

MET ÉIREANN

**DEPARTMENT OF THE ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT**

STATEMENT OF PUBLIC-SERVICE FUNCTIONS

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Foreword

The standard of service expected of Met Éireann by its customers has increased significantly in recent times. Of course this is true for all Civil Service offices but in a particular sense Met Éireann has been the victim of its own success – modern weather forecasts have become so reliable that the demand for weather information has greatly increased. Detailed, localised weather information is now required by an ever-growing range of users, with formats, delivery times etc. tailored to individual needs. And Met Éireann has responded to this challenge, utilising traditional and electronic media to communicate the weather ‘message’ in the most effective way possible to all its clients.

The wider context within which Met Éireann carries on its business is also undergoing significant change. The availability of high-quality forecast information has promoted the emergence of a commercial market in forecast products, and Met Éireann has responded by establishing its own commercial operation - both to earn revenue to help defray the cost of the organisation and to maintain its leading position in Irish meteorology. Met Éireann has also expanded its range of environmental programmes, which now extend to monitoring ozone levels, ultra-violet radiation and the chemical composition of air and rainfall samples. The transfer of Met Éireann to the Department of the Environment, Heritage and Local Government in 2002 has facilitated the positioning of meteorology within the wider environmental context. The impact of future climate change on Ireland is being studied through the Community Climate Change Consortium for Ireland (C4I) project. In the aviation sector, major repercussions are expected from the European Commission’s Single European Sky (SES) initiative, an ambitious plan to reform the architecture of European air traffic control and cater for future capacity and safety needs.

In all this multiplicity of new and exciting developments, it might be easy to lose sight of the basic public-service role which has always been Met Éireann’s essential mandate. The present document is therefore timely, as it restates and defines in more precise terms the nature and scope of Met Éireann’s commitment to public-service weather forecasting in Ireland. Whatever the future may hold, Met Éireann will always prioritise the core tasks of issuing general weather forecasts and warnings, so helping to protect life and property and to enhance overall quality of life.

I consider that Met Éireann has, and will continue to have, a significant contribution to make to the nation. I also believe that this Statement of the Public-Service Functions of Met Éireann will not only bring greater clarity to the role of the organisation but will underline the critical importance of the provision of services to the general public.

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1. Introduction

Up to the present there has been no officially approved definition of the functions of Met Éireann. Statements of the functions or "mandate" of the organisation have appeared in Annual Reports and Strategy Statements but these have no legal or official status. A number of developments in recent years have made an officially approved definition of functions at least highly desirable, and perhaps essential.

Firstly, the Strategic Management Initiative (SMI) within the Public Service has led to a requirement for greater accountability for public expenditure. This means that Civil-Service agencies will have to measure the costs of their various activities so that these can be compared with the corresponding benefits. It is obvious that this cannot be done unless the activities in question are clearly defined.

Secondly, the Single European Sky (SES) initiative of the European Union is leading to radical changes in the way in which meteorological services are provided to the international civil-aviation sector. In order to be eligible for designation as the meteorological service provider, Met Éireann must fulfil certain conditions including the clear separation of the costs of air-navigation services from that of the other activities of the organisation. The meteorological services in question are defined in documents of the International Civil Aviation Organisation (ICAO).

A third development is the involvement of National Meteorological Services (NMSs), including Met Éireann, in commercial activity. According to EC competition law, NMSs must be able to show that they are not subsidising their commercial services from the public purse. This requires that they should clearly define their public-service duties and separate them financially from their commercial activities. The Value for Money report of the Comptroller and Auditor General (Report No. 35, April 2000) points out that, at present, "Met Éireann's public-service and commercial rôles are not clearly defined".

These developments are related to the three main areas of Met Éireann service delivery:

- (i) public weather services (PWS)
- (ii) services to civil aviation
- (iii) services provided on a commercial basis.

However, apart from the effort devoted to the provision of direct services, Met Éireann devotes considerable resources to the maintenance of the meteorological infrastructure of observing stations, weather radar, satellite reception facilities, numerical weather prediction (NWP), etc. The output of these systems (coded observations, NWP fields, etc.) does not, generally speaking, go directly to end users but is used as input in providing the services referred to above. Thus we have a fourth category of activity:

- (iv) core services, i.e. provision of the basic infrastructure supporting direct services.

Of these, (i), (ii) and (iv) form part of the broad public-service remit of the organisation. Activity (iii) is different because it involves competition with private-sector suppliers; according to national and EU competition law, it must produce a profit.

The purpose of this document is to define the broad public-service duty of Met Éireann and to divide it into the three categories of Core, PWS and Civil Aviation. The commercial area is also implicitly defined because any activity not included in the definition of the public-service functions must be assumed to be commercial.

A considerable effort has been devoted to the drafting of this document. It has been necessary to go into some detail to define adequately the "boundaries" of the various activities. Current SMI thinking, SES documents and ECOMET* and OECD concepts on the relationship between the public and private sectors have influenced its content. An earlier version of the document was submitted to the Department of Public Enterprise in 2001 and some discussions were held. However, the transfer of Met Éireann to the Department of the Environment, Heritage and Local Government in June 2002 interrupted the process.

It is intended that the finalised document will be used mainly for two purposes:

- to lead to a formal definition of Met Éireann's *raison d'être*, agreed with DEHLG, which will in turn flow into the organisation's mission statement and strategic objectives
- to enable costs and revenues to be correctly allocated to the various categories of activity and thereby provide a sounder basis for the transparent accounting system that has been developed by Met Éireann.

* ECOMET is an economic interest grouping of European NMSs. It has developed principles governing the involvement of NMSs in commercial activity and has obtained confirmation that these are in conformance with EC competition law.

2. Public-Service Functions of Met Éireann: General Principles

General

- 1.1 The functions of a National Meteorological Service (NMS), such as Met Éireann, may be thought of as divided into four parts:
- ◆ a "Core Function" providing certain basic outputs (detailed in Para. 2.1 below) on which the preparation of forecasts, other meteorological products* and services* and monitoring of the environment depends.
 - ◆ a "Public Weather Services (PWS) Function" that provides forecasts and other products as a public service
 - ◆ a "Civil-Aviation Function" that provides services in fulfilment of the State's obligations under the Convention on International Civil Aviation (Chicago Convention)
 - ◆ a "Commercial Function" that provides non-public-service products on a commercial basis.

Of these, the performance of the first three constitute the public-service rôle, or official duty, of the NMS. (This does not imply that they are entirely funded by the State; see Section 2.5 below.) The Commercial Function involves competition with private-sector suppliers and, by EC law, must be financially separate from the public-service functions. Not all NMSs have a Commercial Function but many European ones do. Since this paper is concerned with the definition of the public-service duties of Met Éireann, it will not refer to the Commercial Function except in connection with its separation from the other functions. However, for completeness, a list of generic commercial activities of Met Éireann is shown in the Appendix.

- 1.2 Separation of the costs of the four functions from one another is required in order to provide transparency and accountability in relation to public expenditure, charges to civil aviation and competition in the commercial arena.

Core Function

- 2.1 The principal outputs of the Core Function consist of:
- ◆ current observational data sufficient to meet national and international weather-forecasting requirements
 - ◆ numerical weather-prediction (NWP) products sufficient to meet national requirements
 - ◆ general meteorological guidance, for internal use, upon which forecasts issued to external users are based

* In this document, words such as "service", "product" etc. are used in their ordinary sense and not with the special meanings attached to them by ECOMET or any other organisation.

- ◆ a readily accessible archive of meteorological observations sufficient to define the climate of the country, enable changes in the atmospheric environment to be monitored and provide a record of past weather events (certain geophysical and geochemical data are also included in this category).
- 2.2 These outputs are provided in basic, general-purpose form and are not tailored to the needs of any particular external user.
- 2.3 The following systems are necessary for carrying out the Core Function:
- ◆ Observational systems
These include networks of surface and upper-air observing stations, weather-radar and satellite systems, etc.
 - ◆ Telecommunications systems
These are necessary for the collection and exchange of meteorological reports and forecasts
 - ◆ Data-processing and archiving facilities
These are necessary for NWP, for the support of meteorological and climatological databases and for the quality control of observational data
 - ◆ A core forecasting function
This is required to provide the internal meteorological guidance referred to in 2.1 above
 - ◆ Relevant support services
These include the administrative, scientific and technical services and accommodation devoted to the support the other core-function systems.
- 2.4 Many of the core-function outputs are produced directly by Met Éireann but others are provided indirectly, e.g. through contributions to international organisations such as EUMETSAT, ECMWF, WMO and HIRLAM and through co-operation with other national and international agencies.
- 2.5 There is an international consensus that the provision of the Core Function is a public-service duty. This does not imply that that the Core Function is necessarily funded entirely from the public purse. Other possible sources of funding are:
- ◆ a contribution from the civil-aviation sector in accordance with international agreements
 - ◆ revenue from the licensing of core-function outputs (This does not preclude the provision of some of these outputs free of charge.)
 - ◆ profit from the NMS commercial function.

Public Weather Services (PWS) Function

- 3.1 Besides the provision of core services, Met Éireann has a public-service duty to provide certain meteorological services to:
- ◆ the general public

- ◆ Government Departments and State Agencies
- ◆ certain sectors of the public and groups of customers, as determined by national policy,

where, for reasons of public safety, national security, requirements under international agreements or national policy, the NMS is the appropriate organisation to which these responsibilities should be entrusted. The provision of these services is referred to, in this document, as the "PWS Function".

3.2 The basis for the delimitation of the PWS Function is a consensus, on both the national and the European scale, as to which services are appropriate for provision by the State and which by the private sector (of which the NMS Commercial Function is essentially a part). This consensus has shifted in the past and is likely to do so again depending on the prevailing philosophy on the relative roles of the public and private sectors. Ultimately, there is no objective way of defining the boundary between the PWS and commercial functions: a particular product or service falls in the public-service area if public policy at the time in question so dictates. The summary of public-service duties given in section 3 of this document is based on the current perception of public policy.

3.3 It is useful to make a distinction between public weather services provided free and those that are charged for with a view to reducing their cost to the State.

3.4 Services provided free are also, in many cases, characterised by the fact that they are provided to the public as a whole, or to certain sectors of the public, and not to individuals or private companies. Examples of such services are:

- ◆ warnings of severe weather conditions or environmental hazards likely to endanger life or property
- ◆ a general weather forecast for the public
- ◆ general forecasts and warnings for the agricultural and marine sectors

Another category of free services comprises those provided without charge to Government Departments or agencies. An important example is the service provided to the Defence Forces.

3.5 Public weather services for which a charge is made constitute a relatively small category. This includes certain services that the NMS has a duty to provide but which are delivered on request to individuals. It is legitimate to charge for them in the same way that public services provided by some other Government departments on an individual basis are charged for at the point of service. A typical example would be the provision of a report on past weather conditions to a firm of solicitors. The public-service obligation to provide such reports arises from the fact that courts usually require that they should be produced by an official agency that can be regarded as objective and independent.

3.6 Services to General Aviation also fall into the category of paid PWS. "General Aviation" comprises aviation activity that is not governed by the Chicago Convention. It includes recreational aviation, the use of aircraft by businesses to transport their own staff, etc. It is accepted that, for safety and

other reasons, meteorological services should be provided to General Aviation even if the sector cannot pay their full cost. The aim of Met Éireann is to recover as much of the cost as is feasible.

- 3.7 Although many services requested by Government Departments are provided free, some are paid for and therefore belong to the category of PWS charged for on a cost-recovery basis.
- 3.8 It is important to make a distinction between PWS charged for on a (partial or full) cost-recovery basis and commercial services provided in competition with private suppliers; the costs and revenues associated with the two types of service must also be kept separate. Confusion is possible because of the fact that both generate income. OECD Best Practice Guidelines state that the full cost of charged-for Government services should be determined so as to make clear the subsidy (if any) involved. Also, where the agency providing the charged-for public service is also engaged in competitive commercial activity, care must be taken to ensure that the official service is not subsidising the commercial service.

Civil-Aviation Function

- 4.1 According to the terms of the Convention on International Civil Aviation (Chicago Convention), each State must nominate a "Meteorological Authority" which will be responsible for the provision of prescribed services to civil aviation.
- 4.2 Met Éireann is the ICAO Meteorological Authority for Ireland. However, under SES regulations, it is likely that this function will be assigned to a National Supervisory Authority (NSA). The NSA will be the primary source of regulation for meteorological services to civil aviation. Subject to certification by the NSA (relating essentially to compliance with EC Common Requirements), the Department of Transport may designate a body such as Met Éireann as meteorological service provider to civil aviation.
- 4.3 The services provided by the Civil-Aviation Function are described in Annex 3 to the Convention on International Civil Aviation - Meteorological Service for International Air Navigation, in other Annexes, Procedures for Air Navigation (PANS) and the EUR Air Navigation Plan.
- 4.4 The costs of the Civil-Aviation Function are recovered in full from the airlines in accordance with the recommendations of the relevant international bodies.
- 4.5 Observational, telecommunications and data-processing systems provided specifically to meet the needs of civil aviation belong to the Civil-Aviation Function rather than the Core Function.
- 4.6 As indicated in Paragraph 2.5, it is legitimate to recover an appropriate fraction of the cost of the Core Function from the airlines.

Note: A different situation arises where a Department invites tenders from the private sector for a service and Met Éireann's Commercial Division obtains the contract. This constitutes a commercial transaction and does not belong to the PWS category at all.

Commercial Function

- 5.1 One of Met Éireann's objectives is to engage in profitable commercial activity in order to help reduce exchequer costs. In doing so, it is actually or potentially in competition with private-sector suppliers of meteorological services, including the commercial divisions of other NMSs. National and EU competition law require that there should be no cross-subsidy from the public-service to the Commercial Function.
- 5.2 The particular services offered by the Commercial Function do not constitute any part of the public-service duty of Met Éireann. Conversely, if public policy requires that any particular service should be provided by Met Éireann as a public service (whether free or on a cost-recovery basis), that service cannot be part of the output of the Commercial Function.
- 5.3 It must be understood that the following activities do not belong to the Commercial Function:
- ◆ licensing of Core output (Core Function)
 - ◆ services to civil aviation under the Chicago Convention (Civil-Aviation Function)
 - ◆ PWS provided on a cost-recovery or partial cost-recovery basis (PWS Function)

The income and cost associated with these activities must be kept separate for accounting purposes.

Functional Separation

- 6.1 In general, in order to separate the costs of the four functions effectively, it is desirable to separate the activities functionally to the greatest degree feasible, consistent with efficient maintenance of operations. However, in a small service it is not possible to have totally different units dealing with the different categories of activity.

3. Summary of Public-Service Duties of Met Éireann

Core Function

Observational systems

Provision and maintenance of networks of observing stations and equipment to the standards recommended by the relevant international organisations, such as WMO and EMEP, and in accordance with best international practice. The types of observations required include:

- ◆ surface (including land and marine) synoptic observations, both manual and automatic
- ◆ surface climatological and rainfall observations
- ◆ upper-air observations
- ◆ weather-radar observations
- ◆ weather-satellite observations
- ◆ geophysical observations
- ◆ observations of the atmosphere related to environmental quality

Telecommunications systems

Provision and maintenance of a basic meteorological telecommunications infrastructure, the main purposes of which are:

- ◆ collection of data from the Irish observational networks
- ◆ transmission of Irish observations for international use
- ◆ reception and dissemination of observational and forecast data from international sources (including EUMETSAT and ECMWF)
- ◆

Data-processing and archiving facilities

Provision and maintenance of sufficient computing and data-storage facilities, together with the appropriate software and numerical models to enable:

- ◆ production of short-range (up to 2 days) numerical forecasts at high resolution and frequent time steps for a limited region around Ireland, including direct model output of analysed and forecast weather parameters
- ◆ production of medium-range (up to 10 days) numerical forecasts from a global model at less detailed space and time resolution. (In practice, this requirement is fulfilled indirectly through membership of ECMWF.)
- ◆ collection, quality control, archiving and retrieval of meteorological, geophysical and environmental observations sufficient to describe the climate of the country,

constitute a basis for climatological research and provide a record of past weather events.

Core forecasting function

Provision and maintenance of meteorological expertise and facilities sufficient to provide meteorological guidance for staff within the organisation.

Other Core facilities

The Core Function also includes the following facilities:

- ◆ a research facility devoted to the development of the short-range NWP model and to research relevant to the other core-sector objectives, including environmental monitoring
- ◆ the National Meteorological Library
- ◆ a laboratory for the analysis of atmospheric environmental data
- ◆ representation of Ireland on international meteorological organisations and liaison with other bodies on meteorological and environmental matters

Public Weather Services Function

Services provided free

Warnings and general forecasts

- ◆ Warnings of weather conditions or environmental hazards likely to endanger life, health or property.
- ◆ A general forecast, including a regional breakdown and a “further outlook” to four or more days, depending on the weather situation. This forecast will be issued a number of times per day. It is designed primarily for reading out on radio and its length will be correspondingly limited.
- ◆ Forecasts and warnings for specific sectors as determined by public policy, e.g. specialised warnings and forecasts for agriculture; sea-area forecasts and gale warnings for the fisheries/marine sector.

These forecasts and warnings will be distributed free of charge to the appropriate national and local dissemination media^{*}. They will generally be issued in text form but may include simple graphics where the medium of distribution, e.g. the Internet, lends itself to this.

* By “appropriate dissemination media” are meant, in this case, media outlets that, in the opinion of Met Éireann, are sufficient to make the forecast available to the general public or to the appropriate sector, as the case may be. Met Éireann may provide the same warnings and forecasts to other outlets or users but any such provision will be treated as a commercial transaction and is not part of Met Éireann’s official duty. However, in the case of such transactions, there will be no charge for the content of the forecast or warning.

Climatological information

- ◆ Monthly and annual weather summaries, consisting of text and simple graphics, distributed to the national press, TV and radio and disseminated via the Internet.
- ◆ Production and publication of climatological normals for standard periods. (However, it is normal to put a price on publications to cover the cost of printing and distribution.)
- ◆ Production and publication of climatological statistics as required by public policy, e.g. extreme value statistics for engineering design standards.

Services for Government Departments and agencies

- ◆ Meteorological support for the Defence Forces.
- ◆ Forecasts and warnings for central agencies responsible for dealing with public-safety emergencies.
- ◆ Reports on past weather conditions.
- ◆ Advice to the Government on policy matters related to meteorology, climatology and climate change.

PWS provided on the basis of full or partial cost recovery

Warnings

- ◆ Warnings of weather conditions likely to endanger life or property, requested on an individual basis by Local Authorities or other agencies.

Climatological information

- ◆ Provision of past weather data for legal purposes, in response to enquiries from An Garda Síochána and solicitors.
- ◆ A Monthly Weather Bulletin giving a detailed report of the weather for each month and season.
- ◆ Provision of design data on an individual basis.

Services for General Aviation

- ◆ Weather briefing
- ◆ Products provided specifically for General Aviation, e.g. low-level Significant Weather Charts
- ◆ Delivery of OPMET data (There will be no charge for the data itself)

Services for Government Departments and agencies

- ◆ Services to Departments and agencies responsible for environmental protection and other functions, excluding public safety.

Appendix

Commercial Activities of Met Éireann

As mentioned in the Statement of Public-Service Functions, Met Éireann engages in commercial activity in addition to the Public Service functions outlined there. These commercial functions stem from the mandate given by successive governments to Met Éireann to earn revenue which can help to defray the cost to the Exchequer.

For the purpose of providing a more complete picture, the commercial activities are summarised here, not on the basis of individual customers, but in generic terms.

It can be noted that some of these functions are closely allied to the Public Service functions, in that they target citizens in general rather a particular segment of the population. Services to the media listed below may include weather warnings and other public service information for which no charge is levied.

Generic Commercial Activities

- Services to radio and television stations.
- Services to national and regional newspapers.
- A premium-rate telephone weather service.
- Forecasts to many economic and social sectors such as:
 - civil engineering (e.g. construction companies),
 - manufacturing (e.g. electronics companies),
 - oil/gas exploration,
 - film production,
 - sports or leisure interests (e.g. racecourses),
 - energy utilities,
 - transport,
 - individuals.
- Climate reports to commercial operators such as consulting engineers or energy companies.

Civil Aviation Function

Services are provided to civil aviation in accordance with the Convention on International Civil Aviation, Annex 3: Meteorological Service for International Air Navigation, other Annexes, PANS and the EUR Air Navigation Plan.

Glossary

DEHLG	Department of the Environment, Heritage and Local Government
EC	European Community
ECMWF	European Centre for Medium-Range Weather Forecasts
ECOMET	Economic Interest Grouping of European NMSs
EMEP	Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe
EU	European Union
EUMETSAT	European Meteorological Satellite Organisation
EUR	ICAO European Region
HIRLAM	High Resolution Limited Area Model Group
ICAO	International Civil Aviation Organisation
NMS	National Meteorological Service
NSA	National Supervisory Authority (under SES)
NWP	Numerical Weather Prediction
OECD	Organisation for Economic Co-operation and Development
OPMET	Formatted aviation observations and forecasts
PANS	Procedures for Air Navigation Services (issued by ICAO)
PWS	Public Weather Service
SES	Single European Sky
SMI	Strategic Management Initiative
WMO	World Meteorological Organisation