ANNEX I

THE EUROPEAN ROUTE NETWORK DESIGN (ERND) FUNCTION

PART A

Objective

1. The ERND function shall:

(a) achieve an European Route Network Improvement Plan for the safe and efficient operation of air traffic, taking due account of the environmental impact;

(b) facilitate, within the European Route Network Improvement Plan, the development of an airspace structure offering the required level of safety, capacity, flexibility, responsiveness, environmental performance and seamless provision of expeditious air navigation services, with due regard to security and defence needs;

(c) ensure regional interconnectivity and interoperability of the European route network within the ICAO EUR Region and with adjacent ICAO Regions.

2. The development of an European Route Network Improvement Plan shall rely on a cooperative decision-making process. The European Route Network Improvement Plan shall form the ERND-specific part of the Network Operations Plan and present detailed rules implementing the ERND-part of the Network Strategy Plan.

3. Member States will remain responsible for the detailed development, approval and establishment of the airspace structures for the airspace under their responsibility.

PART B

Planning principles

1. Without prejudice to Member States' sovereignty over the airspace and to the requirements of the Member States relating to public order, public security and defence matters, the Network Manager, Member States, third countries, airspace users, functional airspace blocks and air navigation service providers as part of functional airspace blocks or individually shall develop, using a cooperative decision-making process, the European Route Network Improvement Plan, while applying the airspace design principles set out in this Annex. The European Route Network Improvement Plan shall meet the performance targets set for the Network Manager in the performance scheme.

2. The cooperative decision-making process shall be supported by appropriate permanent detailed working arrangements to be settled at expert level by the Network Manager with the participation of all stakeholders. The consultation arrangements will be organised with a periodicity that reflects the needs of the European Route Network Design function.

3. To ensure appropriate connectivity of the European Route Network Improvement Plan, the Network Manager and the Member States shall include third countries in the cooperative decision-making process in accordance with Article 22. Appropriate cooperation shall be ensured between, on the one hand, the Network Manager and its expert level detailed working arrangements supporting the development of the

European Route Network Improvement Plan and, on the other hand, the relevant ICAO expert level working arrangements covering route network improvements at the interface.

4. The European Route Network Improvement Plan is a rolling plan that shall reflect all the elements necessary to ensure that European airspace is designed as a single entity and meets the applicable performance targets.

5. The plan shall include:

(a) common general principles complemented by technical specifications for airspace design;

(b) military airspace requirements;

(c) an agreed European route network and, where feasible, free route airspace structure designed to meet all user requirements with details covering all the airspace change projects;

(d) route network and free route airspace utilisation rules and availability;

(e) indications on recommended ATC sectorisation in support of the ATS airspace structure to be designed, decided and implemented by the Member States;

(f) guidelines for airspace management;

(g) a detailed development timetable;

(h) the calendar for a common publication and implementation cycle, through the Network Operations Plan;

(i) an overview of the current and expected network situation, including expected performance based on current and agreed plans.

6. The Network Manager shall ensure appropriate arrangements in all activities to allow civil-military coordination in the cooperative decision-making process.

7. The Network Manager, Member States, functional airspace blocks and air navigation service providers as part of functional airspace blocks or individually shall ensure coherent integration of agreed airspace design projects, agreed through the cooperative decision-making process, in the European Route Network Improvement Plan.

8. Member States and functional airspace blocks shall ensure that, prior to implementation, national and functional airspace blocks airspace design projects are compatible and consistent with the European Route Network Improvement Plan and are coordinated with those States impacted by them and the Network Manager.

9. The data regarding the changes to projects that require checking for compatibility and that need to be made available to the Network Manager include, but are not limited to:

(a) changes in route alignment;

(b) changes in route direction;

(c) changes in route purpose;

(d) free route airspace description, including associated utilisation rules;

(e) route utilisation rules and availability;

(f) changes in vertical or horizontal sector boundary;

(g) addition or removal of significant points;

(h) changes in cross-border airspace utilisation;

(i) changes to the coordinates of significant points;

(j) changes affecting data transfer;

(k) changes affecting data published in aeronautical information publications;

(l) changes affecting letters of agreement with regard to airspace design and utilisation.

10. The Network Manager and Member States shall, in the context of this Annex through the cooperative decision-making process, develop common proposals for amendment of the appropriate ICAO documents. In particular, for amendments of ICAO documents related to ATS routes over High Seas, Member States shall apply the applicable ICAO coordination procedures.

11. The Network Manager, Member States, airspace users, airport operators, functional airspace blocks and air navigation service providers as part of functional airspace blocks or individually shall, through the cooperative decision-making process, continuously review the European Route Network Improvement Plan to take into account new or changing demands on the airspace. Continuous coordination will be ensured with the military authorities.

PART C

Airspace design principles

1. With the development of the European Route Network Improvement Plan the Network Manager, Member States, third countries, functional airspace blocks and air navigation service providers as part of functional airspace blocks or individually, shall within the cooperative decision-making process, adhere to the following airspace design principles:

(a) the establishment and configuration of airspace structures shall be based on operational requirements, irrespective of national or functional airspace block borders or FIR boundaries, and shall not necessarily be bound by the division level between upper and lower airspace;

(b) the design of airspace structures shall be a transparent process showing decisions made and their justification through taking into account the requirements of all users whilst reconciling safety, capacity, environmental aspects and with due regard to military and national security needs;

(c) the present and forecast traffic demand, at network and local level, and the performance targets shall be the input for the European Route Network Improvement Plan with a view to satisfying the needs of the main traffic flows and airports;

(d) ensure vertical and horizontal connectivity, including terminal airspace and the airspace structure at the interface;

(e) the possibility for flights to operate along, or as near as possible to, user required routes and flight profiles in the en route phase of flight;

(f) the acceptance for assessment and possible development of all airspace structures proposals, including Free Route Airspace, multiple route options and CDRs, received from stakeholders having an operational requirement in that area;

(g) the design of airspace structures including Free Route Airspace and ATC sectors shall take into account existing or proposed airspace structures designated for activities which require airspace reservation or restriction. To that end only such structures that are in accordance with the application of FUA shall be established. Such structures shall be harmonised and made consistent to the largest possible extent across the entire European network;

(h) ATC sector design development shall commence with the required route or traffic flow alignments within an iterative process that will ensure compatibility between routes or flows and sectors;

(i) ATC sectors shall be designed to enable the construction of sector configurations that satisfy traffic flows and are adaptable and commensurate with variable traffic demand;

(j) agreements on service provision shall be established in cases where ATC sectors require, for operational reasons, to be designed across national or functional airspace block borders or FIR boundaries.

2. The Network Manager, Member States, functional airspace blocks and air navigation service providers as part of functional airspace blocks or individually, through the cooperative decision-making process, shall ensure that the following principles apply in relation to airspace utilisation and capacity management:

(a) airspace structures shall be planned to facilitate flexible and timely airspace use and management with regard to routing options, traffic flows, sector configuration schemes and the configuration of other airspace structures;

(b) airspace structures should accommodate the establishment of additional route options while ensuring their compatibility (capacity considerations and sector design limitations).

PART D

On-going monitoring of performance achievements at network level

1. To ensure the regular performance improvements, the Network Manager, in close cooperation with States, functional airspace blocks and operational stakeholders shall undertake a regular review of the effectiveness of the implemented airspace structures.

2. This review shall include, but it is not limited to:

(a) traffic demand evolution;

(b) capacity and flight efficiency performance and constraints at State, functional airspace block or network level;

(c) evaluation of airspace utilisation aspects from both a civil and military perspective;

(d) evaluation of sectorisation and sector configurations used;

(e) evaluation of airspace structures integrity and continuity;

(f) informing the Commission in cases where the required remedial action exceeds the scope of Network Managers competencies.