

4.34 Both internal and external audit have roles to play with respect to the air navigation services charges that may be collected for an air navigation services organization by another entity. Both audits will need to be satisfied with the control measures in place in the entity collecting the charges and in the entity providing the air navigation services, to ensure that all revenues due to the latter are collected and paid over to it promptly.

PART B — ECONOMIC PERFORMANCE MANAGEMENT

FRAMEWORK

4.35 The purpose of an ANSP is to provide air navigation services that contribute to the safety of flights in an efficient and cost-effective way. Since ANSPs employ considerable resources in their day-to-day operations, performance shortfalls can result in significant additional costs to their users and society as a whole. Furthermore, bad performance of individual ANSPs can have a negative impact on other members of the aviation community including airports and regional planning entities.

4.36 ICAO's policies on charges in Doc 9082 (Section I, paragraphs 13 and 16) recommend that States should ensure, within their economic oversight responsibilities, that ANSPs develop and implement appropriate performance management systems.² The need for an appropriate performance management system is independent from the organizational format of the ANSPs. This is because the performance of an ANSP is more related to its governance than to its ownership and control structure (see Chapter 2, paragraph 2.36).

4.37 Performance management is a systematic and iterative approach to improvement within an organization that consists of defining a strategy and executing it through the alignment of resources and behaviours, so that the performance of the ANSP improves over time. It is an effective way of helping an entity understand how it can improve, to promote a culture of cooperation and collaboration, and to help communicate a unified vision of the entity's general strategy. Performance management should be a part of the business plan of an ANSP. The process of performance management for economic and managerial aspects of ANSPs may consist of several steps, as described in Figure 4-1:

- a) identify key performance areas (KPA's);
- b) define performance objectives through consultation with users and other interested parties;
- c) select performance indicators (and supporting metrics);
- d) establish performance targets through consultation with users and other interested parties;
- e) create and implement a plan in cooperation with other members of the aviation community to achieve performance targets;
- f) consider and, where appropriate, provide performance incentives;
- g) periodically assess actual performance results by using benchmarking as appropriate; and
- h) publish performance reports on results achieved.

2. Although performance management can be applied to all aspects of an ANSP's performance including economic, managerial, operational and technical performance, this chapter focuses exclusively on economic and managerial performance. Operational and technical performance is covered in the *Manual on Global Performance of the Air Navigation System* (Doc 9883).

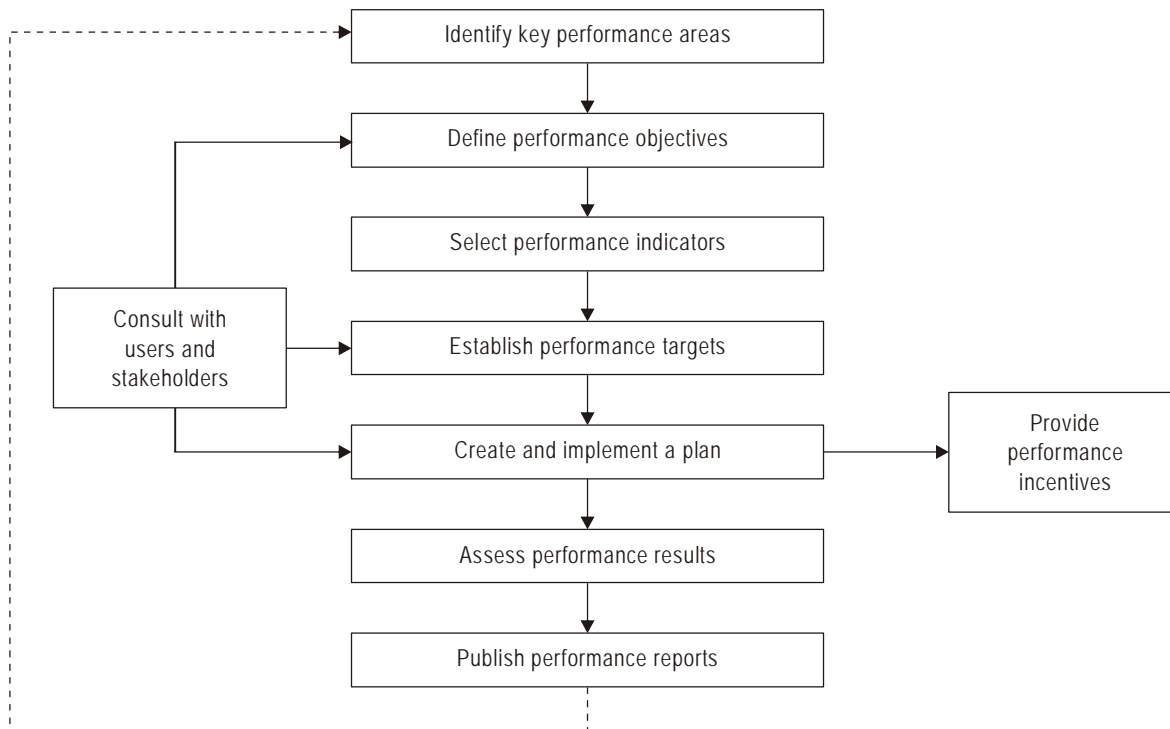


Figure 4-1. Performance management process flow diagram for economic and managerial aspects of ANSPs

4.38 The performance management process uses the results of assessments of actual performance to periodically adjust KPAs, performance objectives, targets and plans to achieve results, as appropriate.

4.39 Consultation with other members of the aviation community (such as States, regulatory authorities, airports and aircraft operators) is an integral part of the performance management process of an ANSP. As individual parties tend to have different expectations, opinions and priorities, the ANSP needs to adopt a process that seeks to reconcile these differences. The process should allow input to the consultation exercise from technical and economics specialists representing the various interested parties. In the event that the initial consultation process fails to result in common understanding, there needs to be a predesigned process that outlines who takes final decisions and how. Such processes may differ between States, depending on the regulations and governance systems pertinent to individual ANSPs.

4.40 There is not just one global, all-encompassing application of the performance management process, but many simultaneous — and often interrelated — applications at more specialized and localized levels. In order to assist States and their ANSPs, it might be useful to establish an independent regional performance review process with the objective of developing performance targets at a regional level and producing regular reports on performance and benchmarking. This would require a commonly-agreed specific set of minimum reporting requirements and would have the merit of producing independent analyses for the various interested parties.

KEY PERFORMANCE AREAS AND PERFORMANCE OBJECTIVES

Identification of key performance areas

4.41 The starting point for developing a successful performance management process is the identification of KPAs. KPAs are a way of categorizing performance subjects related to high-level expectations (i.e. desired results from an external initiative) from the aviation community as well as strategic ambitions of ANSPs.

4.42 For economic and managerial performance of ANSPs, as recommended in ICAO's policies on charges in Doc 9082 (Section I, paragraph 16 i)), focus should be placed on at least four KPAs, namely: safety, quality of service (such as capacity, delay and flight efficiency), productivity and cost-effectiveness. States may choose additional KPAs, as identified in the *ICAO Global Air Traffic Management Operational Concept* (Doc 9854), according to their objectives and particular circumstances. In more general terms, eleven standard KPAs have been identified in Doc 9854, which are, in alphabetical order: access and equity, capacity, cost-effectiveness, efficiency, environment, flexibility, global interoperability, participation by the ATM community, predictability, safety and security.

4.43 Within each KPA, there may be a number of more specific areas (focus areas) where a present or anticipated need for action and improvement has been identified. For example, the list of focus areas in the safety KPA might include: accidents, mid-air collisions, runway incursions and excursions, etc.

Definition of performance objectives

4.44 Performance objectives state a desired trend from today's performance in a qualitative and focused way (for example, reduce the total number of accidents).

4.45 The potential intention to establish performance management is activated by defining at least one performance objective for each of the selected KPAs (more specifically focus areas) through consultation with users and other parties concerned (see Figure 4-2). It should be kept in mind that if too many performance objectives are pursued, efforts will be spread too widely with the likely result that not all objectives will be achieved. Therefore, selecting a few key, high-level, achievable objectives is a good rule to follow. When the ANSP has little prior experience, it would be wise to start from a limited set of low-risk objectives.

4.46 Performance objectives should be measurable while not yet expressed in quantitative terms (quantification of objectives is done as part of performance target-setting). Some objectives lend themselves more easily to measurement than others. Policy-related objectives (for example, develop an adequate level of service) are more difficult to quantify than those related to operations (for example, reduce delays) or costs (for example, reduce costs).

4.47 Objectives that focus on outcomes rather than on outputs, activities or inputs are more likely to improve performance. "Increase runway safety" is an objective focusing on an outcome rather than required inputs (for example, the number of air traffic controllers) or outputs (for example, the number of aircraft contacts). The potential associated objective "reduce runway incursions" also is an outcome.

4.48 Performance objectives are often interrelated and therefore there might be some trade-offs among them. When interrelationships are identified, priorities should be established to resolve conflicts between objectives. In this regard, objectives related to safety should always be the highest priority. Prioritization is supported by risk management, which helps to identify the risks that are most urgent or must be avoided, those that should be transferred or reduced, and those that are reasonable to retain. Also, the objectives at the different levels of the organization need to be linked to ensure overall coherence and focus on priorities throughout the ANSP. This will foster teamwork and facilitate effective communication.

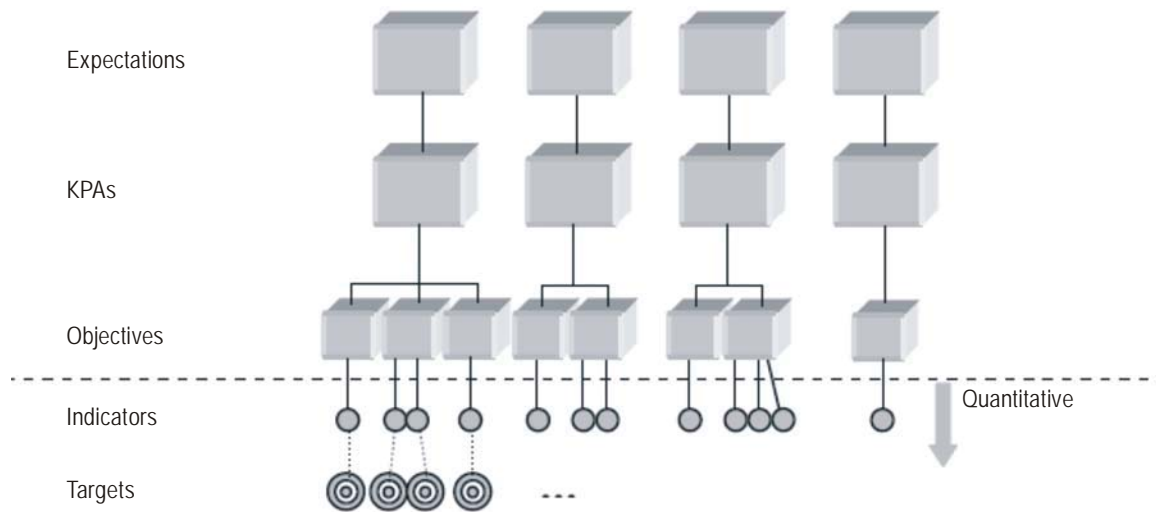


Figure 4-2. Key performance areas, objectives, indicators and targets

PERFORMANCE INDICATORS

Selection of performance indicators

4.49 The performance indicators are a tool for quantitatively measuring past, current and expected future performance (estimated as part of forecasting and performance modelling), as well as the degree to which performance objectives are being and should be met. The performance indicators, which represent the high-level knowledge about the performance of the ANSP, are often called key performance indicators (KPIs). To be relevant, the indicators need to correctly reflect the intention of the associated performance objectives, and thus should not be developed without having specific performance objectives in mind.

4.50 The number of performance indicators within each performance objective should be limited so as to ease the burden on monitoring (collecting and processing statistical data), but should be relevant and sufficient to allow for a comprehensive assessment of performance. Adopting too many indicators has the potential to overload both the ANSPs and the regulators, while too few may not allow for an adequate assessment to be made of performance. ICAO's policies on charges in Doc 9082 (Section I, paragraph 16 ii) recommend that at least one performance indicator is selected and reported for each of the KPAs.

Suggested indicators

4.51 When performance indicators are not directly measured, they should be calculated from supporting metrics according to clearly defined formulas such as $\text{cost per flight} = \frac{\text{Sum}(\text{cost})}{\text{Sum}(\text{flights})}$. Supporting metrics determine which data need to be collected to calculate values for the performance indicators. For example, for the performance objective "improve on-time arrival ..." (within the "quality of service" KPA), the performance indicator could be "average delay per flight". To calculate this performance indicator, one must obtain data on the scheduled and actual arrival times of all flights in the specific planning area. From this, one can determine the total arrival delay (a supporting metric), and divide that value by the number of arrivals (another supporting metric) to calculate the desired performance indicator.

Safety

4.52 From a managerial viewpoint, safety performance indicators generally focus on actual or potential safety events, risk categories and event causality. Potential indicators include:

- a) ICAO Category A and B incidents (risk bearing) per million flights;
- b) separation minima violations per million flights; and
- c) runway incursions per million operations.

4.53 Alternative or additional indicators may include:

- a) ATC-related accidents per million flights;
- b) ATC-related fatal accidents per million flights;
- c) mid-air collisions per million flights;
- d) occurrences of controlled flight into terrain (CFIT) per million flights;
- e) ICAO Category C and D incidents (non-risk bearing) per million flights;
- f) MET forecast accuracy (per cent of forecasts verified as accurate); and
- g) aeronautical information services (AIS) chart accuracy (average number of reported errors per chart).

Quality of service

4.54 There are wide varieties of quality of service performance indicators corresponding to five focus areas, namely: capacity, flight efficiency, predictability, availability and accessibility.

- a) *Capacity* needs to meet airspace user demand at peak times and locations while minimizing restrictions on traffic flow. Potential indicators are:
 - volume of system operations (effective capacity) that can be accommodated with minimal delay (for example one minute per flight or per flight hour);
 - volume of sector operations per period of time (hour) that can be accommodated under different weather conditions and procedures;
 - volume of airport operations per period of time (hour) that can be accommodated under different runway configurations, weather conditions and procedures;
 - sector (or airport) capacity/demand ratio (per cent);
 - duration (hours per year) when demand exceeds capacity (capacity shortage);
 - magnitude of capacity shortage (aircraft movements per hour);
 - number of congested facilities (number of facilities);
 - number of years that capacity profile leads demand profile (years);
 - unaccommodated demand (flights per annum);
 - airport average daily capacity (aircraft movements per day); and
 - airport annual service volume (aircraft movements per year).

- b) *Flight efficiency* may be considered in terms of the frequency and duration of deviations from optimum routes. Flight efficiency should be compared against a baseline of individual user-preferred 4-D trajectories because it is up to individual users to define the criteria that determine their optimum (most efficient) solution.

Flight efficiency can be divided into two main categories: horizontal efficiency and vertical efficiency. Figure 4-3 describes a high-level framework that can be used to measure and compute en-route horizontal flight efficiency outside a certain distance around departure and arrival airports compared to the great circle distance. This framework allows en-route extension to be broken down into a number of performance ratios:

- en-route extension means the ratio between actual route distance to the great circle distance. *All other things being equal, lower en-route extension will improve flight efficiency;*
- direct route extension means the ratio between actual route distance to direct route distance. *All other things being equal, lower direct route extension will describe a straighter en-route path and will improve flight efficiency;*
- TMA interface means the ratio between direct route distance to great circle distance. *All other things being equal, lower TMA interface will highlight a good TMA configuration which allows flights to rapidly take an optimum route and will improve flight efficiency.*

In addition, other potential indicators of flight efficiency include:

- vertical deviations from the requested/optimum flight level;
- horizontal deviations from the requested/optimum route.

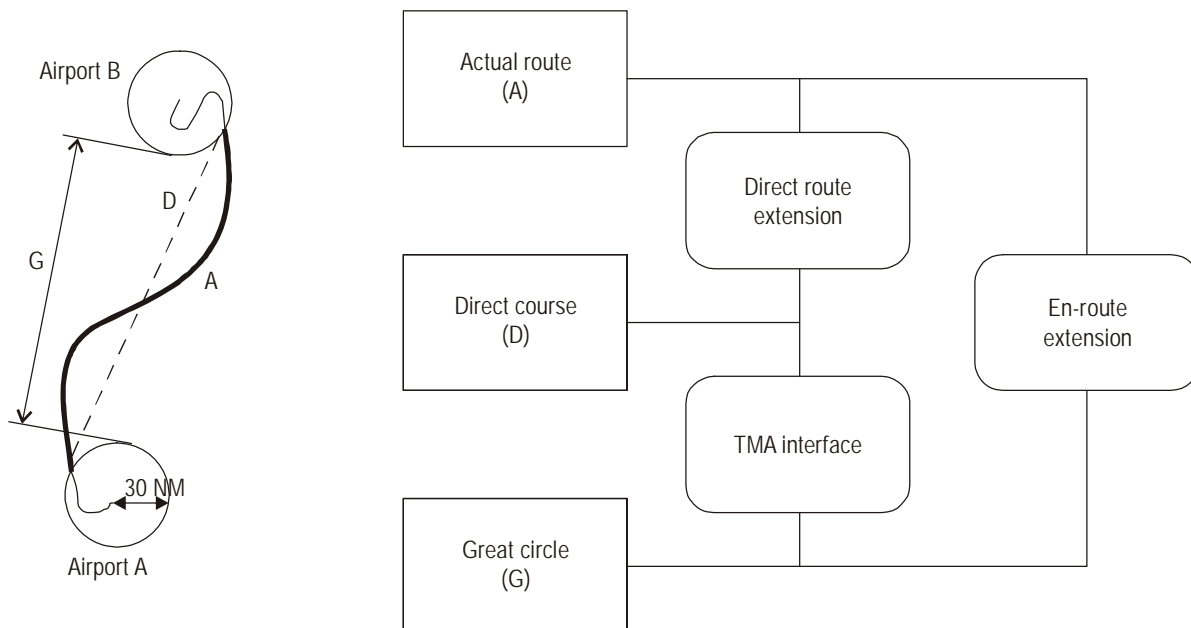


Figure 4-3. Horizontal flight efficiency framework

- c) *Predictability* refers to the ability of the airspace users and the ANSPs to provide consistent and dependable levels of performance and is measured by delay variance. Predictability is essential to airspace users as they develop and operate their schedules. Examples of potential delay indicators include:
- average delay per flight, per flight hour, per delayed flight (in en route or in terminal);
 - percentage of flights with or without attributable delays;
 - number of delays by cause or per region (sector, ACC, ...);
 - number of days with average ATM-related delays of more than one minute;
 - number and/or average duration of delays attributable to ATC;
 - number and/or average duration of departure, en-route and arrival delays;
 - time in stack that could be analysed into per time of day and per airport; and
 - difference between actual aircraft block time compared to the theoretical time associated with published service or requested plans.
- d) *Availability* means the ability of a system to perform its required function at the initiation of the intended operation. It can be described, for example, by the incidence of air navigation equipment outages affecting customers. Incidence may be measured by number of outages, average duration of an outage, and mean time between equipment failures.
- e) *Accessibility* of services provided to different user groups, for example, for regional and local services, and for general aviation.

Productivity

4.55 Productivity performance indicators measure the quantity of output produced by a unit of input. The outputs of ANSPs are generally the quantity of traffic controlled in a given airspace. Typical indicators include:

- a) number of aircraft per centre, per sector or per air traffic control officer (ATCO);
- b) flight hours per centre, per sector or per ATCO;
- c) instrument flight rules (IFR) flight hours per centre, per sector or per ATCO; and
- d) IFR kilometres per centre, per sector or per ATCO.

4.56 Alternative or additional indicators may include:

- a) IFR aircraft movements per terminal ATCO;
- b) total support staff per ATCO; and
- c) flight hours (or kilometres controlled) per unit of capital employed.

In all the previous indicators, ATCO can cover ATCO in operations (OPS) only or the total number of ATCOs in the entity.

Cost-effectiveness

4.57 Cost-effectiveness is generally measured as the cost per unit of output and can be largely divided into two types: financial cost-effectiveness and economic cost-effectiveness. To measure financial cost-effectiveness, the high-level framework depicted in Figure 4-4 may be used.

- e) Support cost per unit of output means the ratio of support costs (defined as the sum of non-ATCO employment costs, non-staff operating costs and capital-related costs) to the traffic output metric. *All other things being equal, lower support costs per unit of output will improve financial cost-effectiveness.*

4.59 Furthermore, ATCO employment cost per ATCO hour (described in 4.58 b)) can be further broken down into the following two elements:

- a) "Average hours on duty per ATCO in OPS" means the contractual working hours, plus the average overtime worked in OPS, minus the average time an ATCO is not on duty in OPS. *All other things being equal, more hours on duty per ATCO improve cost-effectiveness.*
- b) "Employment cost per ATCO" means the total employment cost for an ATCO in OPS comprising the gross wages and salaries, overtime payments, employers' contributions to social security schemes and taxes directly levied on employment, employers' pension contributions and the cost of other benefits. *All other things being equal, lower ATCO employment costs lead to lower ATM/CNS provision costs and so to higher cost-effectiveness.*

4.60 In addition, other potential indicators may include:

- a) ATC cost per flight, per IFR flight hour, per kilometre of IFR flight, per sector or per centre;
- b) operating cost per IFR flight hour, per kilometre of IFR flight, per sector or per centre;
- c) employment cost per ATCO in OPS hours;
- d) non-staff related operating costs per ATCO in OPS hours; and
- e) METAR cost per flight or per airport.

4.61 Economic cost-effectiveness looks at opportunity costs to be incurred when the services provided by an ANSP do not reach an acceptable or desirable level of quality (for example, ATM capacity-related delays and degradation of flight-efficiency). Opportunity costs are often produced due to external cost drivers such as airspace complexity. Airspace complexity may affect the number of sectors required for a given level of traffic. Three generally recognized measures of airspace complexity are vertical distance, number of proximate pairs per kilometre flown, and density adjusted to reflect the concentration of traffic that takes into account airspace congestion.

4.62 Given that the performance objective is to minimize the overall costs, these opportunity costs need to be taken into consideration for a full economic assessment of an ANSP's performance. To this end, a performance indicator of economic cost-effectiveness could comprise, besides the costs for service provision, the cost of delay and the cost of flight inefficiency per unit of output.

4.63 Cost-effectiveness and productivity are related through the unit cost of input. A productivity indicator can be converted into the related cost-effectiveness indicator by multiplying the inverse of the productivity indicator by the unit cost of the input.

Data collection and processing

4.64 Good quality information is a most valuable asset to the whole performance management process and hence information systems must provide all the relevant data. However, data collection and processing (as well as storage and analysis) are not cost-free and may require some investments. ANSPs should always take care that the benefits of data collection and processing justify the cost incurred and that the effort and money spent on the collection

and processing of data are actually used to improve the effectiveness of decision making. It should be noted that ANSPs do not require sophisticated information systems in order to start performance measurement. Management can subsequently add refinements as required.

4.65 For performance management to be effective and credible, it is important to adhere to certain guidelines on data collection and processing. First, the data used must be obtained from relatively accurate sources. Second, the compilation of data should be thorough with clear definitions of services and units of measurement, and if estimation procedures such as sampling are used, they should be free from bias as much as possible. Third, consistent, transparent methodologies should be used to compile or estimate results. Without consistency, changes in performance cannot be meaningfully interpreted (for example, is the observed change caused by a difference in measurement method or by a real difference in performance?).

PERFORMANCE TARGETS

Establishment of performance targets

4.66 Each performance indicator should have a unique target value that needs to be reached or exceeded over a predetermined period in order to consider whether a performance objective has been achieved. Performance targets can be set as a function of time (i.e. the required speed to achieve the targets) and at different aggregation levels (i.e. local, regional or even global). They can also vary by geographic area.

4.67 Realistic and achievable performance targets should be developed in consultation with users and other interested parties. The determination of a baseline performance (i.e. an initial performance level) is a prerequisite to setting performance targets. The baseline performance should be established, taking into account the past year's performance, industry standards (benchmarks), the State's (or an economic oversight entity's) expectations for performance, and analytic work on potential performance improvements and trade-offs. Knowledge gained through the baseline performance and modelling of future scenarios can provide guidance as to achievable target values for performance indicators.

4.68 Target-setting depends on the nature of the objectives and other circumstances. In some cases, the performance targets may be dictated by external circumstances such as a cost reduction of a specified amount or per cent in response to an industry downturn, or a budget cut imposed on a government-owned ANSP. More typically though, the targets should relate to the ANSP's ongoing efforts to improve over time. In this case, they may be more nuanced (for example, established as "meeting", "exceeding" or "far exceeding").

Creation of a plan to achieve the targets

4.69 Achievement of performance targets may require new initiatives, while ANSPs typically have limited resources. Prioritizing staff, financial and infrastructure resources and efforts is important to ensure achievement of the targets. In this respect, decision makers need to gain a good understanding of the strategic fit, the benefits, cost and feasibility of each initiative for performance improvement. To plan how to achieve the targets, it is suggested that an ANSP:

- a) determine what initiatives need to be taken to close current performance gaps, i.e. the shortfall between the baseline performance and its performance target;
- b) estimate the budget, staff, and management time required for each initiative;

- c) prioritize each initiative to most efficiently close performance gaps;
- d) if there are a significant number of new initiatives, determine what non-critical work can be stopped or deferred to free up the resources required to achieve the targets;
- e) establish internal commitment to each initiative and collaboration with users and other interested parties through consultation; and
- f) make public the relevant parts of the plan, in particular targets to be achieved and the performance incentives that the ANSP may be subject to (see paragraphs 4.70 to 4.75).

Performance incentives

4.70 Incentives may be incorporated in the performance management process to help the achievement of the performance targets. Although incentives may apply to both ANSPs and users, the following paragraphs focus on financial incentives for ANSPs (incentives for users are described in Chapter 5, Part G).

4.71 There are a variety of potential incentives that ANSPs can initiate on their own. Such incentives include, but are not limited to, the following:

- a) compensation of ANSP employees tied to meeting performance targets;
- b) share in cost savings/profits amongst ANSP staff for meeting performance targets;
- c) service level agreements with users; and
- d) mechanisms to share traffic and cost risks between ANSPs and users.

4.72 There are also potential incentives that States can establish for ANSPs through some forms of economic oversight. The archetypal example is price cap regulation (see Chapter 1, Part C) under which performance targets for productivity and cost-effectiveness can be set through the introduction of an incentive “x” factor. This means that all traffic and cost risks are for the ANSP. Some other forms of price cap regulations also exist, which introduce a sharing mechanism of traffic and cost risk between ANSPs and users.

4.73 States can also decide to incentivise ANSPs by creating an independent body that will be in charge of reviewing and reporting on a regular basis the performance of ANSPs over time and compared to each other (sometimes defined as sunshine regulation).

4.74 When introducing incentives for cost reduction, States should ensure that safety will not be affected and that quality of service will be maintained at a satisfactory level.

4.75 It should be noted that financial incentives are not necessarily compatible with the full cost-recovery principle, which means by definition that the ANSP should recover all its costs through charges. Within the full cost-recovery principle, any penalty applied to the ANSP would have to be considered an extra cost, which would then have to be charged back to the users. As a consequence, any incentive effect would be lost. Conversely, any reward granted to the ANSP would have to be considered as surplus income, which would then have to be passed back to the users through a decrease in charges if an adjustment mechanism is in place.

PERFORMANCE ASSESSMENT AND REPORT

Assessment and applying results

4.76 A performance assessment continuously keeps track of performance and monitors whether progress is being made in achieving performance objectives and targets. Performance assessment or measurement can start once the required data on performance indicators and targets, as well as actual performance results, are available and should be performed at regular time intervals, at least annually.

4.77 The critical step in a performance assessment is to develop a factual understanding of the reasons for (good/bad) performance and to explain these reasons to high-level decision makers. To this effect, managers in charge should compare actual performance results with performance targets and analyse historical trends of performance results. They should look at the big picture (annual totals and averages, performance results) and also drill down to very detailed levels. If an organization is getting better-than-expected results, managers should determine what factors are causing improved performance and analyse whether those factors could be applied in other areas. If there are deficiencies, cases where performance is not as expected despite the implementation of initiatives designed to achieve targets, managers should determine the root cause of the problem and how it can be improved. It is important to note that the purpose of assessment is not punitive but to assist in the achievement of planned performance improvements.

4.78 An integral part of the performance assessment is the formulation of recommendations, which will fall typically into the following categories (not exhaustive):

- a) recommendations related to the need to improve performance data collection;
- b) suggested initiatives aimed at closing identified performance gaps;
- c) suggestions to accelerate or delay performance improvements, based on the anticipated evolution of traffic demand and predicted performance indicator trends; and
- d) recommendations of an organizational nature (set up a task force, define an action plan, etc.) with a view to actually starting the implementation of the above recommendations.

4.79 Recommendations should also focus on how to meet aviation community expectations through agreed performance objectives and targets. When inconsistencies between expectations and performance objectives and targets are found, recommendations may include the need to (re-)define performance objectives and/or the need to set or change performance indicators and targets.

Benchmarking

4.80 Performance assessment can be used to define a benchmark from which to compare the quantity and/or the quality of different services provided. There are two types of benchmarking, internal and external.

4.81 Internal benchmarking or self-benchmarking within an individual ANSP might be the average performance of facilities of a given type or the performance of a specific facility at a point in time. In the former case, individual facilities are compared to the average level of performance, while in the latter case changes in performance of a single facility over time are compared to its benchmark period. Establishing a benchmark provides an individual ANSP with the opportunity to assess performance levels against its own standards.

4.82 External benchmarking compares performance of an individual ANSP with the performance of other ANSPs at a single point in time and through time. Great care should be taken when making such external benchmarking. The definition and specification of performance objectives and indicators, the methodology of data compilation, and

accounting practices need to be identical between the ANSPs compared. Also, it is important to compare ANSPs that have similar characteristics, such as airspace complexity, traffic volumes, weather patterns and physical geography, as these characteristics greatly affect performance and resource requirements.

4.83 The results of benchmarking must be readily understandable at a decision maker's level and provide a basis for discussion and awareness for all stakeholders including users. Benchmarking can:

- a) improve transparency of a performance management process;
- b) provide insight into opportunities for improvements in the performance (learning opportunities, setting performance targets) of individual ANSPs;
- c) highlight best practices for delivering improvements in performance through the identification of highly efficient or high-quality service facilities and/or processes;
- d) support more effective regional coordination and planning, thereby rationalizing and avoiding duplication of efforts;
- e) support constructive dialogue with users and other interested parties; and
- f) provide global reach to expand the knowledge base.

Investment analysis

4.84 Performance assessment can help support and justify investment decisions. As the investment decisions regarding changes to the provision of air traffic services become more complex, the need for a thorough assessment of performance increases. The identification of best practices and associated levels of output and quality can help estimate the potential benefit or return that could be produced by investment in facilities and equipment, as well as the optimum size of investment.

Forecasting

4.85 Performance assessment results can be used to forecast needed capital and staff investments to meet short-term and long-term demands. Forecasts are an important input to cost-benefit analyses associated with infrastructure development. They can also be used to plan for air traffic controller staffing requirements.

Information disclosure and performance report

4.86 While information disclosure is often an obligation imposed on a statutory monopoly as the counterpart of its monopoly rights and on a public company whose registered securities are traded in the market, it is also an essential component of a performance management process for all ANSPs. Periodic dissemination of appropriate performance information can build public confidence in the ANSP and enable an effective dialogue between all interested parties. It can also support setting objectives/targets and encourage ongoing thinking about what works to improve performance and what improvement opportunities can be pursued by offering a measurable means by which to ascertain how an ANSP is performing against its stated objectives and targets.

4.87 Performance reports normally describe the performance indicators established, the targets selected and the actual results achieved. ICAO's policies on charges in Doc 9082 (Section I, paragraph 16 ii) recommend that, as minimum reporting requirements, at least one relevant performance indicator and its target, for each of the KPAs selected, should be reported. To assist readers with interpreting the report's findings, the derivation of the performance

assessments used, along with a discussion of how these assessments were applied, is also incorporated either directly within the report or by reference to a public document. The level of detail to be provided depends on the circumstances. For example, the information disclosure can be quite comprehensive if it has to be used for the purpose of a price cap regulation.

4.88 Performance reports need not be limited to a review of the ANSP's past performance, but can, to the extent practicable, look forward, anticipating the future needs of the aviation industry. To this end, at the discretion of the individual ANSP, it may be appropriate that the reports include recommendations (see paragraphs 4.78 and 4.77).

4.89 A diverse audience with varied interests will likely read the performance report. Therefore, to ensure that the report addresses the needs of all the stakeholders, including users and regulators, ANSPs should consult with them during the development phase of the report and periodically solicit feedback once the report is published. Performance reports prepared by third parties may be valuable complements to those produced by ANSPs and may assure that stakeholders' needs are addressed; however, such reports should not be a substitute for reports prepared by ANSPs.

4.90 Subject to the limitations mentioned in paragraph 4.82, performance reports could be used as a means of benchmarking an ANSP's performance against other similar ANSPs, in particular on a regional or global basis. By addressing both regional and global issues, the report can facilitate cooperation to improve air traffic control on international routes, provide examples and incentives regarding alternate or new ATM techniques and equipment, and ensure that international obligations are addressed.

4.91 For transparency, performance reports should be readily obtainable and made available to users and other interested parties on a timely basis (for example, placing performance information in the public domain wherever it is possible or practicable to do so). Whether performance reports are subject to an independent audit is left to the discretion of the State.

4.92 In view of the interdependencies of ANSPs, a group of States may also entrust an independent body to undertake regular performance reports in order to obtain an independent assessment of the situation at a regional level, ensuring a homogeneous data definition, collection and analysis, as well as proposed recommendations that could serve as a reference for decisions to be taken at a regional level.
