. This water is returned almost immediately to the sea, although is slightly altered as a result of the process. In addition, Ballylumford uses between 82 m³ and 90 m³ of raw water an hour to produce 73 m³ of demineralised water for boilers and 4.5 to 9 m³ an hour for service water.
- *Kilroot*: abstracts a maximum of 360,000 m³ per day from Belfast Lough for cooling.
- *Coolkeeragh*: this station abstracts a maximum of 648,000 m³ per day from Lough Foyle for cooling.

5.3.9 As well as these power plants, there are around 70 small hydroelectric sites in Northern Ireland. Again the precise level of abstraction is unknown. Table 5.1 shows that the majority of plants rely on using in excess of 100 m³/d of water.

Agriculture

5.3.10 There are obviously a number of uses for water abstractions and impoundments within agriculture. However, the need to impound water for irrigation purposes is generally low, given Northern Ireland's climate. The chief users of water within agriculture are dairy farms. Table 5.1 above shows that all dairy farmers abstracting in excess of 20 m³/d will be subject to first tier licences. These costs are not likely to be significant in relation to overall costs. Again, compliance costs will differ depending on the nature of the abstraction and under each option considered.

5.3.11 According to DARD statistics², the number of dairy farms in Northern Ireland is 4,201. This is out of a total of over 27,600 farms recorded for the whole of Northern Ireland. The majority of dairy farms (61%) are described as either 'small' or 'very small'. However, no information is available on the spread of abstractions in terms of farm size.

5.3.12 Detailed information on the proportion of total costs which are made up by water is not readily available for the agricultural industry. To get some idea, it is worth considering that the total bill to farms in Northern

¹ Valuing Water Use in Scotland and Northern Ireland for WFD Implementation Purposes (2004)

² Source: DARD *Statistical Review of Northern Ireland Agriculture (2004)*

Ireland for metered water use is £6.66m.³ Given that the total expenditure by farmers in operating and maintaining farms in Northern Ireland in 2004 was £771m⁴, then this suggests that metered water represents less than 1% of overall costs to farms. While water costs to dairy farms are likely to be a higher proportion, given the need for consumption by cattle and so on, it is still not likely to exceed 5% of total costs. If Dairy farmers are abstracting less than 20m³ per day then under option 2 there would be no additional cost to the farmer. Under Option 3 the farmer would be charged for a licence regardless of abstraction levels. Under option 2 if the farmer abstracts less than 100m³ per day then they would have to pay to ensure compliance with first tier licensing conditions. Again this is likely to be a small charge and would not be considered significant in relation to total costs.

5.3.13 It is estimated that 350 pig and poultry farms currently abstract/impound water, however, the abstracted volume falls within first tier authorisation implying that costs incurred are likely to be low and not significant. The case is similar for Horticultural, Mushroom and other farms.

5.3.14 Most abstraction for spray irrigation takes place only during the summer months. The financial benefits of having water available for irrigation at the critical period for optimum growth can be significant. In addition, most growers know that they will receive greater benefits from over-irrigating than under irrigating (WS Atkins, 1998). The higher value crops (e.g. potatoes, lettuce and fruit) are more vulnerable to water loss so the potential financial losses through crop failure, or failure to meet the contractual requirements, are considerably greater.

5.3.15 The ability for farms to pass on increases in costs to the consumer is difficult to assess. The nature of the market is constantly evolving with buyer power increasing and markets open to European and wider competition. It is likely that some farms may incur slightly higher costs as a result of the Regulations than others. Therefore as goods produced can be easily substituted it is unlikely that higher costs of production would be passed to the consumer in the form of higher market prices. The farmer is likely to bear any costs himself – again it is not possible to accurately quantify any costs but all analysis undertaken thus far indicates that any cost as a result of the regulations is likely to be insignificant and will certainly not force any firms out of the market or indeed pose a high risk to competitive position.

³ Source: DARD statistics

⁴ Source: DARD *Statistical Review of Northern Ireland Agriculture (2004)*

Commercial and Industrial

5.3.16 The table above also indicates that commercial and industrial sectors contain industry that may be major abstractors of water for business activity. Initial analysis indicates that a 'best guess' figure indicates that half of a total number of 225 industrial/commercial firms that abstract/impound water will be subject to first tier authorisation and half subject to second tier licensing requirements. Within the textiles industry, scouring, dyeing and wet finishing processes use significant amounts of water. The textile industry in Northern Ireland has, of course, been in decline for some time, partly as a result of the impact of competition from foreign manufacturers. Thus, the potential for an additional cost on local textile firms may be seen as imposing a further disadvantage. Under options 2 and 3 textile firms will be required to pay for a licence and annual charge.

5.3.17 The impact on the industry as a whole depends on a number of factors, including the nature of the abstractions, in terms of the risk imposed on the local water environment. In addition, it will depend on the overall costs facing textile firms, as well as the ability of such firms to pass increased costs onto consumers.

5.3.18 Available information⁵ suggests that the proportion of any firm's costs which are attributable to water is relatively small (ranging from 1 to 5%). Therefore, the additional impact on overall costs associated with application and compliance may not be significant. However, within current conditions, the ability to pass costs on to consumers, when other non EU-countries can compete so effectively on cost terms, would appear to be limited. The greatest difference between users falling under this heading is in whether or not water is an intrinsic part of the product. For other industry users, water may form part of the manufacturing process or be used primarily for cleaning or for cooling.

Nurseries

5.3.19 A nursery is a place where plants are propagated and grown to usable size. In order to achieve this there is a demand for water, the quantity of water used depends on the size of the nursery. Within Northern Ireland it has been estimated that there are 50 nurseries that abstract/impound water for supply. Of these 50 none are expected to abstract over 100 m³ per day. Therefore under option 2 they would be required to pay for a simple licence. This is not expected to be substantial in cost and would be low relative to total costs. Again option 3 does not make this distinction and if selected as the preferred option would impose higher relative costs onto firms who abstract a lesser volume of water.

⁵ DETR (2000) Economics Instruments in relation to Water Abstraction

Fish Farms and Hatcheries and Put and Take Fisheries

5.3.20 The aquaculture sector in Northern Ireland covers all of the main types of fish farm, marine and freshwater producing fish and shellfish. The sector employs approximately 168 people, producing freshwater fish valued at £3.3 million per year and shellfish valued at over £1 million per year⁶

5.3.21 Water is an integral part of the production process in fish farms and hatcheries. This is reflected in table 5.1 which shows that 90% of the estimated 50 businesses that will be effected by the regulations in this sector abstract over 100 m³/d. Therefore there is the potential that, depending on the actual amount of water abstracted, costs could be significant. Again at this stage it is not possible to be more accurate due to limited information. Likewise Put and Take fisheries of which there are estimated to be 350 that abstract water and 70% of these abstract in excess of 100m³/d. It has not been possible to access any financial information that would suggest turnover levels or operating expenses. It is important to understand the extent by which the businesses can absorb costs or indeed pass these costs on to customers/users etc. Under Option 2 the majority of fish farms as well as Put and Take fisheries will incur costs under the full licensing scheme. These costs will be in proportion to the amount of water abstracted/impounded. Under option 3 even if the firm abstracted a relatively small amount of water in comparison to large abstractors such as Water Service the licence cost would be the same. Therefore there are equity and fairness issues that would arise under this option if it were preferred.

Quarrying/Mining/Mineral

5.3.22 Employment in mining and quarrying accounts for a quarter of a percent of total employment (DETI 2001). The significant areas of mineral production are spread throughout Northern Ireland. Of the predicted number of licences required in Northern Ireland 70% of firms will fall into the first tier regime and 30% into the second tier. Again implementation of the proposed regulations under the guise of either options 2 or 3 are not expected to impact significantly on either industry in any economic respect.

Food and Drink

5.3.23 The manufacture of food and drink accounts for 5.75% of gross value added to the economy of Northern Ireland. The number employed in

⁶ Sniffer WFD 18 – Valuing Water Use in Scotland and Northern Ireland for WFD implementation purposes.

this industry in Northern Ireland is around 19,300⁷, nearly 2.77% of total employment.

5.3.24 Again, detailed information on the amount of water abstraction undertaken by the 'food processing' industry is limited. However under option 2 the cost to the firm will be dependent on the amount and risk of abstraction, under option 3 firms will suffer a cost regardless of abstraction levels. Thus it can be stated that option 3 is certainly proving to be the more costly option to firms. These costs may be more substantial to some firms than others; indeed it is only possible to verify this once better data becomes available. Certainly the cost to industry as a whole under option 3, taking into account the aggregation of costs for licences under this option could be substantial therefore running the risk of offsetting competitiveness which will impact negatively on the individual consumer and the wider economy as a whole.

5.3.25 The sector is dominated by a number of large firms, with the largest ten companies accounting for 38% of gross turnover, 40% of value added and 36% of total employment in the sector (DARD 2002). Under option 2 it is envisaged that the larger firms abstracting more water will incur higher costs than smaller firms abstracting less. Thus this can be viewed as fair and equitable, option 3 removes this element.

5.3.26 The manufacture of food and drinks understandably uses considerable volumes of water, both for cleaning and as a significant component of the final product. Over 25 billion litres of water are used in the manufacture of soft drinks within the UK each year in the manufacture of 10 billion litres of product (ETBPP, 1998b). The main source of water used for these purposes is groundwater, although some companies use mains water for equipment washing, container rinsing and domestic use. A typical soft drinks manufacturer uses around 48% of total consumption on cleaning, while a typical brewery uses 45%.

5.3.27 In terms of considering costs specific to Northern Ireland firms resulting from the regulations much will depend on the specific characteristics of that firm.

Amenity, Leisure and Recreation (including Golf Courses)

5.3.28 There are estimated to be 30 recreational facilities that abstract water. Of this half will fall into simple licensing and half will fall into the "full" licensing regime. It may be possible for some institutions to pass on costs to consumers as often they operate in markets where there are few substitutes and therefore a more inelastic demand curve. There are estimated to be 150 golf clubs in Northern Ireland that may be affected by the Regulations, they rely on large volumes of water to irrigate the course. Again it may be possible to pass on any additional costs to consumers. It is not expected that these costs will be substantial, however, it may be important to consider the potential of

⁷ Source: DARD *Northern Ireland Agri-food sector Key Statistics (2005)*

loss of amenity or leisure to the consumer. The risk of this actually occurring depends on the likely charges the particular institution will incur.

Local Councils/Health Trusts/Hospitals/Schools

5.3.29 There are likely to be costs incurred to these public bodies as a result of the Regulations. Again the exact magnitude of these costs is not known; much depends on this, as this will dictate possible channels or means for passing on costs. In respect to the afore mentioned public bodies it is a possibility that the likely low cost will be funded out of the public purse.

Summary of Sectoral Analysis

5.3.30 The above analysis has succeeded in identifying the sectors that are likely to be impacted by the new Regulations. However due to a lack of information a more in-depth analysis of the impact of costs on the different sectors has not been possible. However what is important to note is that the cost to government as indicated in the following section is £630,000. It is likely that 90% of this cost will fall to the Water Service. This means that the remaining cost to other sectors is likely to be small and will be dissipated throughout the affected sectors. The exact extent to which other industrial sectors incur costs is very case specific and will be dictated by a number of factors that a firm may or may not display.

5.4 Costs to Government

5.4.1 The costs to the Department associated with the introduction of the Regulations will relate to regulation, administration and enforcement. This will not only involve the use of staff time but will also mean additional administrative and other expenses. These costs are estimated at some £630k.

5.5 Costs to Consumers

5.5.1 The costs to consumers as a result of the introduction of these regulations are likely to consist of those costs that arise if businesses facing higher costs are able to pass these costs onto consumers.

5.5.2 The ability of business to transfer costs, for some goods, may be difficult. For example, for goods which are relatively inexpensive, where there is a wide range of products to choose from, a range of different suppliers or where there are a number of substitutes, then in these cases, it may be difficult to pass increased costs on to consumers.

5.6 Benefits

5.6.1 It is important, given the analysis carried out above, to examine the benefits of the introduction of these new Regulations in order to better understand the value of the new system being proposed. The benefits which should arise as a result of these new Regulations consist of:

Environmental Benefits

5.6.2 The Regulations, through the risk assessment process, will contribute to the protection of sensitive areas. Under option 1 this benefit does not present itself. In pursuing options 2 and 3 this will in turn lead to a more efficient use of water resources, through ensuring, for example, that the volume abstracted is no more than that required for the purpose for which the abstraction is serving. The efficient and sustainable use of water will also lead to a reduction in treatment costs.

5.6.3 The current system of protecting the water environment is not adequate. The new regime will allow EHS to provide an integrated system of monitoring and regulation. This is important because the main impacts upon the water environment interact. Abstractions result in less water in a river and therefore less dilution for discharges. As a consequence more stringent discharge standards would be required.

5.6.4 More generally, over 800 (one fifth) of the Sites of Special Scientific Interest (SSSI) in Britain are dependent upon the proper functioning of wetland ecosystems, where these include rivers, lakes, bogs, fens and marshes. These wetland ecosystems are one of this country's most endangered wildlife habitats. However, water is not only necessary to the proper functioning of wetland ecosystems, it is also essential to sustaining human life and as an input to a variety of economic activities, including power generation, industrial processing and cooling, manufacturing and agricultural activities. In order to meet these wide-ranging needs, water regulators must strike a balance between these competing demands. The current system of water management within Northern Ireland is not adequate to achieve environmental improvements in a sustainable and equitable manner.

Avoidance of Infraction Charges

5.6.5 At present Northern Ireland is not fully compliant with the Habitats Directive. In order to force compliance the European Court of Justice has commenced infraction proceedings against the UK. Although this has not yet moved to the final stage, should non compliance persist it is possible that the UK and Northern Ireland will incur hefty fines. Infraction charges would persist until compliance with the Directive is met.

Improved Information

5.6.6 A benefit to the Department will be in terms of the improved information that it will have on existing and future abstractions and impoundments. Under option 1, given the absence of any regulated system at present, the level of information available is poor. The introduction of these new Regulations, in the form of options 2 or 3, will not only provide a valuable information source, it will also assist the Department to meet other legislative requirements, the most important of these being the Water Framework Directive. The licensing system will form a key part of the river basin management planning process, which is central to implementation of the Water Framework Directive. In particular the process of developing a programme of measures and designing environmental monitoring programmes.

5.6.7 Under Option 1, no new information would be obtained through a regulatory process. This would pose serious problems for the river basin planning process. EHS would be unable to develop a programme of measures for addressing abstraction and impoundment pressures for the first River Basin Management Plan. This would leave Northern Ireland open to infraction charges from Europe.

5.6.8 Options 2 and 3 would provide information on the location of abstraction and impoundment activities. EHS will use this information to assess the risk of the cumulative impact of abstractions within the water environment.

Possible Economic Redress Mechanism

5.6.9 The introduction of the Regulations and the charging regime may lead to increased efficiency and a streamlining of the production processes adopted by concerned firms. In an attempt to offset some of the costs incurred under the new regime it may be possible for firms to use water more efficiently and less wastefully. This has positive environmental effects and may also enable firms to offset all or a proportion of the licence costs incurred. Although the charging regime will be focused on cost recovery as opposed to incentive pricing there may well be some degree of overlap between the two. Much depends on the behaviour

patterns of firms and the degree of flexibility inherent in the production processes.

5.6.10 Most user groups have the potential to reduce water use, either by reducing losses, recycling or making use of storage facilities. For some users, however, there are constraints on the extent to which water use can be reduced. Farmers, for example, are increasingly subject to requirements on the method of production, as well as crop size and appearance. For breweries and beverage producers water forms an integral part of the product, whilst water companies have security of supply obligations which can also act as a constraint.

5.7 Distributional Impact

5.7.1 Having identified the various costs and benefits associated with the RIA, it is important to examine how these costs and benefits are distributed. That is, the RIA will need to consider what the impact of these costs and benefits could be on the various groups in society. While it is difficult to be precise about what the potential impact might be or the scale of any impact, we can highlight a few factors which will shape the likely outcome:

- the impact on individuals as consumers will depend on the scale of the impact on businesses and the ability of these businesses to pass any increased costs onto consumers. As highlighted above, the greatest potential impact in terms of the use of abstractions is on Water Service. Thus, there is a possibility that these increased costs will be passed on to consumers in the form of increased water charges. The potential cost to Water Service will include the sensitivity of the aquatic environment at the site specific location.
- Some of the potential impact will be on the agricultural sector and on dairy farms in particular. Initial research would indicate that most dairy farms will abstract less than 100m³/d, the charges will be in proportion to the abstracted amount. Some dairy farms who rely more heavily on abstractions may find themselves incurring a slight competitive disadvantage. This could however be offset if the farm itself is larger, more productive and has higher turnover.
- Information on the distribution within Northern Ireland of the other industrial sectors identified earlier, as well as households, is difficult to determine and the small numbers involved would suggest that any impact is likely to be small. Until it is clear what the scale of the impact will be on the various abstractors, it would be difficult to estimate the distributional impact of the regulations.

6. SMALL FIRMS IMPACT TEST

- 6.1 The main factors determining the impact of the proposed Regulations on businesses are the environmental effects of their abstraction/impoundment activities - not the size of the business as such.

7. COMPETITION ASSESSMENT

- 7.1.1 The aim of a competition assessment is to ensure that the normal workings of the markets involved will not be adversely impacted by the introduction of the Regulations. This could thus affect the choice available to consumers or the price and quality of goods which they consume.
- 7.1.2 Overall effects on competition are expected to be low. Competitive forces are an important factor in any market and can often shape and distort the market. In assessing competition it is important to look at the effect the elements that can be effected by it.

The market

- There are a number of markets for different goods which will be affected by the new regulations. These various markets represent a range in terms of the type of market structure. That is, it ranges from those which are typified by a few, large firms (such as the water and electricity sectors) to those in which there are a large number of small firms (dairy farms etc). The impact on the price paid by consumers as a result is likely to be small. In those markets where there are a large number of firms, this is likely to restrict the ability of suppliers to increase prices. In addition, local companies will be competing with firms from abroad, including non-EU firms in some cases.
- For those markets characterised by a few firms, again, early indications are that the impact on these firms' costs will be relatively small.

Effect on firms

- Since the need for a licence will be determined by the scale of water abstracted, this would suggest that for most small firms, the effect will be low. In many cases, firms be subject to general conditions. In general, the cost to a firm will be related to the scale of abstraction and, thus, the scale of operation of the firm. Under option 2 application fees are likely to be small set against total costs. Under option 3 the cost of applying for a licence will be flat

across the board therefore it may be disproportionately expensive for smaller firms with lower profit margins.

Changes to market structure

- There is no evidence to suggest that the Regulations will force any firms to leave the market or will affect the market structure in any way.

Penalising new firms

- The Regulations will apply to existing firms as well as new entrants.

Technological change

- The new Regulations are unlikely to have a negative impact on the degree of innovation in the markets affected. In general, the markets for these goods are not characterised by rapid technological change. In any case relative costs are not expected to be significant enough to offset innovation in any way.

Restrictions on firms

- The Regulations may pose restrictions on some firms who are currently abstracting or impounding water and the activity adversely impacts on protected sites. This could lead these firms to adjust their productive processes or it may result in increased costs of production. Current evidence suggests that there are few sites which are affected by abstractions or impoundments. For the majority of cases, the Regulations will simply lead to better control of abstractions as well as better information for the authorities. Thus, this wouldn't have a significant impact on the ability of these firms to produce their goods.

7.2 Summary

- 7.2.1 Competition is not expected to be significantly distorted by the introduction of Regulations regardless of what option they are implemented under. Under options 2 and 3 such firms will also incur small administrative costs. Broadly speaking these costs are not significant and will not be expected to affect a firm's comparative advantage.

8. ENFORCEMENT, SANCTIONS AND MONITORING

Enforcement and sanctions

The Department of Environment, as the regulatory body will be responsible for enforcement. The provisions to enable the Department to take appropriate action will consist of notices, powers of entry, and enforcement through the courts when necessary.

Monitoring and Review

The Department intend to review the Regulations within 4 years of implementation.

9. Consultation

The Department presented its proposals at meetings with stakeholders who are likely to be affected by the Regulations. A consultation document was issued to approximately 350 organisations and individuals and 23 responses were received. The majority of these were supportive of the proposed scheme.

10. Summary and Recommendation

10.1.1 The recommendation is to take forward Option 2, the Regulations as proposed. This option is considered to offer the appropriate balance between administrative costs incurred, benefits reaped and provision of effective controls for the protection and improvement of the water environment. On the basis of the evidence available, the Government considers that the benefits of the proposed Regulations are likely to outweigh the additional costs.

10.1.2 Option 1 is not considered to be a viable option, mainly as it does not facilitate compliance with the Habitats directive and leaves Northern Ireland open to infraction proceedings and costs from the European Court of Justice. Further, this option will compromise Northern Ireland's position in attempting to complete the River Basin Management process by 2009.

10.1.3 Option 3 can be ruled out, as costs may be disproportionate and unfair in nature impacting unevenly on some firms and industry.

11. DECLARATION

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

Wesley Shannon
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A Senior Officer of the Department of the Environment

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