COMMISSION DECISION

of 23 July 2003

on research and development aid in the aviation field which Spain is planning to implement for Gamesa

(notified under document number C(2003) 2518)

(Only the Spanish text is authentic)

(Text with EEA relevance)

(2004/286/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community, and in particular the first subparagraph of Article 88(2) thereof,

Having regard to Council Regulation (EC) No 659/1999 laying down detailed rules for the application of Article 93 of the EC Treaty ([1]), and in particular Article 7 thereof,

Having called on interested parties to submit their comments pursuant to the abovementioned Article,

Whereas:

1. PROCEDURE

(1) By letter dated 28 June 2001, registered as received on 2 July 2001, the Spanish Permanent Representation notified the proposed R&D aid measure in the aviation field for Gamesa in accordance with Article 88(3) of the EC Treaty. Further information was provided by letters dated 3 October 2001, registered as received on 5 October 2001, and 11 January 2002, registered as received on 15 January 2002.

(2) The Commission had the file analysed by an independent scientific expert. The analysis gave rise to a contract signed on 14 December 2001.

(3) By letter dated 12 March 2002, the Commission informed Spain that it had decided to initiate the procedure provided for in Article 88(2) of the EC Treaty in respect of the proposed aid.

(4) By letter dated 26 April 2002 ([2]), registered as received on 29 April 2002, the Spanish authorities sent the Commission their comments.

(5) The Commission's decision to initiate the procedure (referred to below as the decision of 12 March 2002 or decision to initiate the formal examination procedure) was published in the *Official Journal of the European Communities* on 27 April 2002. The Commission called on interested parties to submit their comments on the aid. No interested parties submitted comments within the period set by the Commission.

(6) By letter dated 24 February 2003, the Commission asked the Spanish authorities for additional information. The Spanish authorities provided the information by letter dated 25 March 2003, registered as received on 26 March 2003.

2. DESCRIPTION

(7) The recipient is Gamesa, which manufactures and supplies high-tech goods, equipment and services in the fields of aviation and renewable energy. The number of Gamesa's employees and its turnover exceed the thresholds provided for in Annex I to Commission Regulation (EC) No 70/2001 of 12 January 2001 on the application of Articles 87 and 88 of the EC Treaty to State aid to small and medium-sized enterprises ([3]) below which an enterprise is deemed to be an SME.

(8) Gamesa is currently taking part in a development project for two new regional aeroplanes: the ERJ-170 and the ERJ-190. The project was launched by the Brazilian company Embraer. Gamesa was tasked with supplying the rear fuselage, stabilisers and the tail fin of the two aircraft.

(9) Accordingly, Gamesa set up an R&D project in the Basque Country with a view to acquiring the technologies necessary for developing rear sections for commercial aircraft, which will apply to the ERJ-170/190 project and to other future programmes as well. The project is scheduled to last four years, from 2000 to 2003.

(10) The total cost of the project is […] (*), or […].

(11) The Basque Government (regional administration) plans to support the project by granting aid consisting of an interest-free loan amounting to ESP 4 621 000 000, or EUR 27 772 769,34.

([1]) OJ L 83, 27.3.1999, p. 1.
([2]) OJ C 153, 27.6.2002, p. 14.
([3]) OJ L 10, 13.1.2001, p. 33.
(*) Parts of the text of this decision have been edited to ensure that confidential information is not enclosed; those parts are enclosed in square brackets and marked with an asterisk.

(12) According to the Spanish authorities, the project's work programme comprises the following activities:

(a) *Feasibility studies*

These include the technical study on the project and an analysis of its technical and economic viability.

(b) *Industrial research*

The aim is to acquire the technologies necessary to develop the project:

— overall mechanical technologies
  — leading edges: optimal design, metal/composite, bird impact, icing, simulations, tests,
  — pressure bulkheads: stability, compression of semi-mounted thin rings, composite bulkheads,
  — interchangeability of stabilisers: special equipment, local milling,
  — lightning impact,
  — installation of systems (antennae) on stabilisers,
  — zonal analysis: installation of actuators,
  — drainage systems;
— materials, processes and production technologies
  — composite and plastic materials: qualification of new materials, plastic injection technology, qualification of components, production of leading edges,
  — mechanical materials: use of precipitation-hardenable steels, influence of heat treatment,
  — large forged rings, production techniques,
  — peen-forming,
  — qualification of special cutting technologies;
— inspection, maintenance and repair technologies
  — structural reliability techniques,
  — corrosion prevention: galvanic corrosion, new compound inhibitors, portable anodising,
  — composite repair,
  — repair of bearing housings,
  — advanced inspection methods;
— project technologies
— information technologies
  — simulation and modelling,
  — diagonal voltage,
  — electronic control system (fly-by-wire),
  — calculation methodologies;

(c) *Precompetitive development activities*

This concerns the technical activities necessary for the delivery design, development, integration, testing, certification and operational support for the vertical and horizontal stabilisers and rear fuselage of the ERJ-170/190 aircraft.

In particular, this includes work on:

— basic geometry: basic structural outline,
— definition of standards: production processes must be approved,
— costs: calculation of internal and external costs in order to avoid gaps,
— design: definition, determination of product structure, detailed structural design, system installation design, digital models, test documents for structural interfaces and systems, definition and design of ground support equipment, etc.,
— structures engineering: calculations and structural analysis (static, fatigue, damage tolerance), etc.,
— systems engineering: systems integration support, analysis of distribution of ice masses, analysis of lightning protection, zonal analysis (engine turbine failure, bird impact), etc.,
— certification tests: development of tests with a view to obtaining certification from the relevant authorities,
— maintenance studies: development of maintenance programmes (general accessibility, use of standard components, interchangeability, design techniques for preventing and isolating cracks, etc.),
— development and design of equipment: development of specific assembly tools, design of calibration tools,
— definition of production methods.

3. GROUNDS FOR INITIATING THE PROCEDURE

(13) In its decision of 12 March 2002, the Commission expressed a series of doubts on the following aspects of the proposed aid:

— the classification of work in accordance with the stages of research defined in Annex I to the Community framework for State aid for research and development [1] (the R&D framework) and, in particular, the R&D nature of the certification work and maintenance studies,

[1] OJ C 45, 17.2.1996, p. 5.

— the incentive effect of the aid within the meaning of point 6 of the R&D framework, since the data submitted by the Spanish authorities, pointing to an increase in the company's R&D staff and budget, were difficult to interpret as having an incentive effect. In addition, the Spanish authorities did not mention the costs associated with cross-border cooperation or submit any data which pointed clearly to a market failure. Lastly, the aircraft mainly concerned by the project's results, the ERJ-170/190, had already achieved a very significant degree of maturity, since they were rolled out on 29 October 2001, their maiden flight being scheduled to take place early in 2002 and their first delivery by the end of 2002, which seemed to rule out the existence of significant risks making funding by a non-governmental source impossible.

4. **COMMENTS FROM SPAIN**

(14) The Spanish authorities consider, firstly, that the aid intensity is well within the limits allowed under the R&D framework, even assuming that all the activities involved in the project had to be classified as precompetitive development activities. The initial calculations, carried out in April 2001, were based on the initial timetable, which provided for payments to be made to Gamesa in 2000, 2001, 2002 and 2003 and for repayments to be made by it between 2007 and 2013.

(15) Secondly, as regards the selective nature and the comparative advantage conferred by the aid, the Spanish authorities point out that the aid falls within the framework of a general industrial policy set out in the Interinstitutional Plan for the Economic Promotion of the Basque Country. In particular, the aid for Gamesa was granted as part of a programme of strategic projects. Furthermore, the Spanish authorities argue, there is no selectivity in so far as the two aerospace groups operating in the Basque Country (Gamesa and ITP), although operating in different subsectors, have received equivalent aid proposals under the programme of strategic projects. In addition, it is generally accepted that the average level of government support for R&D activities in the aerospace sector in Europe is below 50 %. The proposed aid for Gamesa, it was argued, is thus in line with, and indeed below, the instruments which other European companies have at their disposal for the development of R&D activities, and not granting the aid would put the company in an unequal position.

(16) As far as the incentive effect of the aid is concerned, the Spanish authorities point out that, in its framework programme 2002-2006 for research, technological development and demonstration activities (the sixth framework programme) aimed at contributing to the creation of the European Research Area, the Commission sets out to promote support for research at international level in key priority areas of exceptional usefulness and added value for Europe, one such area being aerospace. More specifically, the sixth framework programme includes amongst its research priorities that of reinforcing the competitiveness of the fuselage manufacturing industry, by reducing aircraft development costs and aircraft operating costs, and by concentrating on integrated design systems and processes, smarter production technologies, aircraft configuration, aerodynamics, materials and structures, mechanical, electrical and hydraulic systems, etc. According to the Spanish authorities, the Gamesa project is an example of adjusting to these guidelines.

(17) The Spanish authorities take the view that support for this type of activity is necessary and that the incentive effect is clear in the case of Gamesa, given the technological and financial risks involved, the size of the company and the circumstances surrounding the project. In this respect, they argue, account should be taken of the fact that the aerospace industry is closely tied to research and development, which, in this type of enterprise, is markedly cyclical in character due to product life, being especially intensive during the preliminary development stages. Consequently, maintaining a stable research structure is feasible only for large firms, whereas, in the case of medium-sized enterprises such as Gamesa, the objective can only be a medium-term one.

(18) The Spanish authorities point to the considerable increase in research activity anticipated as a result of the project, both in terms of expenditure and staff. As a direct result of the project, thanks to the know-how, technologies and capacities acquired by the firm, it is at present able to present itself as a candidate for equivalent projects carried out by other American manufacturers, under more realistic risk conditions.

(19) With regard to the Commission's doubts as to the unduly large fluctuation in the research budget, the Spanish authorities explain that, in 1999, before the start of the project, research staff consisted of 109 persons, and average expenditure was ESP 2 490 million. Following the start of the project, it is hoped that expenditure will amount to some ESP 4 000 or 4 500 million, with research staff stabilising at around 300 persons. As pointed out by the Spanish authorities, R&D expenditure in aerospace is cyclical, being very substantial during the preliminary product development stages and falling rapidly thereafter. In the case in point, Gamesa anticipates investing […] in four years, with more than half of this being spent in the first year. The firm's objective is to try to maintain a stable R&D structure at the levels attained at the end of the project by incorporating other projects in future that would be pursued at the same time as it, thus allowing the firm to maintain the human capital and technological development capacity achieved.

(20) Furthermore, the ERJ 170/190 project, it is argued, also involves a very substantial need for cross-border cooperation during the development stage. The percentage which cross-border cooperation represents in relation to the total costs for staff directly involved in the research could be put at between 30 % and 50 % as regards cooperation within the European Union, and between 10 % and 20 % outside the European Union, depending on results and how the project develops.

(21) As far as market failure is concerned, the Spanish authorities also point to the cyclical nature of the aerospace market, as may be seen from the figures published by the leading world manufacturers (Airbus, Boeing, Bombardier and Embraer) on deliveries and orders year on year. This trend is normally in line with the trend of world GDP. However, airlines usually react immediately to changes in the trend, by increasing or reducing their orders, thus creating market failures in the aerospace industry throughout the subcontracting chain. This context, which means that the possible profitability of the investments may be compromised, reinforces the role of aid as an incentive instrument in the face of market failures.

(22) Furthermore, according to the Spanish authorities, it is an established fact that development cycles in aerospace programmes have become much shorter, requiring greater investment intensity and resulting in an increase in risks, particularly in the case of research projects whose development allows subsequent participation in other aerospace programmes. Thus, the development cycle has fallen in recent years from 10 to five years: 12 months for the conceptual design of the aircraft, eight months for the preliminary design, 17 months for the detailed design, 11 months to the maiden flight and 12 months to certification of the aircraft. In view of the competitiveness of the sector, the conceptual, preliminary and detailed design stages have speeded up considerably, thus increasing the inherent risks and the investment required.

(23) The Spanish authorities thus consider that aid designed to offset this situation has a very significant incentive effect.

(24) As regards the question of the apparent degree of maturity of the project, the Spanish authorities point out that the fact that the aircraft had been rolled out and the maiden flight had taken place was due more to a question of product marketing than to the finalisation of the product's development. Furthermore, the project was not aimed solely at developing a product, but also at developing the technologies that would provide the capacity for developing an aircraft structure applicable to different models. According to the Spanish authorities, the timing of a maiden flight was important in the process of developing an aircraft, particularly in order to determine the real aerodynamic characteristics of the aircraft and identify certification tasks. But it was also very important in commercial terms, since it influenced the sales campaign, which gets under way well before the product is ready to be manufactured. At this stage, a large number of technical problems remain to be solved, such as weight optimisation, emergency handling of the aircraft, etc. The Spanish authorities also point out that, when the decision was taken to initiate proceedings, the ERJ 190 model had not yet carried out its maiden flight and that it carries 108 passengers as opposed to the 70 carried by the ERJ 170, which means a 50 % increase in the aircraft's maximum take-off weight and requires a major redesign of the aircraft's internal structure.

(25) With regard to the Commission's doubts as to the R&D nature of the certification work and maintenance studies, the Spanish authorities reiterate that all the tests included in the project are directly linked to the development of the product and that the project does not include any certification test that is linked to the marketing or indeed the manufacture of products. The Spanish authorities stress that the costs and time involved in developing aerospace projects mean that any stage that may affect the viability of the project should be tackled early. This is the case with development tests, since they anticipate and preclude any risk in future certification tests and underpin the development of the product itself. Such development tests serve to validate the technologies developed by Gamesa. Such studies may therefore be considered to form part of the same R&D stage as the development of this technology itself (industrial research). Of course, the tests must be performed on similar models in terms of materials and structural characteristics as those whose technology is to be validated, but not necessarily on versions of the product that are sufficiently close to the version that is to be marketed.

(26) The Spanish authorities state that they share the Commission's view that it is not possible to classify as R&D activities within the meaning of the R&D guidelines certification activities carried out on an already approved prototype with a view to providing legal backing for the marketing of the prototype. However, according to the Spanish authorities, the development of any product involves a large number of tests, trials and certifications which affect materials, specifications and designs and which, depending on the results, affect the project or require modifications to the product. The Spanish authorities consider that these types of tests form part of the development of a new product and are customary in R&D projects in any sector.

(27) According to the Spanish authorities, the same applies to maintenance studies, which must begin during the initial design stages, since they affect the direct operational cost (DOC) resulting from the project and hence its very viability. The DOC is the total of the various costs involved in flight and maintenance, which include essentially ownership costs (amortisation and

interest on capital invested), insurance, flight costs (crew, fuel and oil, takeoff and landing charges) and maintenance costs. The total cost of maintenance is the sum of the engine, the structure and the maintenance margins, and the design of structures has a major influence on questions such as the selection of materials and standardised processes for the aircraft, tools, accessibility, reliability, intervals between inspections, the life of the various components, scope for replacement components, etc. All of this means that, during the initial stages of design, work must be carried out specifically on these tasks so as to keep maintenance costs as low as possible, such costs being an essential parameter in the development of aerospace products.

(28) The Spanish authorities also state that the Commission itself, in the sixth framework programme, included amongst research priorities in the aerospace sector those linked to reducing aircraft development costs. The Spanish authorities believe it would be difficult to explain how the same type of activity could be considered a priority for research guidelines in Europe at general level and at the same time called into question in this specific case.

(29) As regards the Commission's doubts as to the classification of work in accordance with the stages of research defined in Annex I to the R&D framework, the Spanish authorities consider that the definitions of these stages are sufficiently general for their application to a specific and complex project to be able to give rise to different points of view. The Spanish authorities believe that they have already explained their reasons for including the various costs in each of the stages. In their view, it would be difficult at all events to take the view that a project on such a scale could take place without an industrial research stage, particularly for a firm dealing for the first time with the technologies required for complex structures such as those being developed in this project.

(30) In the case in point, it was considered that […] (*) out of a total of […] could correspond to this category of costs, taking into account the costs incurred in acquiring new know-how to enable Gamesa to develop structures that it had never developed before. Specifically, the new know-how relates to the following technologies: mechanical technologies (leading edges, pressure hulls, action and control systems, electrical cabling, rudders, fins/stabilisers, rear fuselage interface), manufacturing technologies (composite material, cutting technologies, joining technologies), inspection, maintenance and repair technologies (non-destructive inspections, servicing plans, corrosion, repair technologies) and drafting and certification technologies (informational, analytical and simulation technologies, test technology).

(*) 24 % of the eligible costs notified by the Spanish authorities

(31) All the other research activities more directly linked to development of the product were included in the category precompetitive research. At all events, this was, according to the Spanish authorities, a purely indicative classification, since, in the aid proposal notified to the Commission, the whole of the project was treated as precompetitive development activities.

5. **ASSESSMENT**

(32) The measures planned by the Spanish authorities confer an advantage on the recipient firm by relieving it of some of the costs incurred through the research activities which it should in principle bear itself. This advantage is also selective with respect to other Community firms which might wish to carry out such research projects. It could also affect intra-Community trade, since Gamesa competes with European firms such as GKN (United Kingdom), Hurel-Dubois (France and the United Kingdom) and Latecoère (France). Lastly, the interest-free loans are granted direct by the Basque Government, and consequently the advantages must be deemed to have been conferred by means of State resources. The measures in question therefore constitute State aid within the meaning of Article 87(1) of the EC Treaty.

(33) As stated in paragraph (13) of this Decision, the Commission has expressed doubts on this project. The questions arising will be examined below.

With regard to the classification of certain activities under the stage of research within the meaning of Annex I to the R&D framework

(34) The Commission notes firstly that the Spanish authorities have not provided any new information to justify why certain activities in the research programme are classified as industrial research within the meaning of Annex I to the R&D framework. The Commission therefore considers that its doubts on this matter stand and that it must accordingly regard all of the work as being at most as close to the market as precompetitive development activities.

(35) As far as the classification of the certification work is concerned, the Commission notes that the Spanish authorities seem to draw a distinction between some certification work that is more directly involved in the commercial version of the product and other certification work that is reported to be merely preliminary testing. The Spanish authorities share the Commission's analysis that the certification activities do not involve R&D within the meaning of the R&D framework as regards the first of these categories, but not as regards the second. The Commission recognises that,

during the aircraft development process, some tests are technological (but preliminary) in nature, whereas others relate to product certification. The Commission notes, however, that the Spanish authorities have not provided any additional details on the specifics of the work to which the Commission's doubts relate and on the proportion of such work that might not be strictly certification work, but rather preliminary testing work.

(36) In the absence of further details, the Commission therefore considers that the certification activities covered by the programme do not constitute research and development activities within the meaning of the R&D framework and that the costs associated with these activities cannot therefore be included in the costs eligible for aid under the R&D framework. Their total amount, i.e. […], must therefore be withdrawn from the total amount of eligible costs notified by the Spanish authorities.

(37) With regard to the classification of maintenance studies, the Spanish authorities stated that such activities were carried out concurrently with the conceptual design of the aircraft. They also noted that they contributed to reducing the development costs of the aircraft and that research into the reduction of such costs was one of the points in the sixth framework programme, which meant that such activities did indeed come under the heading of R&D. The Commission considers that the fact that some activities are carried out partly in parallel to development of the aircraft and use the results of such development as input data only allows the conclusion to be drawn that they relate to that aircraft in particular and does not allow the conclusion to be drawn that they form part of the research process. At all events, the Commission notes that the activities in question are ones which by definition relate to the final marketed state of the product. Lastly, the Commission notes that the fact that the sixth framework programme includes the reduction of aircraft development costs as one of its objectives does not in any way allow the conclusion to be drawn that any activity aimed at reducing such costs constitutes research. Reducing costs is one of the objectives naturally pursued by any company in a competitive situation. There can be no question of research being involved in this area unless the reduction in costs draws on new processes or new technological concepts, and the Spanish authorities have not provided any precise demonstration of this in the case in point. The Commission therefore considers that its doubts as to the R&D nature of the certification work under the R&D framework still stand.

(38) The Commission therefore considers that the maintenance studies do not constitute research and development activities within the meaning of the R&D framework and that the costs associated with such activities cannot therefore be included in the costs eligible for aid under the R&D framework. The relevant amount, […], must therefore be withdrawn from the total amount of eligible costs notified by the Spanish authorities.

(39) In view of the above considerations, the total amount of eligible costs must therefore be reduced to ESP 8 206 000 000, i.e. EUR 49 319 053,29.

With regard to the incentive effect of the aid

(40) The Commission takes note firstly of the additional information provided by the Spanish authorities regarding the scope of the quantitative data in respect of the incentive effect of the aid. The Commission considers that this information allows it to withdraw its doubts as to the possibility of taking these data into account in assessing the incentive effect of the aid.

(41) Furthermore, from the qualitative point of view, the Commission also takes note of the fact that some of the aspects which it had considered in expressing its doubts as to the degree of maturity of the project did not reflect its real degree of maturity. This is the case in particular with the roll out of the aircraft, which the Commission notes was more in the nature of a statement to customers than a technical stage of the project.

(42) Lastly, the Commission notes that the request for aid was made by the company to the local authorities before the programme was launched.

(43) In view of the above considerations, the Commission takes the view that, in this case, it can regard the aid as having an incentive effect within the meaning of section 6 of the R&D framework.

Conclusion

(44) In view of the above considerations, the Commission takes the view that most of the activities notified by the Spanish authorities can receive aid that is compatible with the conditions set out in the R&D framework. This covers eligible costs amounting to ESP 8 206 000 000, i.e. EUR 49 319 053,29, relating to precompetitive development activities within the meaning of Annex I to the R&D framework.

(45) The maximum admissible intensity of the aid is 25 %, pursuant to point 5.5 of the R&D framework, to which an extra five percentage points may be added pursuant to the second paragraph of point 5.10.2 of the R&D framework, the work being carried out in an area eligible for regional aid under Article 87(3)(c) of the EC Treaty.

(46) The Commission therefore considers that the aid may be authorised under the R&D framework, provided that its gross grant equivalent does not exceed 30 % of EUR 49 319 053,29, i.e. EUR 14 795 715,99.

(47) The Commission notes in this respect that the gross grant equivalent of the aid must be calculated using the reference and discount rate published by it, plus a premium of 400 basis points, since the loan granted by the State does not have any security [1]. For the calculation of the gross grant equivalent of the aid, the Spanish authorities may refer to section 3 of Annex I to the guidelines on national regional aid [2],

HAS ADOPTED THIS DECISION:

Article 1

The State aid which Spain is planning to implement for Gamesa, consisting of an interest-free loan amounting to a total of EUR 27 772 769,34, is compatible with the common market within the meaning of Article 87(3)(c) of the EC Treaty, provided that the gross grant equivalent of the aid does not exceed EUR 14 795 715,99.

The gross grant equivalent of the aid shall be calculated using the reference and discount rate published by the Commission, plus a premium of 400 basis points.

Article 2

Spain shall inform the Commission, within two months of notification of this Decision, of the measures taken to comply with Article 1 above.

Article 3

This Decision is addressed to the Kingdom of Spain.

Done at Brussels, 23 July 2003.

For the Commission

Mario MONTI

Member of the Commission

[1] OJ C 273, 9.9.1997, p. 3.
[2] OJ C 74, 10.3.1998, p. 7.