EAC
No.139-2

Aerodrome Certification manual

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FOREWORD

1. PURPOSE:

This Egyptian Advisory Circular (EAC) provides methods, standards, specifications and recommendations acceptable to the ECAA for showing compliance with the Aerodrome Certification Manual (ACM) requirements contained in Part 139 of the Egyptian Civil Aviation Regulations (ECAR). Consideration will be given to other methods of compliance, which the applicant may elect to present.

2. APPLICATION:

The Standards referenced herein are recommended by the Egyptian Civil Aviation Authority (ECAA) for application on all aerodromes. This material is intended for operators of airports that are required to have an Aerodrome Certificate (AC) for Aerodrome Certification Manual to serve scheduled or unscheduled operations of air carriers.

3. RELATED REFERENCES MATERIAL:

3.1 Regulatory References:

a. Egyptian Civil Aviation Regulation Part 139, Certification and Operations of International and National Land Aerodromes.
b. ECAA DOC. No. 2002-1, Airport Certification Program Handbook

3.2 Advisory Circulars and Variables:

EAC139_1	**Aerodrome Certification**
EAC139_2	**Aerodrome Certification Manual**
EAC139_9	**Runways**
EAC139_10	**Taxiways Apron and Holding Bays**
EAC139_11	**Pavements**
EAC139_12	**Visual aids**
EAC139_13	**Electrical system**
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EAC139_20	**Wildlife Control and Reduction**
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EAC139_30	**SMGCS**
EAC139_33	**Operational safety on airports during Construction (WIP).**
EAC139_34	**Human Factor Principles (Aerodrome)**
EAC139_41	**Number, sitting and orientation of runways**
EAC139_42	**Clearways and Stop ways**
EAC139_43	**Calculation Of Declared Distances**
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EAC139_46	**RUNWAY CONDITION REPORT FOR REPORTING RUNWAY SURFACE CONDITION**
EAC139_47	**Determination of surface friction characteristics for construction and maintenance purposes.**
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EAC139_50	**Location Of Threshold**
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EAC139_63	**Rapid exit taxiway indicator lights.**
EAC139_59	**Obstacle Limitation Surfaces**
EAC139_60	**Aerodrome Safety Competency**
EAC139_61	**Drainage characteristics of the movement area and adjacent areas**
EAC139_62	**Aeronautical Studies [Safety Risk Assessment]**
EAC139_65	**Assessment, Measurement and Reporting of Runway Surface Conditions.**
EAC139_66	**PANS-Aerodrome.**
EAC139_67	**Aerodrome Mapping Data.**
EAC139_68	**Autonomous runway incursion warning system (ARIWS).**
EAC139_69	**Taxiway design guidance for minimizing the potential for runway incursions.**
EAC 139-71	**Assessment, Measurement and Reporting of Runway Surface Conditions**
EAC139-72	**Prevention of Runway Incursions**
EAC139-72– A	**Runway Safety Team**
EAC139-73	**Procedures for changes to aerodrome infrastructure**

4. HOW TO ORDER:

Copies of these documents can be purchased from the ECAA, MOCA.

5. RELATED ECAR SECTIONS.

This EAC relates specifically to Subpart C, Aerodrome Certification Manual of Part 139, which is comprised of:

139.201 Preparation of aerodrome certification manual
139.203 Maintenance of aerodrome certification manual
139.205 Aerodrome certificate: Aerodrome certification manual
139.206 Structure of aerodrome certification manual
139.207 Contents of aerodrome certification manual
139.209 Reserved
139.211 Reserved
139.213 Amendment of aerodrome certification manual

6. RELATED READING MATERIAL.

The Advisory Circular (ACs), which will be particularly helpful in preparing required portions of the ACM will be found in Appendix 1. These ACs have been developed with specific elements of Part 139, in mind. It contains additional technical information, which can be useful in the development of airport operations and maintenance systems and procedures for the ACM.

7. BACK GROUND:

ECAR Part 139 became effective on July 2001. The requirement of an Aerodrome Certification Manual with content and applicability limited to that material required for certification. This circular addresses the requirements for the revision of existing, or development of new ACM.

8. USE OF THIS CIRCULAR:

(a) This EAC discusses the requirements of a portion of the Egyptian Civil Aviation Regulations. In handling this subject matter it would be awkward, if not impossible, to avoid imperatives such as "must" or "require" - terms not normally welcome in an EAC. Where imperatives are used herein it is because they are associated with mandatory provisions of the Regulation itself.
(b) Where the term Section followed by a number is used, such as "Section 139.317", it is a reference to a specific provision of the Regulation.
(c) The number in brackets following a paragraph or statement such as "[.107(a)(3)]" is a cross-reference to the applicable Section of Part 139. The "139" is omitted to save space.
(d) The focus of this EAC is the airport operator - so that person is the "you" and "your" we are speaking to in these pages.

CHAPTER 1 Function And Form

1.1 FUNCTION AND AUTHORITY OF THE ACM:

If there is a single most important point to remember about the ACM it is that it functions as an extension of the Regulation. Because Part 139 is couched in terms broad enough for all airports covered by the Regulation, it cannot present the degree of specificity appropriate to each individual airport. The ACM provides the bridge between the requirements of the Regulation and their specific application for each airport, taking into account the airport's size, activity, and configuration. The language contained in Section 139.101(a),(b) establishes the enforceability of the ACM on a par with the Regulation itself. This brings us to two cardinal principles to be observed in the development of the ACM:

a. Be Comprehensive:

Include in the ACM all of the Part 139 requirements that apply to your airport. It is intended that the ACM provide, to personnel concerned with operating the airport, the information needed to comply with the Regulation.

b. Be Conservative:

Refrain from elaboration and detail beyond that necessary to show how regulatory compliance is to be achieved at your airport. Be watchful of the line between: essential statements of responsibility, authority, and procedure; and excessive levels of detail which can restrict flexibility to meet unforeseen circumstances, or even create unnecessary commitments under the Regulation.

1.2 PREPARATION (139.201):

The aerodrome certification manual shall: be typewritten or printed, and signed by the aerodrome operator; be in a format that is easy to revise; have a system for recording the currency of pages and amendments thereto, including a page for logging revisions; and be organized in a manner that will facilitate the preparation, review and acceptance process.

The Regulation requires the ACM to have, in addition to the technical content, certain physical features of acceptance, organization, and dissemination. These are discussed in the following paragraphs. You may prepare your ACM yourself or have someone else do it. As you continue into this EAC you will see that a fundamental knowledge of all aspects of the airport's operation will be required to produce a satisfactory ACM. Accurate, concise, statements which speak directly to Part 139 requirements are preferable to glossy essays. Remember that no matter who prepares it, it becomes your document when it is accepted by the ECAA.

a. Acceptable :

There are two levels of acceptance that are significant to the Regulation. There is the acceptance that you will give to the ACM before it is submitted to the ECAA, and there is the acceptance given by the ECAA which effectively establishes the document as an extension of Part 139 for your airport [139.107]:

(1) Airport approval:

The Regulation requires that the ACM be signed by the Airport Operator. This means an official who has the authority to implement and enforce the provisions of the ACM whether or not "Airport Operator" is the Actual title. This approval can be accomplished on a signature page (or title page if there is a cosmetic cover over it) at the front of the ACM. The approval should identify the airport, the official, the document, and the date. When page revisions are sent to the ECAA for approval they should be transmitted formally by the same level of airport authority that is authorized to approve the ACM as a whole. The ECAA assumes that the approval is by the position, not the individual, so that the ACM continues unbroken in force if a change of airport management personnel takes place. If the new incumbent has reservations about any existing provision of the ACM, an early review is in order before its enforcement becomes an issue. [139.201, 139.203, 139.205].

(2) ECAA Accept:

The ECAA will require that each page show the date of **Accept**, whether as part of the original document or as a later revision or addition. This requirement includes any other substantive item embodied in the ACM such as a grid map, table of organization, etc. It is a good idea to select a location on the page for the date and be consistent throughout -

it is easier to catch mistakes or omissions in a standardized presentation. One method is a stamp the ECAA will place on each page which combines an Accepted mark with the date.

b. Organization:

There are three aspects of ACM organization that you will want to consider. One is concerned with the physical dimensions and layout of the document. Another is the mechanics of the assembly of the document. The third is the combination and sequencing of the substantive material you are placing into the document.

(1) Physical Layout – Design:

Since the ACM is to be a working document that reflects current airport realities, it should be easy to maintain and revise. A systematic page identification system is highly recommended. Note that in this EAC each page carries enough identification to easily determine the document it belongs to, its exact location in the document, and its date of approval. The same system is used in ECAA internal directives, which have, in authority and function, a lot in common with your ACM. You may wish to devise a comparable system. The Page Revision Log required for each ACM functions as an inventory of the current pages. This can simply be a sheet with columns of page numbers with space for a date alongside. This is a very useful device to verify the currency of a page in question without leafing through the entire document, and as a checklist for maintenance of the ACM tracking pages for revision, inserting changes, etc. [.201, .203].

(2) Assembly:

The Regulation requires that the ACM be typewritten (this includes other printing methods which produce a comparable result) but it is not as specific on the form or material. A loose leaf, standard size, black and white page assembly in a two / three ring binder is suggested (consider the potential problems with the reproduction, insertion, filing, and mailing of odd size or multicolor media, and comb or spiral bindings). Also, one side printing is recommended. While it does add bulk, it makes revision easier and lends itself to under the desk glass or bulletin board display of pages extracted for ready reference [.201(a), .201(d)].

(3) Organization of Content:

Your ACM's use as a reference guide by airport personnel should be encouraged. With this in mind, consider the functional assignments within your airport organization. This may influence the way you want to sectionalize the instructions in your ACM so that it lends itself to parceling out discrete portions to your personnel for their guidance. Generally, the subject sequencing of the Regulation itself provides a satisfactory outline for the ACM. This is particularly true for the review and updating processes, which flow more easily with the order of the elements as they are found in the Regulation [.201(d)].

c. Dissemination:

The Regulation requires that you furnish applicable portions of your ACM to the airport personnel who are responsible for their implementation. It is not intended that the portions of the ACM provide the total instructions on how to do a job. If the ACM is well prepared, however, it will provide information on how the job must be performed to maintain compliance with the Regulation [.203(c)].

1.3 INFORMATION TO BE INCLUDED IN THE AERODROME CERTIFICATION MANUAL (139.206):

a. The operator of a certified aerodrome must include the following particulars in an aerodrome certification manual, to the extent that they are applicable to the aerodrome, under the following parts:

(i) Part 1: General information (see Appendix 1) on the purpose and scope of the aerodrome certification manual; the legal requirement for an aerodrome certificate and an aerodrome certification manual as prescribed in the national regulations; conditions for use of the aerodrome; the aeronautical information services available and the procedures for their promulgation; the system for recording aircraft movements and the obligations of the aerodrome operator.

(ii) Part 2: Particulars of the aerodrome site.

(iii) Part 3: Particulars of the aerodrome required to be reported to the aeronautical information service.

(iv) Part 4: The aerodrome operating procedures and safety measures. This may include

references to air traffic procedures such as those relevant to low visibility operations. Air traffic management procedures are normally published in the air traffic services manual with a cross reference to the aerodrome certification manual.

(v) Part 5: Details of the aerodrome administration and the safety management system.

b. If, under regulation 139.111, the ECAA exempts the aerodrome operator from complying with any requirement set out in ECAR Part 139, the aerodrome certification manual must show the identifying number given to that exemption by the ECAA and the date the exemption came into effect and any conditions or procedures subject to which the exemption was granted. The form of exemptions and deviation refer to EAC 139-1

c. If a particular is not included in the aerodrome certification manual because it is not applicable to the aerodrome, the aerodrome operator must state in the manual the reason for non-applicability of the particular.

d. The operator of a certified aerodrome must alter or amend the aerodrome certification manual, whenever necessary, in order to maintain the accuracy of the information in the manual.

e. To maintain the accuracy of the aerodrome certification manual, the ECAA may issue a written directive to an aerodrome operator requiring the operator to alter or amend the manual in accordance with that directive.

f. An aerodrome operator must notify the ECAA, as soon as practicable, of any changes that the operator wishes to make to the aerodrome certification manual.

CHAPTER 2 ACM Overview

2.1 CONTENTS FOR COMPLIANCE:

As a general rule the ACM must contain operating procedures, equipment descriptions, responsibility assignments, and other information needed by airport personnel to comply with the Regulation. The two kinds of material, which require compliance, are provisions of Part 139; and any other limitations, which are imposed by the ECAA [.207 (a)(1), .207 (a)(2)]:

a. Provisions of Part 139: Part 139 of the Regulation is the main body of requirements that an airport must meet to obtain and hold a Part 139 certificate. The ACM must address all of the required provisions of Part 139, which is comprised,

b. Limitations: In addition to the provisions of Part 139, any limitations placed on the airport by the ECAA must be addressed in the ACM. These are not frequently encountered. In most cases they have been included to deal with unusual operational characteristics of an airport, such as limiting air carrier operations to Short Takeoff and Landing (STOL) aircraft.

2.2 SPECIAL ELEMENTS OF COMPLIANCE:

The material discussed in paragraph 2.1 for procedures, equipment, responsibilities, etc. will vary from airport to airport. The Regulation also lists certain elements that must be in all ACM for compliance. These mandatory elements can be regarded, as the minimum detail required. Most of the Part 139 provisions will need more explanation than these elements specify. Most of the mandatory elements can conveniently fit into the Part 139 provisions as they come up. A few may lend themselves better to a separate figure (table, chart, etc) which can then be referenced in the discussion of the individual Part 139 provisions. For example, it may be simpler to draw up an organization chart and a table of the lines of succession and use them as references rather than repeat the information many times throughout the ACM. This listing is in Section 139.205(b). Note that some of the elements are listed "as required by Section..." That means that the element is necessary only if Section ... requires it. For example, if airport conditions do not trigger a requirement for a Wildlife Hazard Management Plan According to 139.345, none is needed for the ACM. There should, however, be a notation in the ACM for each of those special elements that is not included so that a complete accounting of all of the mandatory requirements is readily visible.

2.3 GUIDELINES FOR SPECIFICITY:

The central theme and purpose of the ACM is embodied in the language of Sections 139.205 and 139.213(a). It is to be a useful working document to assist airport personnel in maintaining compliance with the Regulation. This is where the two cardinal principles, mentioned in paragraph 1.1, come into play. The ideal ACM provides enough direction to achieve compliance with the Regulation but stops short of smothering detail. Approach the subject as if you, the airport operator, are leaving instructions for someone to carry out while you are absent. When you are writing your instructions you would be concerned with WHO is going to perform the tasks, WHAT the tasks consist of, any particular advice on HOW they are to be performed, and the timetable for performance to ensure that things happen WHEN you want them to. These points are discussed below:

a. Who: There are two aspects of WHO that deserve discussion. There is the WHO that normally operates away from your presence on a relatively autonomous basis - not outside your authority but at some distance, either physically or functionally. We shall call this WHO "Independent" for convenience. The key element here is that this WHO may have to make decisions and take actions to deal with abruptly changing situations without first checking with you, even if you are somewhere on the airport. The other WHO - the "Substitute" - is one who must step in and perform certain tasks for compliance with the Regulation when the usual chain of responsibility and authority has been temporarily interrupted. This WHO is essentially a substitute in a function and may or may not be completely familiar with the normal routine. The ACM should provide sufficient guidance for performing the function and, of course, instructions for calling for help if problems arise:

(1) The Independent WHO: As stated earlier, this WHO is probably not totally independent in authority or action - the key point is that certain significant actions may have to be taken without the opportunity for a routine request and approval process occurring between you. Therefore you, as airport operator, want to feel confident that this WHO knows: what is required from a regulatory standpoint; and can apply this knowledge to new situations as they arise, as well as to the daily routine. This can be accomplished with firm, clear instructions in the ACM. The Airport Rescue and Fire fighting (ARFF) function provides an illustration. Events can occur at the fire station that requires the urgent initiation of actions,

which could have consequences somewhere else, upon someone else. For example if a piece of fire equipment becomes inoperative, some management action may have to be taken with respect to limiting air carrier operations, or at least initiating notification to air carrier users of the airport. If an emergency call is received a decision is often required about initiating all or part of the airport emergency plan. Do the ARFF personnel who are faced with these choices have clear, concise, and available information that will put the action on the right track? And, of course, it must also be clear which WHO is to be the one responsible for carrying out the instructions.

(2) The Substitute WHO: Keep in mind, which WHO may have to step forward to accomplish tasks if you or your regularly designated representative is absent. You would probably want to select in advance the individual most qualified to do the job. Let's use the airport self-inspection program as an example. Assuming that the individual is knowledgeable about airport operations, if not the fine points of Part 139, you would probably not have to start your instructions totally from scratch. However, the individual may not normally perform (or directly oversee) that particular function. Therefore, the ACM should be specific about critical aspects of the job, such as the course over the airport to be driven. Then again, since you are not there, there may be yet another person doing that chore, instead of the WHO you had planned for. If your electrician who usually checks the field lighting is out that day, will the substitute know what to look for? Will the substitute know where the switches are to turn on the lights in the first place? In other words, an instruction in the ACM that says, "Field lighting will be checked for compliance with applicable requirements" simply won't do it.

b. What and How: The WHAT and HOW of ACM instructions refers to the tasks assigned to various individuals or departments who are charged with achieving compliance with the Regulation. Unless all of the personnel assigned to the task are fully familiar with the regulatory requirement, the ACM should be structured to produce the desired result by providing guidance appropriate to the training and experience of the personnel. For example, it would be of questionable value to write instructions in the ACM that the grounds maintenance crew is to "Maintain all safety areas in accordance with the Regulation" unless the crew knows what Part 139 says about the surface of safety areas, the dates the various safety areas were established, and the ECAA dimensional standards that apply to each safety area. A better approach would be to identify the physical boundaries of the safety areas and state graphically what sort of surface conditions are to be maintained.

c. When: The best instructions will not produce satisfactory results if they are not put into action. Is the instruction "The ARFF unit will inspect the fueling areas each day" specific enough? Is there going to be a lapse in accomplishment because the first shift thought the second was to do it, and the second shift thought the first one surely had done it? The WHEN may also be triggered by circumstances, such as a certain depth of water accumulation or a specific temperature drop. Can the individual who must take some action read a clear and precise WHEN message in the ACM, or there some nebulous statements like "When weather conditions dictate"? And while you are at it, don't forget that someone has to measure the water or read the temperature. A WHO question can arise here as well as a WHAT and HOW if certain procedures or equipment must be specified for use. In fact, it should be obvious now that WHO, WHAT, HOW, and WHEN, are usually going to be closely intertwined, and that most instructions will have to satisfy the needs of them all.

d. 2.4 EXEMPTIONS: An exemption, if you have one, occupies its own niche in the compliance picture for your airport. It is important to understand what an exemption is and what it does, and how you may fit it into your ACM.

a. An Exemption Described: When you ask for an exemption you find that there are a host of procedural requirements to be met, and it doesn't seem to make any difference if the request is for a "little" or "big" exemption. The reason is that a request for an exemption is a Rulemaking Action. An exemption from a provision of Part 139 is not a Deviation, or a relaxation of Part 139. An exemption issued to you effectively changes, for its duration, the manner in which you comply with the terms of your Part 139 Airport Operating Certificate. That, in part, explains why the exemption can only be approved at the same level of authority that issued your certificate. The fact that a Rulemaking Action is generated also explains why an exemption request normally requires action by the legal staff of the ECAA [.111].

b. The Exemption in Your ACM: Since each exemption applies to a specific section of the Regulation and affects the way in which compliance with that section is accomplished, it makes

sense to include a copy of the exemption in the part of the ACM that deals with that subject. Then, when that provision of the Regulation as it applies to your airport is being examined, the whole picture is there in one place. At the same time it is useful to have a list of all current exemptions for your airport at one point to provide reference without having to page through the entire ACM. It is recommended that such a list, with the subject and Part 139 reference shown, be placed in your ACM at some point, or added as an appendix. Copies of the exemptions can then be inserted at the appropriate places in the ACM where the subjects are covered. [.207(b)(2)].

2.5 LIMITATIONS:

Limitations are infrequently imposed on certificated airports. When they are, their impact is usually over a range of regulatory provisions. Any limitations imposed on your airport by the ECAA must be copied in your ACM. Because of the primacy of a limitation it should have a section devoted to it in the earliest part of your ACM. It may also be useful to reference it in the discussions of the related provisions of the Regulation [.207(b)(3)].

2.6 DEVIATIONS:

It is often found that the Deviation is a misunderstood resident in the Regulation. It is not associated with any particular section of Part 139, but in fact could become a factor in the performance of any one of them. A foolproof definition is difficult, but some examples may help [.113].

a. Examples of Deviations: These examples assume that the proper notifications to the ECAA are accomplished:

(1) Giving permission to an air carrier aircraft with an in-flight emergency to land at your airport, even though the size of the aircraft is beyond your ARFF Aerodrome Category, is a Deviation. There is no violation of Part 139.

(2) You have removed your only air carrier runway from service over a non-traffic period to repair the pavement. An air carrier contacts you and states that a fuel emergency makes a landing at your airport imperative. Although the pavement does not comply with the requirements of your ACM, you pull your equipment off the runway and permit the landing. No violation.

(3) You send your ARFF capability off the airport to assist in a life threatening fire on a passenger train. You permit normal air carrier operations during that period. That is a violation, not a Deviation. The point is, the emergency must be associated with your responsibilities under the Regulation that you are deviating from.

b. Coverage in the ACM: A Deviation is a serious business and should receive your highest management attention. Your ACM should reflect how you want the notification of a possible Deviation to flow. Considering the possibility of a Part 139 violation in case of a mistake, you will want to make this item a highly visible one.

2.7 AIRPORT AUTHORITY LIMITS:

A few of the provisions of Part 139 of the Regulation deal with matters which can be outside of the authority of most airport operators. Examples are obstruction lights outside airport boundaries, and medical assistance and transportation from community sources. Note the qualifying language used in those instances, such as "to the extent practicable" or "which agrees to provide." The Regulation does not demand actions beyond the authority of the airport operator. It does require, in certain instances such as those mentioned above, that an attempt me made to achieve the desired result, and even negative results must be documented in the ACM.

CHAPTER 3 ACM Review And Revision

3.1 REVIEW REQUIREMENTS:

The Regulation requires the ACM to be kept current at all times. This can be an awesome workload or a relatively minor routine chore. The difference is largely in how you prepare for the review and revision process [.203(a), .213(a)].

a. Lay the Groundwork: Add the review and revision process to the list of things to be kept in mind when you design your ACM. Plan the document so that it lends itself to parceling out self-contained segments for review by persons knowledgeable in that area. If that sounds familiar, it is because we said just about the same thing in paragraph 1.2(b)(3) concerning the parceling out of portions of the ACM to airport personnel for their operational guidance. If you have done that, you have already begun the groundwork for the review process. Next you will want to identify who is to accomplish the review of the various parts of the ACM and when they are to do it. Set a schedule and keep to it. This cannot be overemphasized. You may wish to schedule portions of the ACM on a staggered basis so that there is not an enormous workload accumulated at one time.

b. Establish the Process: Once you have decided how, by whom, and when the review process is going to happen, write it down where all those who have tasks to perform can be reminded of them. And the best place to write it down is in the ACM itself. Use the WHO, WHAT and HOW, and WHEN guidelines. You will also want to establish procedures for injecting changes or additions into the ACM in between regularly scheduled reviews. You will probably be in the best position to see most of those situations develop, and can initiate a timely amendment to the ACM.

3.2 REVISION AND FOLLOWUP:

The Regulation considers a timely amendment to be one which was filed with the ECAA 30 days prior to the effective date. You should contact your credential ECAA certification inspector if you will not be able to make that schedule. The inspector will work with you to accomplish the change as expeditiously as possible to keep your airport in compliance with the Regulation. It is a good idea, especially in the case of lengthy or complicated changes, to provide your inspector with a draft for early review and discussion. When the revision to your ACM is effective, you should place special management emphasis on any area of the airport operation which was affected. Usually, a change in a working procedure or other requirement is easier to implement if those who must make the changes had a role in the formulation of the changes. [.213(a), and (b)]

CHAPTER 4
Information Of The Aerodrome Certification Manual

4.1 PART 1: GENERAL

General information, including the following:

(a) Purpose and scope of the aerodrome certification manual;
(b) The legal requirement for an aerodrome certificate and an aerodrome certification manual as prescribed in ECAR 139;
(c) Conditions for use of the aerodrome: a statement to indicate that the aerodrome shall at all times, when it is available for the take off and landing of aircraft, be so available to all persons on equal terms and conditions;
(d) The available aeronautical information system and procedures for its promulgation;
(e) The system for recording aircraft movements; and
(f) Obligations of the aerodrome operator.

4.2 PART 2: PARTICULARS OF THE AERODROME SITE

General information, including the following:

(a) A plan of the aerodrome showing the main aerodrome facilities for the operation of the aerodrome including, particularly, the location of each wind direction indicator;
(b) A plan of the aerodrome showing the aerodrome boundaries;
(c) A plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and
(d) Particulars of the title of the aerodrome site. If the boundaries of the aerodrome are not defined in the title documents particulars of the title to, or interest in, the property on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome.

4.3 PART 3: PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AERONAUTICAL INFORMATION SERVICE (AIS)

4.3.1 General Information:

(a) The name of the aerodrome;
(b) The location of the aerodrome;
(c) The geographical coordinates of the aerodrome reference point determined in terms of the World Geodetic System 1984 (WGS 84) reference datum;
(d) The aerodrome elevation and geoid undulation;
(e) The elevation of each threshold and geoid undulation, the elevation of the runway end and any significant high and low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;
(f) The aerodrome reference temperature;
(g) Details of the aerodrome beacon; and
(h) The name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times.

4.3.2 Aerodrome Dimensions and Related Information: General information, including the following:

(a) Runway: true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone;
(b) Length, width and surface type of strip, runway end safety areas, stopways;
(c) Length, width and surface type of taxiways;
(d) Apron surface type and aircraft stands;
(e) Clearway length and ground profile;
(f) Visual aids for approach procedures, viz. approach lighting type and visual approach slope indicator system (PAPI/APAP1 and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting;

(g) The location and radio frequency of VOR aerodrome checkpoints;
(h) The location and designation of standard taxi routes;
(i) The geographical coordinates of each threshold;
(j) The geographical coordinates of appropriate taxiway centre line points;
(k) The geographical coordinates of each aircraft stand;
(1) The geographical coordinates and the top elevation of significant obstacles in the approach and take off areas, in the circling area and in the vicinity of the aerodrome. (This information may best be shown in the form of charts such as those required for the preparation of aeronautical information publications, as specified in ECAR Part 173);
(m) Pavement surface type and bearing strength using the Aircraft Classification Number - Pavement Classification Number (CAN-PCN) method;
(n) One or more pre-flight altimeter check locations established on an apron and their elevation;
(o) Declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-Stop distance available (ASDA), landing distance available (LDA);
(p) Disabled aircraft removal plan: the telephone/telex/ facsimile numbers and e-mail address of the aerodrome coordinator for the removal of a disabled aircraft on or adjacent to the movement area, information on the capability to remove a disabled aircraft, expressed in terms of the largest type of aircraft which the aerodrome is equipped to remove; and
(q) Rescue and fire-fighting: the level of protection provided, expressed in terms of the category of the rescue and fire-fighting services, which should be in accordance with the longest aero plane normally using the aerodrome and the type and amounts of extinguishing agents normally available at the aerodrome.

4.4 PART 4: PARTICULARS OF THE AERODROME OPERATING PROCEDURES AND SAFETY MEASURES

4.4.1 Aerodrome Reporting:

Particulars of the procedures for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMs, including the following:

(a) Arrangements for reporting any changes to the ECAA and recording the reporting of changes during and outside the normal hours of aerodrome operations;
(b) The names and roles of persons responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations; and
(c) The address and telephone numbers, as provided by the ECAA, of the place where changes are to be reported to the ECAA.

4.4.2 Access to the Aerodrome Movement Area:

Particulars of the procedures that have been developed and are to be followed in coordination with the agency responsible for preventing unlawful interference in civil aviation at the aerodrome and for preventing unauthorized entry of persons, vehicles, equipment, animals or other things into the movement area, including the following:

(a) The role of the aerodrome operator, the aircraft operator, aerodrome fixed base operators, the aerodrome security entity, the ECAA and other government departments, as applicable; and
(b) The names and roles of the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.

4.4.3 Aerodrome Emergency Plan:

Particulars of the aerodrome emergency plan, including the following:

(a) Plans for dealing with emergencies occurring at the aerodrome or in its vicinity, including the malfunction of aircraft in flight; structural fires; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the airport covering "during the emergency" and "after the emergency" considerations;
(b) Details of tests for aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests;
(c) Details of exercises to test emergency plans, including the frequency of those exercises;
(d) A list of organizations, agencies and persons of authority, both on and off airport, for site roles; their telephone and facsimile numbers, e-mail and SITA addresses and the radio frequencies of their offices;

(e) The establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and
(f) The appointment of an on scene commander for the overall emergency operation.

4.4.4 Rescue and Fire Fighting:

Particulars of the facilities, equipment, personnel and procedures for meeting the rescue and fire-fighting requirements, including the names and roles of the persons responsible for dealing with the rescue and fire-fighting services at the aerodrome.
Note: This subject should also be covered in appropriate detail in the aerodrome emergency plan.

4.4.5 Inspection of the Aerodrome Movement Area and Obstacle Limitation Surface by the Aerodrome Operator:

Particulars of the procedures for the inspection of the aerodrome movement area and obstacle limitation surfaces, including the following:
(a) Arrangements for carrying out inspections, including runway friction and water depth measurements on runways and taxiways, during and outside the normal hours of aerodrome operations;
(b) Arrangements and means of communicating with air traffic control during an inspection;
(c) Arrangements for keeping an inspection logbook, and the location of the logbook; details of inspection intervals and times;
(d) Inspection checklist;
(e) Arrangements for reporting the results of inspections and for taking prompt follow up actions to ensure correction of unsafe conditions; and
(f) The names and roles of persons responsible for carrying out inspections, and their telephone numbers during and after working hours.

4.4.6 Visual Aids and Aerodrome Electrical Systems:

Particulars of the procedures for the inspection and maintenance of aeronautical lights (including obstacle lighting), signs, markers and aerodrome electrical systems, including the following:
(a) Arrangements for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspections;
(b) Arrangements for recording the result of inspections and for taking follow up action to correct deficiencies;
(c) Arrangements for carrying out routine maintenance and emergency maintenance;
(d) Arrangements for secondary power supplies, if any, and, if applicable, the particulars of any other method of dealing with partial or total system failure; and
(e) The names and roles of the persons responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after working hours.

4.4.7 Maintenance of the Movement Area:

Particulars of the facilities and procedures for the maintenance of the movement area, including:
(a) Arrangements for maintaining the paved areas;
(b) Arrangements for periodic assessment of pavement classification number is carried out related to number of air traffic movements to assure the currency of the published data. ;
(c) Arrangements for maintaining the runway and taxiway strips; and
(d) Arrangements for the maintenance of aerodrome drainage.

4.4.8 Aerodrome Works Safety:

Particulars of the procedures for planning and carrying out construction and maintenance work safely (including work that may have to be carried out at short notice) on or in the vicinity of the movement area which may extend above an obstacle limitation surface, including the following:
(a) Arrangements for communicating with air traffic control during the progress of such work;
(b) The names, telephone numbers and roles of the persons and organizations responsible for planning and carrying out the work, and arrangements for contacting those persons and

organizations at all times
(c) The names and telephone numbers, during and after working hours, of the aerodrome fixed base operators, ground handling agents and aircraft operators who are to be notified of the work;
(d) A distribution list for work plans, if required.

4.4.9 Apron Management:

Particulars of the apron management procedures, including the following:
(a) Arrangements between air traffic control and the apron management unit;
(b) Arrangements for allocating aircraft parking positions;
(c) Arrangements for initiating engine start and ensuring clearance of aircraft push back;
(d) Marshalling service; and
(e) Leader (van) service.

4.4.10 Apron Safety Management:

Procedures to ensure apron safety, including:
(a) Protection from jet blasts;
(b) Enforcement of safety precautions during aircraft refueling operations;
(c) Apron sweeping;
(d) Apron cleaning;
(e) Arrangements for reporting incidents and accidents on an apron; and
(f) Arrangements for auditing the safety compliance of all personnel working on the apron.

4.4.11 Airside Vehicle Control:

Particulars of the procedure for the control of surface vehicles operating on or in the vicinity of the movement area, including the following:
(a) Details of the applicable traffic rules (including speed limits and the means of enforcing the rules) and
(b) The method of issuing driving permits for operating vehicles in the movement area.

4.4.12 Wildlife Hazard Management:

Particulars of the procedures to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight pattern or movement area, including the following:
(a) Arrangements for assessing wildlife hazards;
(b) Arrangements for implementing wildlife control programs; and
(c) The names and roles of the persons responsible for dealing with wildlife hazards, and their telephone numbers during and after working hours.

4.4.13 Obstacle Control:

Particulars setting out the procedures for:
(a) Monitoring the obstacle limitation surfaces and Type A Chart for obstacles in the take off surface;
(b) Controlling obstacles within the authority of the operator;
(c) Monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;
(d) Controlling new developments in the vicinity of aerodromes; and
(e) Notifying the ECAA of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amendment of the AIS publications.

4.4.14 Removal of Disabled Aircraft:

Particulars of the procedures for removing a disabled aircraft on or adjacent to the movement area, including the following:
(a) The roles of the aerodrome operator and the holder of the aircraft certificate of registration;
(b) Arrangements for notifying the holder of the certificate of registration;
(c) Arrangements for liaising with the air traffic control unit;
(d) Arrangements for obtaining equipment and personnel to remove the disabled aircraft; and
(e) The names, role and telephone numbers of persons responsible for arranging for the

removal of disabled aircraft.

4.4.15 Handling of Hazardous Materials:

Particulars of the procedures for the safe handling and storage of hazardous materials on the aerodrome, including the following:

(a) Arrangements for special areas on the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other hazardous materials; and
(b) The method to be followed for the delivery, storage, dispensing and handling of hazardous materials.

Note: Hazardous materials include inflammable liquids and solids, corrosive liquids, compressed gases and magnetized or radioactive materials. Arrangements for dealing with the accidental spillage of hazardous materials should be included in the aerodrome emergency plan.

4.4.16 Low Visibility Operations:

Particulars of procedures to be introduced for low visibility operations, including the measurement and reporting of runway visual range as and when required, and the names and telephone numbers, during and after working hours, of the persons responsible for measuring the runway visual range.

4.4.17 Protection of Sites for Radar and Navigational Aids:

Particulars of the procedures for the protection of sites for radar and radio navigational aids located on the aerodrome to ensure that their performance will not be degraded, including the following:

(a) Arrangements for the control of activities in the vicinity of radar and navaids installations;
(b) Arrangements for ground maintenance in the vicinity of these installations; and
(c) Arrangements for the supply and installation of signs warning of hazardous microwave radiation.

Note 1: In writing the procedures for each category, clear and precise information should be included on: When, or in what circumstances, an operating procedure is to be activated; How an operating procedure is to be activated; Actions to be taken; The persons who are to carry out the actions; and The equipment necessary for carrying out the actions, and access to such equipment.
Note 2: If any of the procedures specified above are not relevant or applicable, the reason should be given.

4.4.18 Reporting of Runway Surface Conditions :

- Particulars of procedure for assessing and reporting runway condition code (RWYCC) for each third of the runway in the prescribed format
- Particulars of procedure for reporting significant changes to RWYCC without dealy
- Measurement and promulgation of water, slush and other contaminants including depths on runways and taxiways.
- Assessment and promulgation of runway surface conditions:

4.5 PART 5: AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM:

4.5.1 Aerodrome Administration:

Particulars of the aerodrome administration, including the following:

(a) An aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities;
(b) The name, position and telephone number of the person who has overall responsibility for aerodrome safety; and
(c) Airport committees.

4.5.2 Safety Management System (SMS):

Particulars of the safety management system established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance, the essential features being:

(a) The safety policy, insofar as applicable, on the safety management process and its relation to the operational and maintenance process;

(b) The structure or organization of the SMS refer to ECAR 19 , including staffing and the assignment of individual and group responsibilities for safety issues;
(c) SMS strategy and planning, such as setting safety performance targets, allocating priorities for implementing safety initiatives and providing a framework for controlling the risks to as low a level as is reasonably practicable keeping always in view the requirements of the Standards and Recommended Practices in ECAR Part 139, standards, rules or orders;
(d) SMS implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement of safety requirements;
(e) A system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures program);
(f) Measures for safety promotion and accident prevention and a system for risk control involving analysis and handling of accidents, incidents, complaints, defects, faults, discrepancies and failures, and continuing safety monitoring;
(g) The internal safety audit and review system detailing the systems and programs for quality control of safety;
(h) The system for documenting all safety related airport facilities as well as airport operational and maintenance records, including information on the design and construction of aircraft pavements and aerodrome lighting. The system should enable easy retrieval of records including charts;
(i) Staff training and competency, including the review and evaluation of the adequacy of training provided to staff on safety related duties and of the certification system for testing their competency; and
(j) The incorporation and enforcement of safety related clauses in the contracts for construction work at the aerodrome.

APPENDIX 1

AERODROME CERTIFICATION MANUAL (MODEL)

……

AERODROME CERTIFICATION MANUAL

Signed by:

……

Aerodrome Manager

Lead inspector accept

…….

Page no.:

ECAA acceptance: ----------

Revision no.: #
Aerodrome operator signature:----------
Approval date: ---/---/-------
Effective date of the page: ---/---/-------

LIST OF EFFECTIVE PAGES

Part	Title	Number of Pages	Effective Date
Part (1)			
Part(2)			
Part (3)			
Part (4)			
Part (5)			

PAGE AMENDMENT LOG

Date of Amendment	Pages	Aerodrome Approval	ECAA acceptance

DISTRIBUTION LIST

Main Body of the ACM including the Aerodrome Emergency plan is kept at:

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Copies or portions of the ACM, including all revisions and amendments are distributed to the following departments, agencies and personnel responsible for ……Aerodrome certification related duties and obligations:

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PART (1)

1-1 PURPOSE AND SCOPE OF THE AERODROME CERTIFICATION MANUAL (*139.203*)

a. The …….. Aerodrome certification manual is a fundamental requirement of the certification process.

b. It contains all the pertinent information concerning the …….aerodrome site, facilities, services, equipment, operating procedures, organization and management including the safety management system.

c. This manual documents the normal and emergency procedures for the operation of …….. aerodrome. …… aerodrome has developed this Aerodrome Certification Manual (ACM) in order to obtain an Aerodrome Certificate (AC) issued by the ECAA.

d. The ……ACM documents explain how the …….aerodrome complies with ECAR 139, and other applicable regulations.

e. Detailed procedures and maintenance requirements are referenced in other directives and not restated in this document. Exemptions to ECAR 139 regulations shall be issued by the ECAA only when these do not impact aerodrome and aircraft safety or efficiency.

f. Changes to this manual must be accepted by the ECAA before they become effective.

g. This manual is a reference document and provides a checklist of aerodrome certification standards to be maintained and the level of airside services at …… aerodrome.

1-2 LEGAL REQUIREMENT FOR AN AERODROME CERTIFICATE AND AN AERODROME CERTIFICATION MANUAL 139.101 &103.:

Aerodrome certificate and aerodrome certification manual are required by virtue of Articles 139.101 &103.

1-3 CONDITIONS FOR USE OF THE AERODROME:

----------aerodrome is available, at all times to all persons on equal terms and conditions when the aerodrome is available for the take-off and landing of aircraft

1-4 AVAILABLE AERONAUTICAL INFORMATION SYSTEM AND PROCEDURES FOR ITS PROMULGATION: 139.307. m

The aeronautical information system and procedures adopted by ……Aerodrome to notify and report changes to the ECAA, air traffic control and pilots within the specified time limits:

1-4-a) The aeronautical information system

1-
2-
3-

1-4-b) Procedure for promulgation :

1-
2-

1-5 **THE SYSTEM FOR RECORDING AIRCRAFT MOVEMENTS (139.307.m)**

(daily flight sheet)

(استمارة رقم 8 ط.م.م)
NANSC
ATS SECTOR
TWR & APP DIRECTORATE

وزارة الطيران المدني
الشركة الوطنية لخدمات الملاحة الجوية
قطاع المراقبة الجوية
الإدارة العامة للبرج والاقتراب

DAILY FLIGHT SHEET

/ **200** / التاريخ: Date: / /200

Serial No.	AIRCRAFT			FLIGHT				REMARKS
	TYPE	Call sign	Registration	Dep. A/D	Dep. Time	Arr. A/D	Arr. Time	

1-6 OBLIGATIONS OF THE AERODROME OPERATOR (139.5)

…….. aerodrome operator is fully committed to comply with all the regulations prescribed in ECAR 139.
And ;

- LAW 28 dated year 1981.
- LAW 119 dated year 1983.
- LAW 209 dated year 1991.
- ECAR 139.and other related document

1-7 Inspection Authority (139.105):

(a) ..... Aerodrome allows the ECAA to make any inspections, including unannounced inspections, or tests to determine
1. Compliance with the requirements of ECAR 139;
2. The use of all related advisory circulars guidance or equivalent means of compliance, as appropriate

(b) .....aerodrome allows the ECAA to make special inspection to ensure aviation safety:
1. As soon as practicable after any aircraft accident or incident
2. During the period of construction or repair of the aerodrome facilities or equipment that is critical to the safety of .....aerodrome operation
3. At any other aerodrome conditions that could affect aviation safety .

(c) Aerodrome management should facilitate any security or access requirement to ensure utilization of these inspectors.

(d) A member of the Aerodrome staff should accompany the Ministry of C.A. inspectors to provide local insight into any deficiencies and to record those deficiencies

1-8 AERODROME CERTIFICATE (139.107)

1-9 EXEMPTIONS :139.111

List of Exemptions

NO	*Subject*	*ECAR Ref &. requirement #*	*Duration*		*Remarks*
			From	*To*	

Exemptions referenced in this page are referenced again within the section of the ACM that is affected by the exemption
Copies of exemptions accepted *by ECAA are herein included as Appendix and.*
*If no exemption is in effect, Aerodrome Operator is required to write "*NONE*"*

1-9 EXEMPTIONS : (continued)(139.111)

EXEMPTIONS form

1-10 deviations 139.113 :

1- In an emergency condition requiring immediate action for the protection of life or property, ……aerodrome may deviate from an operational requirement of ECAR 139, or the ……aerodrome certification Manual, to the extent required to meet that emergency

2- In the event of deviation, …….aerodrome shall, within 14 days after the emergency, notify the ECAA of the nature, extent and duration of the deviation, in writing.

3- Deviations from a standard or practice and conditions for the type of use of the aerodrome and other details will be set out in an endorsement on the aerodrome certificate

1-10-a) List of deviations:

NO	*Subject*	*ECAR Ref &. requirement #*	*Remarks*

1-10-b) aeronautical studies for operated in safety manner accepted from ECAA (ATTACHED)

1-11 LIMITATION:

(state here if there is any limitation for operation of the aerodrome, and if no limitation is in effect, Aerodrome Operator is required to write "NONE"

aircraft weight
Aerodrome operation hours
……
…….
…….

1-12 AMENDMENT OF ACM: 139.213

The herein below procedure is in effect for amendments to the ACM, as needed to maintain currency:

1. Two copies of the amendment will be submitted to ECAA office
2. Amendments to the ACM will be submitted at least 30 days prior to the proposed effective date.
3. At the ACM, Amendment Log page will be completed and submitted with each amendment
4. Each page of the amendment, including the Page Amendment Log, will have the date of the amendment and the original approval date of the ACM
5. Upon ECAA acceptance, copies of the accepted amendment will be made and distributed to the holders of the ACM, on the Distribution List
6. The manual is reviewed periodically every……. and updated using a the following process : and includes a record of all amendments, effective dates

1. …..
2. …..
3. ……
4.
5.

PART (2)

PART 2: PARTICULARS OF THE AERODROME SITE

2-1 A plan of the main aerodrome facilities

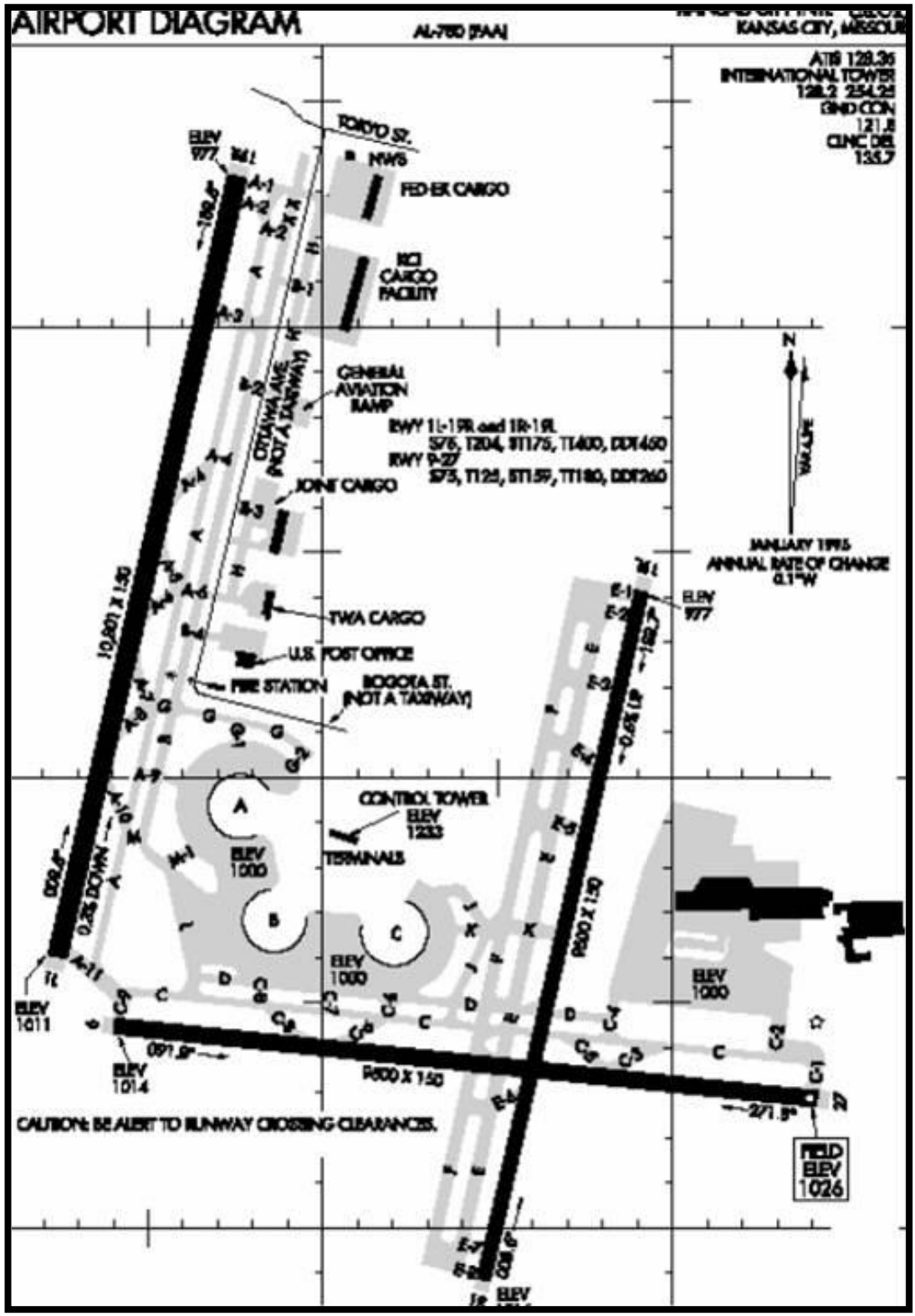
2-2 A plan of the aerodrome boundaries;

2-3 A plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and

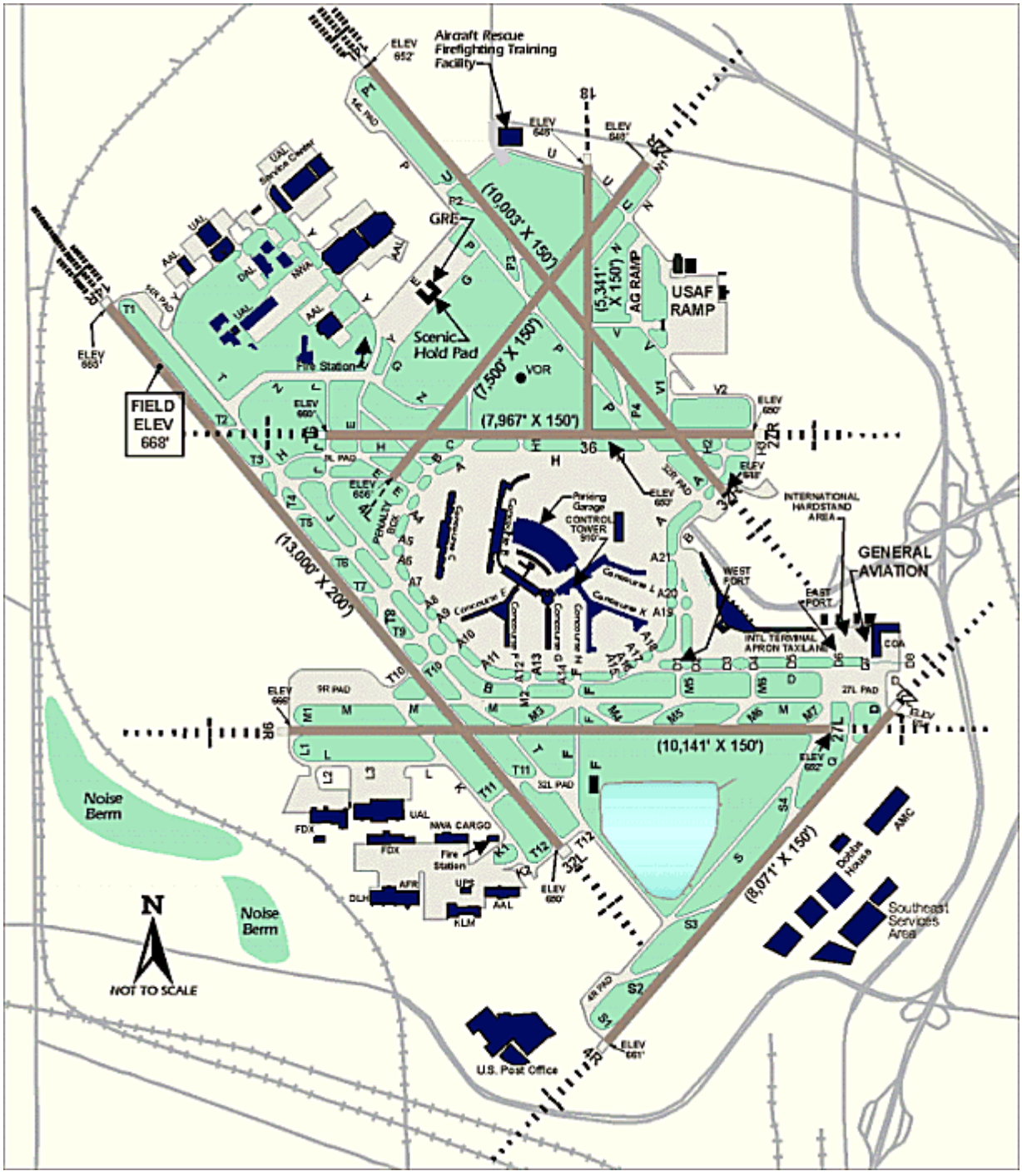
2-4 Title of the aerodrome site.

2-1 PLAN OF THE …….AERODROME FACILITIES:

showing the main aerodrome facilities for the operation of the…….. aerodrome including, particularly, the location of each wind direction indicator



2-2 PLAN OF THE…… AERODROME BOUNDARIES



2-3 AERODROME DISTANCE PLAN:

plan showing the distance of …… aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of ……. aerodrome

2-4 PARTICULARS OF THE TITLE OF THE …….. AERODROME SITE:

if the boundaries of the…… aerodrome are not defined in the title documents particulars of the title to, or interest in, the property on which the……. aerodrome is located and a plan showing the boundaries and position of the aerodrome

PART (3)

PART 3: PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AERONAUTICAL INFORMATION SERVICE (AIS)

3-1- General Information

a) Name of the aerodrome
b) Aerodrome reference code

c) Location of the aerodrome
d) Geographical co-ordinate of the Aerodrome Reference Point
e) Aerodrome elevation and geoid undulation
-Elevation and geoid undulation of: Thresholds,
- Runway ends,
- Significant high points along the runway,
- Significant Low points along the runway,
- Highest elevation of the touch down zone
f) Aerodrome reference temperature
g) Details of the aerodrome beacon
h) The name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times.

3-1-a) AERODROME NAME:

--------- INTERNATIONAL AERODROME

3-1-b) REFERENCE CODES ECAR (139……..)

The reference code is composed of two elements related to the airplane reference field length and the airplane wing span; Table 1-1 of Section 1.3 contains the Aerodrome Reference Codes. This section includes the initial verification and the periodic review to ensure their continued compliance. This should also include procedures for reporting deficiencies. A sample statement could be:

"Based on the length of the largest air carrier aircraft (aircraft number B-747) serving the (----------) International Aerodrome the Reference Code is 4E."

3-1-c) AERODROME LOCATION:

……aerodrome is located approximately (*distance)* Kms …(*direction*) of …….city, ……..governorate, Egypt.

3-1-d-GEOGRAPHICAL COORDINATES OF THE ……. AERODROME REFERENCE POINT determined in terms of (WGS-84) reference datum ECAR (139……..)

Lat.			Long			h
o	'	"	o	'	"	

3-1-d- AERODROME ELEVATION AND GEOID UNDULATION:

Aerodrome Elevation :
-------- ft or m

Geoid undulation for aerodrome elevation

3-1-e- ELEVATION OF ECAR (139……..).

each threshold and geoid undulation, elevation of the runway end and any significant high and low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;

1-Threshold no. (……) ……., m or feet
Threshold no. (……) …… m or feet

2- Runway end……. …….. m or feet

3- Highest point elev. …… m or feet

4- Lowest point elev. ……. m or feet
5- Highest elev. Of touchdown zone …… m or feet

3-1-f- THE …… AERODROME REFERENCE TEMPERATURE :

the monthly mean of the daily maximum temperatures for the hottest month of the year (the hottest month being that which has the highest monthly mean temperature).

This temperature should be averaged over a period of years.

……°C.

3-1-g - DETAILS OF THE ……. AERODROME BEACON (139.232.c):

1- Location:

2- Characteristics:
Fpm =------
Colors……

Hours of operation*:* --------- *hour*

3-1-h - THE NAME OF THE……. AERODROME OPERATOR AND THE ADDRESS AND TELEPHONE NUMBERS AT WHICH THE……. AERODROME OPERATOR MAY BE CONTACTED AT ALL TIMES.

Aerodrome operator:
Name:
Address:
Telephone:
Fax: Telex:
Email:

1- Aerodrome Manager name

2- Administrative Assistant

3- Aerodrome Maintenance Department Supervisor

4- Senior Aerodrome Maintenance Technician

5- Aerodrome Maintenance Personnel

- AD administration
- Customs and Immigration
- Health and Sanitation
- AIS Briefing Office
- ATS Reporting Office
- Met Briefing Office
- Air Traffic Services
- Fuelling
- Handling

- Security
- Remarks

3-1-i Aerodrome Dimensions and Related Information:

a) Runway: true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone (ECAR 139…….) ;
b) Length, width and surface type of strip, runway end safety areas, stopways (ECAR 139…….)
c) **Length, width and surface type of taxiways; (ECAR 139…….)**
d) Apron surface type and aircraft stands; (ECAR 139…….)
e) Clearway length and ground profile; (ECAR 139…….)
f) Visual aids for approach procedures, viz. approach lighting type and visual approach slope indicator system (PAPI/APAP1 and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting; (ECAR 139…….)
g) Location and radio frequency of VOR aerodrome checkpoints; (ECAR 139…….)
h) Location and designation of standard taxi routes; (ECAR 139…….)
i) Geographical coordinates of each threshold; (ECAR 139…….)
j) Geographical coordinates of appropriate taxiway centre line points; (ECAR 139…….)
k) Geographical coordinates of each aircraft stand; (ECAR 139…….)
l) Geographical coordinates and the top elevation of significant obstacles in the approach and take off areas, in the circling area and in the vicinity of the aerodrome. (ECAR 139…….)
m) Pavement surface type and bearing strength using the Aircraft Classification Number - Pavement Classification Number (CAN-PCN) method; (ECAR 139…….)
n) Pre-flight altimeter check locations established on an apron and their elevation; (ECAR 139…….)
o) Declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-Stop distance available (ASDA), landing distance available (LDA); (ECAR 139…….)
p) Disabled aircraft removal plan (ECAR 139…….)
q) **Rescue and fire-fighting level of protection provided. (ECAR 139…….)**

3-2-a) RUNWAY: ECAR (139……..)

true bearing, designation number, length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone;

1 designation RWY No.	2 True and magnetic bearing	3 Length/ Width	4 displaced threshold	5 slope of Rwy	6 surface type & PCN	7 OFZ
			…….metre	Long …….%		
				Trans ……%		

(b) Runway shoulders:
Width :
Slopes :

(c) Runway turn pads:
Slopes :
Strength :

3-2-b) LENGTH, WIDTH AND SURFACE TYPE OF STRIP, RUNWAY END SAFETY AREAS, STOPWAYS; (ECAR 139…….)

- **Runway Strip**
  1. Length of runway strips is----------metre
  2. Width of runway strips is---------- metre, grading Width------m
  3. Longitudinal slopes is ------- %
  4. Transverse slopes is ------- -%
  5. Surface type ----------

- **Runway end safety areas**
  6. Dimensions of runway end safety areas is ----- meters × ----- meters
  7. Longitudinal slopes is ------- %
  8. Transverse slopes is -------- %

- **Stopways**
  1. Width of stopways is---------- metre
  2. Slopes on stopways is--------- %

- **Separation between Runways and parallel taxiways : ---------- M**

3-2-c) LENGTH, WIDTH AND SURFACE TYPE OF TAXIWAYS;

(ECAR 139…….)

a. Taxiways

1. Taxiway ---- is ------- meters wide,--------meters length
2. TWY surface type is ---------- with a PCN of ------

(b) Taxiway shoulders:
the overall width of the taxiway---------- and its shoulders----------

(c) Taxiway strips:
Width of twy--- strips is----------metre **grading-----m**
Transverse slopes is --------%

3-2-d) **APRON SURFACE TYPE AND AIRCRAFT STANDS (ECAR 139…….).**

1. Apron surface type is ……. and strength of aprons is----------
2. The aerodrome apron consists of ------- area
3. 1st apron ----- meters × ----- meters
   2nd apron ----- meters × ----- meters
   If there is another ----- etc.
4. Slopes on aprons is----------%
5. On an aircraft stand the maximum slope should not exceed 1 per cent.
6. Clearance distances on aircraft stands ---------

3-2-e) CLEARWAY LENGTH AND GROUND PROFILE; (ECAR 139…….)

Clearway

1. Length of clearways is----------metre
2. Width of clearways is----------metre
3. Slopes on clearways is----------%

3-2-f) VISUAL AIDS: (ECAR 139…….)

for approach procedures, viz. approach lighting type and visual approach slope indicator system (PAPI/APAP1 and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting;

visual docking guidance system;

location and type of

availability of standby power for lighting;

1. compliance with appropriate specifications in Table 8-1 of ~~ICAO Annex 14~~.ECAR 139

3-2-g) THE LOCATION AND RADIO FREQUENCY OF VOR AERODROME CHECKPOINTS; (ECAR 139…….)

VOR lactation	**RADIO FREQUENCY OF VOR**

Distances to the nearest meter or foot (----------) of localizer and glide path elements comprising an Instrument Landing System (ILS) or azimuth and elevation(----------) antenna of a Microwave Landing System (MLS) in relation to the associated runway extremities

3-2-h) **THE LOCATION AND DESIGNATION OF STANDARD TAXI ROUTES; ; (ECAR 139…….)**

Map

3-2-i) **THE GEOGRAPHICAL COORDINATES OF EACH THRESHOLD; (ECAR 139…….)**

Threshold des. No.	Lat.			Long		
	o	'	"	o	'	"

3-2-j) **THE GEOGRAPHICAL COORDINATES OF APPROPRIATE TAXIWAY CENTRE LINE POINTS; (ECAR 139…….)**

Taxiway center line --- point	Lat.			Long		
	o	'	"	o	'	"

3-2-k) **THE GEOGRAPHICAL COORDINATES OF EACH AIRCRAFT STAND; (ECAR 139…….)**

Stand no.	Lat.			Long		
	o	'	''	o	'	''

3-2-l) THE GEOGRAPHICAL COORDINATES AND THE TOP ELEVATION OF SIGNIFICANT OBSTACLES IN THE APPROACH AND TAKE OFF AREAS, IN THE CIRCLING AREA AND IN THE VICINITY OF THE AERODROME.

(ECAR 139…….)

3-2-m) **PAVEMENT SURFACE TYPE AND BEARING STRENGTH USING THE AIRCRAFT CLASSIFICATION NUMBER - PAVEMENT CLASSIFICATION NUMBER (ACN-PCN) METHOD; (ECAR 139…….)**

Runway …- …

Surface type …..

PCN ……

Taxiway …( ) …

Surface type …..

PCN ……

apron ……

Surface type …..

3-2-n) **ONE OR MORE PRE-FLIGHT ALTIMETER CHECK LOCATIONS ESTABLISHED ON AN APRON AND THEIR ELEVATION; (ECAR 139…….)**

location

……
……
……
……

ELEVATION

No.	ELEV	remark

3-2-o) **declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA); (ECAR 139…….)**

RWY	TORA	TODA	ASDA	LDA

3-2-p) **DISABLED AIRCRAFT REMOVAL PLAN (ECAR 139…….)**

The telephone/telex number(s) of the office of the aerodrome coordinator

NAME	T.L	TELEX

If there are agreement with agency (A copy of the mutual agreement is here to attached).

3-2-q) **RESCUE AND FIRE-FIGHTING LEVEL OF PROTECTION PROVIDED.**

(ECAR 139…….)

Level of protection provided at an aerodrome : *CAT 9*

The types And amounts of extinguishing agents normally available of

For example

	Foam meeting performance level A		Foam meeting performance level B		Complementary agents		
	Discharge rate foam solution/		Discharge rate foam solution/		Dry chemical		
Aerodrome category	Water (L)	Minute (L)	Water (L)	Minute (L)	Powders (kg)	Or Halons (kg)	Or CO_2
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
9	36 400	13 500	24 300	9 000	450	450	900

PART (4)

PART 4: PARTICULARS OF THE AERODROME OPERATING PROCEDURES AND SAFETY MEASURES

4.1 AERODROME CONDITION REPORTING (139.307.I):

Particulars of the procedures for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMs, including the following:

(4.1.a.) arrangements for reporting any changes to the ECAA and recording the reporting of changes during and outside the normal hours of aerodrome operations

(4.1.b) the names and roles of persons responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations

(4.1.c) the address and telephone numbers, as provided by the ecaa, of the place where changes are to be reported to the ecaa

(4.1.A.) ARRANGEMENTS FOR REPORTING ANY CHANGES TO THE ECAA AND RECORDING THE REPORTING OF CHANGES DURING AND OUTSIDE THE NORMAL HOURS OF AERODROME OPERATIONS

4-1-a-i (Name)Aerodrome Condition Assessment and Reporting

1. *The ----Aerodrome is required to report the current operating conditions of the Aerodrome , (and to amend this report) should any condition change that would impact the safety of efficiency of air carrier operations.*
2. *Normally, the -----Aerodrome operating condition is identified during the daily self-inspection.*
3. *Significant change to safety or efficiency conditions shall be reported by NOTAMS.*
4. *NOTAMS shall be issued for:*

- *Changes to permanent airfield data*
- *Rough or broken runway, taxiway or apron surfaces*
- *Water on a runway, taxiway or apron*
- *Temporary closures of runways or taxiways due to floods, construction or maintenance*
- *Obstructions or limitations due to inoperative and immobile aircraft or equipment*
- *Failure of lighting, visual aid or navigational aids*
- *Failure of aircraft or passenger servicing facilities*
- *Other local emergencies or hazards that impact safe Aerodrome operations such as fire or bird activity.*
- *ARFF Status*

5. *Permanent changes shall also be amended in the AIP.*
6. *Once these limitations are resolved, the NOTAM shall be cancelled in the manner and form prescribe by ECAA (relevant certalert no----)*
7. *Once these limitations are not resolved during the NOTAM validity period the ----- aerodrome operator shall request extension of NOTAM in the form and the manner prescribed by ECAA(relevant certalert no----)*

4-1-a-ii Arrangements for reporting any changes to the ECAA

(1) The …….. Aerodrome reports to the responsible aeronautical information services unit, with a minimum of delay:

(i) Information on ……..aerodrome conditions (ref. 139.307(i), .307(j), .307(k) and .307(l) above);
(ii) The operational status of associated facilities, services and navigation aids within ……..Aerodrome area of responsibility; and
(iii) All other information of operational significance.
(iv) A report of the same shall be reported in time , to ECAA

(2) Before introducing changes to the air navigation system, the …. Aerodrome takes due account of the time needed by the aeronautical information service for the preparation, production and issue of relevant material for promulgation.

(3) …… Aerodrome reports raw information/data the predetermined, internationally agreed AIRAC effective dates in addition to 14 days postage time

(4) The …… aerodrome provides raw aeronautical information/data to the aeronautical information services with taking into account accuracy and integrity requirements for aeronautical data as specified in of ECAR 139.

NOTE: RECORD of issued NOTAM are kept at -----office at --- aerodrome

(4.1.B) THE NAMES AND ROLES OF ----- AERODROME PERSONS RESPONSIBLE FOR NOTIFYING THE CHANGES, AND THEIR TELEPHONE NUMBERS DURING AND OUTSIDE THE NORMAL HOURS OF AERODROME OPERATIONS

(4.1.B.I) DURING THE NORMAL HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.4.1.B. II) OUTSIDE THE NORMAL HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

(4.1.C) THE ADDRESS AND TELEPHONE NUMBERS, AS PROVIDED BY THE ECAA, OF THE PLACE WHERE CHANGES ARE TO BE REPORTED TO THE ECAA

(4.1.C.I) DURING THE NORMAL WORKING HOURS OF ECAA

NO.	*Name*	*Title*	*Address*	*Tel. no.*	*Remark*

(4.1.C.II) OUTSIDE THE NORMAL WORKING HOURS OF ECAA

NO.	*Name*	*Title*	*Address*	*Tel. no.*	*Remark*

4.2 ACCESS TO THE AERODROME MOVEMENT AREA: (139 –335.J ,139- 343.a.1,2)

4-2-a Procedures for preventing unlawful interference in civil aviation at the aerodrome movement area

4-2-b Names, roles and telephone numbers of the personnel responsible for controlling access to the aerodrome movement area

4-2.a PROCEDURES FOR PREVENTING UNLAWFUL INTERFERENCE IN CIVIL AVIATION AT THE AERODROME MOVEMENT AREA

(4.2.a.i) PROCEDURES FOR PREVENTING UNLAWFUL INTERFERENCE IN CIVIL AVIATION AT THE ……..AERODROME, INCLUDING THE FOLLOWING AS APPLICABLE:

1- Role of the ……..aerodrome operator:

2- Role of the aircraft operator:

3- Role of aerodrome fixed base operators:

4-Role of aerodrome security entity,

5-Role of ECAA :

6-Role of other government departments:

(4.2.a.ii) PROCEDURES FOR PREVENTING UNAUTHORIZED ENTRY OF PERSONS, VEHICLES, EQUIPMENT, ANIMALS OR OTHER THINGS INTO THE MOVEMENT AREA: including the following, as applicable:

1- Role of the ……..aerodrome operator:

2- Role of the aircraft operator:

3-Role of aerodrome fixed base operators:

4-Role of aerodrome security entity,

5-Role of ECAA :

6- Role of other government departments:

(4.2.B) THE NAMES AND ROLES OF THE PERSONNEL RESPONSIBLE FOR CONTROLLING ACCESS TO THE AERODROME, AND THE TELEPHONE NUMBERS FOR CONTACTING THEM DURING AND AFTER WORKING HOURS

(4.2.B.I) DURING THE NORMAL HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.2.B.II) AFTER THE WORKING HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.3AERODROME EMERGENCY PLAN: (139 . 335 .A)

This section should include the Aerodrome Emergency Plan (AEP) for compliance with ECAR 139 .335.a and EAC 139-24 It should include normal emergency procedures, testing and training requirements, and list any mutual aid agreements with neighboring communities or government authorities.

The Aerodrome Emergency Plan may be a separate document including the following:

(4.3.a) Plans for dealing with emergencies occurring at the aerodrome or in its vicinity, including the malfunction of aircraft in flight; structural fires; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the aerodrome covering "during the emergency" and "after the emergency" considerations;

(4.3.b) Details of tests for aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests;

(4.3.c) Details of exercises to test emergency plans, including the frequency of those exercises;

(4.3.d)A list of organizations, agencies and persons of authority, both on and off aerodrome, for site roles; their telephone and facsimile numbers, e-mail and SITA addresses and the radio frequencies of their offices;

(4.3.e) The establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and

(4.3.f) The appointment of an on scene commander for the overall emergency operation.

Note : the***** is the guide material in manner accepted to ECAA for prepared the aerodrome emergency plan

4.4 RESCUE AND FIRE FIGHTING: (139 – 335.b)

4-4-a) ARFF CATEGORY
4-4-b)ARFF FACILITIES
4-4-c) ARFF EQUIPMENT
4-4-d) ARFF PERSONNEL
4-4-e)PROCEDURES FOR MEETING THE RESCUE AND FIRE FIGHTING REQUIREMENTS
4-4-f) THE NAMES AND ROLES OF THE PERSONNEL RESPONSIBLE FOR DEALING WITH THE RESCUE AND FIRE-FIGHTING SERVICES AT THE AERODROME
4-4-g) INSPECTION AND MAINTENANCE SCHEDULE:

4-4-a) ARFF CATEGORY

The aircraft rescue and fire fighting (ARFF) category is based on Table 9-1 of ECAR 139.335.b

Based upon the highest category aircraft (A-340) ____ Aerodrome has an aircraft rescue and fire fighting Category ____."

4-4-b) ARFF FACILITIES

include at lest the following:
(4-4-B-1) FIRE STATION

Attached plan (s) indicating at least :

- *Location of fire station (s)*
- *Watch rooms*
- *Vehicle housing*
- *Bldg. Storage*
- *Kitchen*
- *Toilet*
- *Shower*
- *Locker area*
- *Dormitory*
- *Bldg. service*
- *Extinguishing agent storage*
-

(4-4-B-2) AVAILABLE WATER RESERVOIRS

Statement of Water Reservoirs and their Capacity and location (attached drawing is preferable)

No.	Title	Location	Capacity m3
1	Water tank under ground		300
2	Water tank steel structure		150
3	Concrete water tank		600

4-4-c) ARFF EQUIPMENT

include at lest the following:

4-4-C-1) ARFF VEHICLE

Vehicle.		Water (L)	Discharge rate (roof turret)		Foam (L) Type (*AFFF*) / level *A/B*	Dry Chemicals	color	Remark
No.	Model/ manufacture date		low	high				
1								
2								
3								
4								
Total								

"Based upon the Aerodrome ARFF Category of -------- the Aerodrome is required to maintain ---------- vehicles, --------- Litre water, --------- Litre foam concentrate, --------- Kg Dry Chemicals, and ---------- trained personnel to operate these vehicles."

Other vehicle :
1-
2-

4-4-C-2) RESCUE TOOLS

No.	TOOLS	Quantity .

4-4-C-3) EXTINGUISHING AGENTS

1. Extinguishing agents are provided for compliance with Table 9-2 of ECAR 139.335.B

2- capacity of foam reservoirs-------l
attached :
certificate of foam performance test

4-4-D) ARFF PERSONNEL

1- *ARFF operations are provided by the ---------- personnel are designated as ARFF personnel with at least ----- firefighter chief officer on duty at the Aerodrome fire station during air carrier operations. With no. of shift----- in the day. ARFF personnel are equipped with protective clothing and self contained breathing apparatus*

2-ARFF operations are provided from --- a.m. until ---- p.m. to cover all air carrier operations .

3- ARFF Personnel are familiar with advanced levels of aircraft fire fighting techniques, including Human Performance and Team Coordination training.

4- ARFF Personnel are familiar with access to all aircraft that operate from that Aerodrome .

5- ARFF vehicle drivers shall be familiar with access routes for day and night operations.

4-4-D-1) ARFF PERSONAL TRAINING

a.)ARFF Personnel shall receive hot fire training and exercise drills per EAC 139-18 chapter 14

b.) ARFF personnel are receive periodic training to maintain their skill in the highest state of readiness. This training are documented in records maintained at the Aerodrome

No	Name	Course title	Organization	Date

- ***Copy of training certifications and training syllable (attached)***
- ***all record are maintain in ------office***

4-4-D-2) PERSONNEL FACILITIES

ARFF Personnel are issued complete fire fighting protective equipment.

Vehicles No.	No. of seats including driver	No. of protective clothes		No. of respiratory equipment
		No. of entry suit within (helmet ,…)	No. of proximity suit within (helmet ,…)	

4-4-E) PROCEDURES FOR MEETING THE RESCUE AND FIRE FIGHTING REQUIREMENTS

4-4-E-1) RESPONSE TIME

ARFF vehicle(s) are capable of responding within 3 minutes from the time of alarm to the furthest end of a useable runway and begin applying fire retarding agents. All other vehicles shall be at this location within 4 minutes. This time begins with the notification of the ARFF facility and ends with application of the fire retarding agent at 50 percent of the capacity flow of the first vehicle(s) per ECAR 139.335.B Table 9-2.

4-4-E-2) COMMUNICATIONS BETWEEN ATC AND FIRE STATION

1- alarm system
2- hot line
3-
4-

4-4-E-3) COMMUNICATIONS BETWEEN ARFF VEHICLES AND FIRE STATION

1- VHF with frequency----- HRZ
2-

4-4-E-4) COMMUNICATIONS BETWEEN ARFF VEHICLES

1- VHF with frequency----- HRZ
2-

4-4-E-5) COMMUNICATIONS BETWEEN ARFF VEHICLES AND ATC

1- VHF with frequency----- HRZ

(4-4-F) THE NAMES AND ROLES OF THE PERSONNEL RESPONSIBLE FOR DEALING WITH THE RESCUE AND FIRE-FIGHTING SERVICES AT THE AERODROME

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

(4-4-G) MAINTENANCE AND INSPECTION PROCEDURE

4-4-F-1) INSPECTION PROCEDURE

1- Each shift the ARFF commander are conduct a daily briefing of ARFF personnel concerning the runway in use and expected aircraft traffic. Any changes in operating procedures or equipment availability shall be briefed and appropriate training or alternative equipment shall be identified

2. *If sufficient equipment or personnel are not available to maintain this category, the AIS and Aerodrome Manager are informed in order to notify air carriers and to provide alternate means of re-establishing the required level of protection. All vehicle communication frequencies shall be tested on a daily basis.*
3. *ARFF vehicles shall be maintained in the highest state of readiness and be given priority over all other types of vehicles for repair.*
4. All ARFF protective equipment and vehicles are inspected daily.
5. *The Aerodrome Manager is authorized to provide ARFF support per mutual aid agreements on a NOT TO INTERFERE basis with Aerodrome ARFF requirements.*
6.

Attached :

1- daily inspection
2- weekly inspection
3- monthly inspection

4-4-F-2 MAINTENANCE PROCEDURE

1- ARFF vehicles are maintained so as to be operationally capable of performing their intended functions.
2- Scheduled routine maintenance is performed by the --------- Department.
3- Maintenance or repairs which cannot be accomplished at the Aerodrome are completed at the ----------

Attached:

1- Vehicle maintenance program
2- ARFF equipment maintenance program

4.5Inspection of Movement Area and Obstacle Limitation Surfaces : (139. 339,)

4-5-a inspection procedures for movement area and obstacle limitation surface
4-5-b Arrangements and means of communicating with air traffic control during an inspection
4-5-c Arrangements for keeping an inspection logbooks
4-5-d Details of inspection intervals and times
4-5-e inspection checklist;
4-5-f Procedures for reporting results of inspection
4-5-g Procedures for prompt correction of unsafe conditions

4-5-a PARTICULARS OF THE PROCEDURES FOR THE INSPECTION OF THE AERODROME MOVEMENT AREA AND OBSTACLE LIMITATION SURFACES, INCLUDING THE FOLLOWING:

This section should include any procedures for the inspection of the Aerodrome and aircraft movement areas and the method for reporting deficiencies. This should include the qualification of inspection personnel and the format and frequency for conducting inspections and reporting deficiencies. Whenever possible, deficiencies should be corrected immediately, such as the removal of Foreign Objects (FOD). Items that cannot be repaired immediately shall be reported to the appropriate authority for repair and notification.

(Name) International Aerodrome Self-Inspection Program

1. *Personnel conducting the daily Aerodrome self-inspection shall be properly trained to fulfill the requirements of ECAR 139.339. A checklist shall be used to document the results of the inspection. A logbook will be maintained of actions taken and any outstanding items.*
2. *Regular inspections shall be accomplished twice daily, once in the morning and once at the start of night operations. The morning inspection shall include inspection of pavement conditions and removal of foreign objects. The night inspection shall include inspection of all lighting.*
3. *Special inspections shall be accomplished after an incident or accident or when an area is under maintenance or has suffered damage from earthquake of flooding.*
4. *All deficiencies shall be reported for correction. Any deficiencies that impact normal aircraft operations shall be corrected immediately, or shall be identified to ATC for warnings to arriving or departing aircraft. If the deficiency cannot be corrected in a reasonable time, a NOTAM shall be issued.*
5. *The daily inspection may require notification from various Aerodrome facilities to ensure the status of the Aerodrome . This would include the Aerodrome fueling service, ARFF and medical facility, and Engineering/ATC for navigational aid status.*

The runway surface shall be without irregularities that would result in loss of friction during takeoff or landing. Additional guidance is provided in Section 3.1 of ICAO Annex 14.

Paved Area Inspections *Attention should be paid to the following points:*

a) General cleanliness with particular attention to material which could cause engine ingestion damage. This may include debris from runway maintenance operations or excessive grit remaining after runway gritting. Any build-up of tire rubber deposits; water depth measure. On Rwy , Twy , should be noted

b) Signs of damage to the pavement surface including cracking and spalling of concrete, condition of joint sealing, cracking and looseness of aggregate in asphalt surfaces or break-up of friction courses. Damage or deterioration which could cause aircraft damage should be reported immediately for inspection by the Aerodrome Maintenance Department and, if the damage is sufficiently serious, the area closed to aircraft pending the results of such an inspection;

c) After rain, flooded areas should be identified and marked, if possible, to facilitate later resurfacing;

d) Damage of light fittings;

e) Cleanliness of runway markings; and

f) The condition and fit of pit covers.

The extremities of the runway should be inspected for early touchdown marks; blast damage to approach lights, marker cones and threshold lights; cleanliness and obstacles in the runway end safety area *EAC 139-48 - EAC 139-25*

Safety Areas

1. *Potentially hazardous ruts, depressions, humps, erosion, or other surface variations.*
2. *Objects in safety areas, other than those required by function.*
3. *Mounting bases on authorized objects in safety areas in which the frangible point exceeds 3 inches above grade, including NAVAIDs.*
4. *Ponding of water or plugged drains.*
5. *Removed or missing manhole covers.*

Pavement Markings

1. *Markings which are not clearly visible and in good condition.*

Markings which are not in accordance with standards

Guidance Signs

1. *Signs not in accordance with the Sign Plan.*
2. *Signs not in accordance with standards*
3. *Inoperable lighting.*
4. *Damaged, missing, or obscured signs.*
5. *Concrete base or frangible point more than 3 inches above grade.*

Lighting

1. *Lights not in accordance with standards*
2. *Lights obscured, dirty, missing, or out of adjustment.*
3. *Inoperable lighting system.*
4. *Pilot Control Lighting system inoperable.*
5. *More than 15% of lights out on runway edge light system for Cat 1 or lower.*
6. *More than two runway edge lights out in a row. (Missing fixtures at intersections are counted as inoperable lights.)*
7. *More than 5% runway centerline lights out.*
8. *More than 10% TDZ lights out.*
9. *Two or more threshold/runway end lights out on any runway end.*

10. *More than 15% taxiway edge lights out in a taxiway system.*
11. *More than 10% taxiway centerline lights out in a taxiway system.*
12. *Inadequate shielding of apron, parking, and roadway lighting.*

NAVAIDS

1. *Inoperable rotating beacon.*
2. *Inoperable NAVAIDS, including radio controlled operation.*
3. *Inoperable lighting on wind direction indicators.*
4. *Deteriorated, faded, or stuck wind sock.*
5. *Segmented circle not clearly visible or obscured.*
6. *Objects, vegetation, or snow that may affect NAVAID signals.*

Obstructions

1. *Inoperable obstruction lights.*
2. *New construction nearby which may affect aircraft operations or NAVAIDS.*

Fueling Operations *(Periodic)*

1. *Inoperable bonding cables/clips.*
2. *Fire extinguishers missing on mobile fuelers and at the fuel farm.*
3. *Fire extinguishers not sealed, charged, and in place.*
4. *Fuel leaking.*
5. *Fuel farm or fuel storage areas unlocked.*
6. *"No Smoking" signs missing.*
7. *Presence of trash or weeds in fuel storage area.*

Airfield Construction Areas

1. *Barricades not in place or too high to provide adequate clearance for aircraft.*
2. *Warning lights inoperable.*
3. *Marking of construction vehicle routes inadequate.*
4. *NOTAMS not current.*
5. *Construction equipment parked or operating in unauthorized areas.*
6. *Marking, lighting, or sign systems being installed contrary to standards.*
7. *Construction activity is not in accordance with the project Safety Plan.*

Fencing

1. *Perimeter fencing down, gates open, or signs missing.*
2. *Apron fencing down, gates open, or signs missing.*

Wildlife Hazards

1. *Presence of birds, deer, coyotes or other wildlife that could affect safe operations of air carrier aircraft.*

(4.5.b) ARRANGEMENTS AND MEANS OF COMMUNICATING WITH AIR TRAFFIC CONTROL DURING AN INSPECTION;

1. *Before commencing any runway inspection, permission must be obtained from air traffic control. on entering the runway a positive entry call, e.g. "checker entering for inspection,"*
2. *If, during an ON/OFF inspection, air traffic control requests the inspection team to clear the runway, the vehicle must move outside the runway strip before advising air traffic control that they are clear. .*
3. *Before crossing any runway, ATCT permission must be granted first to personnel assuming inspections.*
4. *Continuous monitoring (listening and watching) must be kept to avoid any condition that may affect the safety of air traffic*
5. *On final completion of a runway inspection the team should advise air traffic control of the fact and report the state of the runway*

(4.5.c) ARRANGEMENTS FOR KEEPING AN INSPECTION LOGBOOK, AND THE LOCATION OF THE LOGBOOK; DETAILS OF INSPECTION INTERVALS AND TIMES;

4-5-C-1 ARRANGEMENTS FOR KEEPING AN INSPECTION LOGBOOK

1-
2-
3-

4-5-C-2 THE LOCATION OF THE LOGBOOK

all inspection logbook are kept in the engineering department as files from no. 222 to 555

4-5-C-3 DETAILS OF INSPECTION INTERVALS AND TIMES

Daily inspections for Runway, Taxiways and Aprons:

- *After sunrise inspection.*
- *Afternoon inspection.*
- *At ATCT request.*
- *After any emergency landing.*

(4.5.e) INSPECTION CHECKLIST;

AERODROME SAFETY SELF-INSPECTION CHECKLIST

DATE: _____ **DAY**: _____

✔ Satisfactory

✕ Unsatisfactory

Morning Inspect or: _____ Evening Inspector _____

FACILITIES	CONDITIONS	M	E	REMARKS	RESOLVED BY
Pavement Areas	Pavement Lip Over 3"				
	Hole 5" Diam. 3" Deep				
	Cracks/Spalls/Bumps				
	FOD: Gravel/Debris/Etc.				
	Ponding/Edge Dams				
Safety Areas	Ruts/Humps/Erosion				
	Drainage/Construction				
	Objects/Frangible Bases				
Markings And Signs	Visible/Standard				
	Hold Lines/Signs				
	Frangible Signs				
Lighting	Obscured/Dirty/Faded				
	Damaged/Missing				
	Inoperative				
	Faulty Aim/Adjustment				
Navigational Aids	Rotating Beacon				
	Wind Indicators				
	VASI/PAPI/REIL Systems				
Obstructions	Obstruction Lights				
	Cranes/Trees				
Fuel Farms	Fencing/Gates/Signs				
	Fuel Marking/Labeling				
	Fire Extinguishers				
	Grounding Clips				
	Fuel Leaks/Vegetation				
Construction	Barricades/Lights				
	Equipment Parking				
	Complying with Safety Plan				
Public Protection	Fencing/Gates				
	Signs				
Wildlife Hazards	Wildlife Present				
	Wildlife Habitat present				

Airfield Map on Reverse Side

(4.5.f) ARRANGEMENTS FOR REPORTING THE RESULTS OF INSPECTIONS AND FOR TAKING PROMPT FOLLOW UP ACTIONS TO ENSURE CORRECTION OF UNSAFE CONDITIONS;

Inspection results are recorded and reported to the responsible division of Technical Affairs who will proceed to check the affected spot (s) and start remedial works. All coordination forms between Apron Management unit and Technical Affairs and the repair forms are kept in Apron Management unit records

1. *If a dangerous unserviceability is discovered during a runway inspection (e.g. damaged pit covers or broken lights), the fact should be immediately reported by R/T in order that appropriate ATC action can be taken. In addition, Aerodrome operations should be informed. If the runway is closed as a result of such damage the inspection team should continue their inspection whilst awaiting the arrival of Aerodrome maintenance support. The team should also be prepared to inspect any subsidiary runway if required.*
2. *If the runway unserviceability of a type that will not affect its use is discovered, the matter must be reported to the Aerodrome maintenance department on the appropriate form stating the degree of urgency, date and trine, etc.*
3. *Should aircraft parts or tire pieces be found during a runway inspection , then Aerodrome operations and air traffic control must be informed immediately so that tracing and notification action can be taken.*
4. *To assist in identifying the location of faults on a runway, reference plates should be installed outside the runway edge lights on one side of the runway*

(4.5.g) THE NAMES AND ROLES OF PERSONS RESPONSIBLE FOR CARRYING OUT INSPECTIONS, AND THEIR TELEPHONE NUMBERS DURING AND AFTER WORKING HOURS

(4.5.g.1) DURING THE NORMAL HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.5.g. 2) OUTSIDE THE NORMAL HOURS OF AERODROME OPERATIONS

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.6 VISUAL AIDS AND AERODROME ELECTRICAL SYSTEMS (139.319~327,139.333,139. 349. D):

Procedures for inspection and maintenance of:

4-6-a Indicators and signalling devices (ECAR 139…….)
4-6-b Markings (including obstacle marking) (ECAR 139…….)
4-6-c Aeronautical lights including obstacle lighting, (ECAR 139…….)
4-6-d Signs, (ECAR 139…….)
4-6-e Markers (ECAR 139…….)
4-6-f Secondary power supply (ECAR 139…….)
4-6-g **Electrical systems. (ECAR 139…….)**

Including :

1- Arrangements for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspections;
2- Arrangements for recording the result of inspections and for taking follow up action to correct deficiencies;
3- Arrangements for carrying out routine maintenance and emergency maintenance;
4- Arrangements for secondary power supplies, if any, and, if applicable, the particulars of any other method of dealing with partial or total system failure; and
5- The names and roles of the persons responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after working hours.

(4.6.A) PARTICULARS OF THE PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF INDICATORS AND SIGNALLING DEVICES (ECAR 139…….)

4-6-A-1 SIGNALLING LAMP *is provided in the---------- aerodrome control tower and have the characteristic in accordance with 139.319(c)(1,2)*

- *Application*

- *Characteristics:*

4-6-A-2 WIND DIRECTION INDICATORS.

In accordance with ECAR 139.319 , ICAO Annex 14, volume 1 , section 5.1 :

" Wind Direction indicators are located ----------so as to be visible from ACFT in flight or on the movement area and in such a way to be free from the effects of air disturbances caused by the near objects ."

4-6-a-3. MAINTENANCE

1- The segmented circle and wind cones are inspected each day during the morning Safety Inspection conducted by Aerodrome Maintenance personnel.

2- The segmented circle and wind cones will be maintained clearly visible and functional. Corrective action will be initiated by Aerodrome Maintenance personnel as soon as practical when any unsatisfactory conditions are found with the segmented circle or wind cone

(4.6.B) PARTICULARS OF THE PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF MARKINGS (INCLUDING OBSTACLE MARKING) (ECAR 139…….)

1- All markings on paved areas should be inspected conditions will determine .when [o inspect. In general, a spring and fall inspection will suffice to detect deterioration due to the winter and summer weather extremes

2- Markings which are faded or discolored by soil should be repainted. When rubber deposits have been removed from the pavement all defaced markings should restored as soon as possible

3- Contain any procedures to inspect and maintain runway, taxiway and apron surface markings. This includes the initial verification that these are in the correct location, and the periodic maintenance and inspection to ensure the continued compliance. This should also include

4-procedures for reporting deficiencies.

5- Runway and taxiway markings shall be maintained

6- The color of markings used on the runways is white, the color on the taxiways is yellow.

7- Markings for precision instrument runways shall be maintained at the highest quality to ensure optimal visual identification during night and instrument conditions.

. **ATTACHMENT**

all movement area marking Plans should attached to manual (and included at lest the following with appropriate dwg. Scale and full detail)

1- all Rwy(s) marking
2-all Twy(s) marking
3-all apron (s) marking

(4.6.C) PARTICULARS OF THE PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF AERONAUTICAL LIGHTS INCLUDING OBSTACLE LIGHTING, (ECAR 139…….) CHAPTER 2

This section should contain any procedures to inspect and maintain runway, taxiway and apron lighting for compliance with ECAR **139-323 ,** ICAO Annex 14, Section 5.3. This includes the initial verification that these are in the correct location, and the periodic maintenance and inspection to ensure the continued compliance. This should also include methods for reporting deficiencies

4-6-c-1Maintaining Aerodrome lighting systems

1. *Runway and taxiway lighting is installed on all runways and taxiways at (name) Aerodrome available to commercial air carriers. Runway _____ has fixed bi-directional high intensity edge lights.*
2. *The runway edge lights emit white light except for a yellow light on the last 600 meters (2000 feet) of each runway. During maintenance, care shall be taken to replace/repair lighting with similar type lights and/or fixtures.*
3. *Threshold/runway end lights are located on a line perpendicular to the extended centerline at each end of the runway. Threshold lights are green and runway end lights are red.*
4. *Taxiway edge lighting fixtures have medium intensity blue lights. These are space approximately 60 meters (200 feet) apart and are no more than 3 meters (10 feet) from the edge of the full strength pavement.*
5. *Approach lighting systems are provided for both ends of _____ runway. Elevated lights within 300m of the threshold shall be frangible*
6. *The aerodrome beacon shall be located on or adjacent to the aerodrome in an area of low ambient background lighting.*
7. *A visual approach slope indicator system shall be provided to serve the approach runway(s) .*
8. *All approach and runway lights are serviceable and have the percentage of operable lights as listed in 139.323 .*
9. *All lighting systems shall have a periodic preventive maintenance schedule to ensure the material condition of the light and fixture, along with appropriate alignment of the lens. All lights shall be inspected daily for correct operation. Any runway or taxiway with more than the allowable shall be repaired immediately.*

4-6-c-2 Inspection and Maintenance Schedule

1- A light shall be deemed to be unserviceable when the main beam average intensity is less than 50 per cent of the value specified in the appropriate figure in Appendix 2. For light units where the designed main beam average intensity is above the value shown in Appendix 2, the 50 per cent value shall be related to that design value.

2- The maintenance procedure commonly used comprises two steps:

a. *removal of defective lights and immediate replacement by new or repaired ones*
b. *servicing and overhaul of deficient lights in the workshop where all required tools, measuring and adjusting equipment are available*

3- Maintenance for all types of approach, runway and taxiway lights should include checking and, if necessary, taking the indicated corrective action, as follows:

i. Daily; and
ii. the weekly maintenance instructions for runway lighting systems
iii. Annually:
iv. Unscheduled:

LIGHTING CHECK LIST

Lighting System	Daily	Weekly	Bi - Weekly	Monthly	Semi - annual	Annual
Rotating Beacon						
Wind cone						
PAPI System						
APP. System						
Thresh old						
Center line						
T.D.Z						
Edges						
END						
Holding position lights						
Stopbar lights						
Exit Taxiways Center line. Edge.						
Apron Flood Lights						

all lighting Plans should <u>ATTACHED TO THESE MANUAL</u> (and included at lest the following with appropriate dwg. Scale and full detail)
1- all Rwy(s) lighting
2-all Twy(s) lighting
3-all apron (s) lighting
4- all road hold. Position lighting

(4.6.D) PARTICULARS OF THE PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF SIGNS, (ECAR 139…….)

This section should contain any procedures to inspect and maintain runway, taxiway and apron signage for compliance with 139.325 This includes the initial listing and verification that these are in the correct location, and the periodic maintenance and inspection to ensure the continued compliance. This should also include methods for reporting deficiencies.

4-6-d-1 Maintenance of Aerodrome signage

1. *The ---------- shall provide a drawing of the location and size of the Aerodrome signage.*
2. *The Aerodrome engineer shall provide initial and periodic inspection to ensure the signage remains in compliance with these drawings.*
3. *Signage that is unserviceable shall be repaired or ATC shall notify AIS of its unserviceability*

The initial listing and verification that these are in the correct location accepted by ECAA The periodic maintenance and inspection schedule to ensure its continued compliance is:

- *Daily for condition and lighting prior to night or instrument conditions.*
- *Monthly for frangibility and abutment height.*
- *Special inspection following aircraft incidents or weather damage.*

4-6-d-2 Inspection and Maintenance Schedule

This section contain procedures to maintain runway, taxiway and apron signage for compliance with ECAR 139 Subpart H Section 139.325

2- periodic maintenance and

3- inspection to ensure the continued compliance.

4- methods for reporting deficiencies.

The initial listing and verification that these are in the correct location accepted by ECAA The periodic maintenance and inspection schedule to ensure its continued compliance is:

- *Daily for condition and lighting prior to night or instrument conditions.*
- *Monthly for frangibility and abutment height.*

Special inspection following aircraft incidents or weather damage

Attachment:

all signage Plans should ATTACHED TO THESE MANUAL (and included at lest the following with appropriate dwg. Scale and full detail)
1- all Rwy(s) signage
2-all Twy(s) signage
3-all apron (s) signage
4- all road hold. Position signage

(4.6.E) PARTICULARS OF THE PROCEDURES FOR THE INSPECTION AND MAINTENANCE OF MARKERS (ECAR 139…….) IF APLECABLE

This section contain procedures to inspect and maintain runway, taxiway and apron markers for compliance with ECAR 139 Subpart H Section 139.327

4-6-E-1 Maintenance of Runway and Taxiway markers.

1. *Runway and taxiway markers are provided to supplement runway and taxiway centerline or edge lighting or painted stripes. They shall be of sufficient quality to withstand jet blast. When used to denote taxiway centerlines, they shall be of sufficient quality to withstand the weight of taxiing aircraft.*
2. *Runway and taxiway edge markers shall not interfere with taxiing aircraft and shall be clear of all jet or propeller intakes.*
3. *Runway and taxiway centerline markers shall be flush mounted and correspond in color with the provisions of ECAR 139.327 , ICAO Annex 14, Section 5.*
4. *The Aerodrome engineering shall conduct periodic inspections to ensure these markers remain in compliance with engineering specifications.*

4-6-E-2 Inspection and Maintenance Schedule:

(4.6.F) SECONDARY POWER SUPPLY (ECAR 139…….)

This section contain procedures for inspection and routine preventive maintenance of the secondary Aerodrome power supply. Documentation of this maintenance is maintained at the---------- aerodrome .

All automatic transfer and switchover equipment are periodically tested for compliance with appropriate specifications in Table 8-1 of ECAR139.333.A, ICAO Annex 14.

4-6-F-1Maintenance and monitoring of primary and secondary power supplies and associated equipment.

1. *All electrical equipment and services are maintained in accordance with manufacturers designed maintenance schedules.*
2. *Each piece of equipment related to primary or secondary Aerodrome power supply or lighting distribution shall receive routine preventive maintenance. Documentation of this maintenance shall be maintained at the Aerodrome .*
3. *All automatic transfer and switchover equipment are periodically tested for compliance with appropriate specifications in Table 8-1 of ECAR139.333.A,ICAO Annex 14.*
4. *Any noted deficiencies are identified to Engineering and the Aerodrome Manager for repair and possible reporting through the NOTAM system.*

4-6-F-2 Inspection and Maintenance Schedule:

SCHEDULE OF MAINTENANCE for :

1. *Transformer stations for electric power supply*
2. *Relay and switch cabinets {including switch cabinets in sub-stations)*
3. *Secondary power supplies (generators)*
4. *Fixed 400 Hz ground power supplies*

(4.6.g) ELECTRICAL SYSTEMS. (ECAR 139…….)

All electrical equipment and services are maintained in accordance with manufacturers designed maintenance schedules

4-6-g-1 Maintenance and monitoring

1- Power cables and distributors in field

2-Transformers and regulators (including standby units)

- *Lubrication system*

3- Control cables, monitoring units, control desk

4- Apron floodlighting

- *Maintenance instructions For the Constant Current Regulators (C.C.R'S) and*
- *schedule of maintenance*
- *Maintenance instructions for I/P volt and current on each brightness step:*
- *Maintenance instructions to check o/p Current for each brightness step:*
- *Maintenance instruction to check relays , wiring And insulation*

4-6-g-2 Inspection and Maintenance Schedule:

4.7 Maintenance of the Movement Area: (139 –349.b)

Facilities and procedures for the maintenance of the movement area, including:

4.7.a. Paved areas; (139 –341. c) (EAC 139-26) CH 4

4.7.b. Runway and Taxiway strips (139 –341) (EAC 139-26) CH 4

4.7.c. Aerodrome drainage. (139 –341.h) (EAC 139-26) CH 5

(4.7.a) Facilities and procedures for the maintenance of the movement Paved **area,: (ECAR 139…….)**

4-7-a-1 the pavement of each runway, taxiway, loading apron, and parking area on the Aerodrome that is available for air carrier use will be maintained and repaired to the highest standards:

1. *Pavement edges not exceed a 3 inch (8 cm) difference in elevation between abutting pavement and full strength pavement and abutting shoulders.*
2. *The pavement have no holes exceeding 3 inches (8 cm) in depth or any hole exceeding 5 inches (12.5 cm) in width.*
3. *The pavement are free of cracks and surface variations that could impair directional control of air carrier aircraft.*
4. *Foreign Objects (FOD) shall be removed promptly.*
5. *Chemical solvent used to clean any pavement area shall be removed as soon as possible, consistent with the instructions of the manufacturer of the solvent.*
6. *The pavement shall be sufficiently drained and free of depressions to prevent ponding of water that obscures marking or impairs safe aircraft operations.*
7. *Surface markings shall be maintained and free of debris.*
8. *Pavement maintenance will include friction testing per Section 9.4 of ICAO Annex 14. Records of friction testing shall be maintained for 3 years or until the runway is resurfaced, whichever is sooner.*

4-7-a-2 Maintenance Schedule:

A description of the facilities, equipment, personnel
EAC 139-26) CH 4

Inspections and corrective action are assumed according to **(ECAR 139…….)**

(4.7.B) RUNWAY AND TAXIWAY STRIPS (ECAR 139…….)

4-7-b-1 Specifications: (sample for 4D Aerodrome)

1. *Runway strip shall extend 60 meters before the threshold and 60 meters beyond the runway end. The runway strip shall extend 150 meters each side of the runway centerline*
2. *The taxiway strip shall extend 40.5 meters each side of the taxiway*
3. *The runway end safety area is twice the runway width and extends 240 meters from the runway end.*
4. *The runway strip shall be graded within a distance of 75 meters from the runway centerline.*
5. *The slope of the runway strip shall not exceed 1.5 percent longitudinal and 2.5 percent transverse.*
6. *The maximum transition from paved to unpaved area shall not exceed 3 inches or 7 cm.*
7. *The taxiway strip shall be graded to a distance of 19 meters from the taxiway centerline.*

4-7-b-2 Maintenance of unpaved areas

1. *Unpaved areas adjacent to the runway shall be maintained with smooth surfaces, free of obstructions and vehicles. Any vehicles or equipment operating in this area must receive permission from the ATC facility and Aerodrome Engineer prior to commencing operations.*
2. *No fixed objects other than visual aids required for air navigation shall be permitted on the runway unpaved areas. Those required equipment shall be on frangible mountings and if applicable have appropriate marking and lighting.*
3. *The surface slope outside the runway strip should not exceed 1 unit vertical to 2 units horizontal ratio (1:2).*

   Construction trenches and drainage culverts shall be kept to a minimum

4-7-b-3 Inspection and Maintenance Schedule:

A description of the facilities, equipment, personnel

1- *inspection and maintenance of unpaved areas including Runway and taxiway strips, Approach lights area and portions of Aerodrome perimeter that require preventive maintenance due to the nature of ground (sandy portions) which may cause technical problems to aircraft in case of sand section into engines, and sometimes affect visibility in case of sand rising.*
2- *The grass areas also need to be maintained to ensure good drainage, keeping a maximum growth rate to avoid obscuring lights.*

Inspections and corrective actions are assumed in accordance with EAC 139-25 &26

(4.7.C) AERODROME DRAINAGE. (ECAR 139…….)

4-7-c-1-Aerodrome drainage system areas cleaning specifications:

1) *Drainage of the Aerodrome area is necessary:*
   - ⇨ *To maintain sufficient bearing strength of the soil for the operation of vehicles and/or aircraft at any time during the year.*
   - ⇨ *To minimize the attraction of birds and other animals representing a potential hazard to aircraft.*
2) *Surface drainage is required to clear all parts of the movement area of standing water and prevent the formation of ponds or puddles. The quick run-off of water is particularly important, on runways to minimize the hazard of aquaplaning. Reference is made to the EAC 139-* – Pavement Surface Conditions layout.*
3) *Two drainage systems, one system which drains "clean" areas such as runways, taxiways, aprons, service roads, public roads and parking lots, the other system for drain oil, grease or chemicals such as hangars, aircraft maintenance areas, workshops and tank farms*
4) *The drainage system served the "clean" area built in a way to sink the drain water (from precipitation) into the adjacent ground to be collected in slot drains connected with a drain pipe, culvert and canal ducting the water to nearby flood path. to protect these natural water courses from pollution, collector basins with oil separators installed.*
5) *The drainage system served hangars, workshops, tank farms connected to a regular sewage system which ducts the water to sewage treatment plants. For pre-treatment the collected drain water pass through fuel separators before entering the sewage culvert.*
6) *Generally, the Aerodrome comply with rules on water treatment issued by the national or local authorities responsible for water conservation, water supply and environmental protection. The layout of Aerodrome drainage systems depends on local conditions and so does the maintenance program.*
7) *Marsa Alam international Aerodrome drainage system components are as follows:*
   - *Wadi channel divert dyke.*
   - *Water collection ponding areas.*
   - *Water ditch French*
   - *Surface Water collection drainpipes and small channel.*
   - *Box culvert ducts.*

4-7-c-2 Inspection and Maintenance Schedule of Aerodrome drainage system areas:

Drainage areas on the Aerodrome inspected and periodic schedule maintained to the highest standards, to ensure the continued compliance with ICAO required.

- ***REGULARLY SCHEDULE INSPECTION***

Visual checks on Aerodrome drainage system carried out regularly and at least (twice) semi-annually. Local conditions will determine when to inspections have to be carried out, in general, a spring and fall inspection will suffice to detect deterioration due to the winter and summer.
Semi annually schedule inspection report performed by the staff of technical department (civil engineering section).

- ***SPECIAL CONDITION INSPECTIONS (UNSCHEDULE):***

Special condition inspections occur after an unusual condition or event and as sandstorm, rains and floods. A special inspection is conducted immediately after metrological events. Depending upon circumstances, special condition inspections may include the inspection of any of the specific facilities or activities under the other their components and activities, which should cover at least all drainage areas, described in this section.
Special inspection report performed by the staff of technical department (civil engineering section)

4.8) AERODROME WORKS SAFETY: 139.335.i , EAC 139-25 CH. 8

Procedures for planning and carrying out construction and maintenance work safely

(4.8.a) Arrangements for communicating with air traffic control during the progress of such work;

(4.8.b) The names, telephone numbers and roles of the persons and organizations responsible for planning and carrying out the work, and arrangements for contacting those persons and organizations at all times

(4.8.c) The names and telephone numbers, during and after working hours, of the aerodrome fixed base operators, ground handling agents and aircraft operators who are to be notified of the work;

(4.8.d) A distribution list for work plans, if required.

(4.8.a) ARRANGEMENTS FOR COMMUNICATING WITH AIR TRAFFIC CONTROL DURING THE PROGRESS OF SUCH WORK;

1----------
2----------
3- ----------

(4.8.b) THE NAMES, TELEPHONE NUMBERS AND ROLES OF THE PERSONS AND ORGANIZATIONS RESPONSIBLE FOR PLANNING AND CARRYING OUT THE WORK, AND ARRANGEMENTS FOR CONTACTING THOSE PERSONS AND ORGANIZATIONS AT ALL TIMES

NO.	*Name*	*Title*	*Tel. no.*	*Remark*

(4.8.c) THE NAMES AND TELEPHONE NUMBERS, DURING AND AFTER WORKING HOURS, OF THE AERODROME FIXED BASE OPERATORS, GROUND HANDLING AGENTS AND AIRCRAFT OPERATORS WHO ARE TO BE NOTIFIED OF THE WORK;

4-8-c-1THE AERODROME FIXED BASE OPERATORS,

NO.	*Name*	*Title*	*Tel. no.*	*Remark*

4-8-c-2 GROUND HANDLING AGENTS

NO.	*Name*	*Title*	*Tel. no.*	*Remark*

4-8-c-3 AIRCRAFT OPERATORS

NO.	*Name*	*Title*	*Tel. no.*	*Remark*

(4.8.d) A DISTRIBUTION LIST FOR WORK PLANS, IF REQUIRED.

(Including work that may have to be carried out at short notice) on or in the vicinity of the movement area which may extend above an obstacle limitation surface, including the following:

- List of Works that are being Carried out at the Aerodrome

Item #……..

Brief description of works and relevant drawings Location of Works Commencement time & date Completion time & date	Drawings should be *accepted* by ECAA prior to commencement of works.
Do works extend above obstacle limitation surfaces?	If answer is yes, indicate what surfaces, and indicate the relevant safety actions carried out by the aerodrome and procedures for communicating with ATC during the progress of work:
Do works encroach navigation equipment protection areas?	If answer is yes, indicate name of the navigation equipment and list the actions carried out by the aerodrome to ensure safety during the period of construction of herein above mentioned works
Aerodrome Officials responsible for planning the works Aerodrome officials responsible for carrying out the works (*If works are carried out by a contractor), write name, address and telephone numbers of each of the Contractor , Contractor Project Manager and the Aerodrome Project Manager*	Name: Title: Address: Telephone :

Distribution List for work plans	-

4.9 APRON MANAGEMENT: (139 – 335.e)

Particulars of the apron management procedures, including the following:

(4.9.a) Arrangements between air traffic control and the apron management unit;

(4.9.b) Arrangements for allocating aircraft parking positions;

(4.9.c) Arrangements for initiating engine start and ensuring clearance of aircraft push back;

(4.9.d) Marshalling service; and

(4.9.e) Leader (van) service.

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(4.9.a) ARRANGEMENTS BETWEEN AIR TRAFFIC CONTROL AND THE APRON MANAGEMENT UNIT;

(4.9.B) ARRANGEMENTS FOR ALLOCATING AIRCRAFT PARKING POSITIONS;

(4.9.C) ARRANGEMENTS FOR INITIATING ENGINE START AND ENSURING CLEARANCE OF AIRCRAFT PUSH BACK;

(4.9.D) MARSHALLING SERVICE;

instructions should be written for marshallers including:
a) The absolute necessity for using only authorized signals (copies of these should be displayed at suitable locations point);
b) The need to ensure that the stand to be used is clear of fixed and mobile obstructions;
c) The circumstances in which single man marshalling may be used and the occasions when assistance of wingtip men should be employed; and
d) The action to be taken in the event of aircraft damage occurring during marshalling;
distinctive jacket must be worn at all times. This can be of the waistcoat variety coloured day-glow red, reflective orange, or reflective yellow. A badly executed aircraft manoeuvre could lead to the need for use of excessive engine power for corrective action, with subsequent risk of injury or damage from blast. If necessary, aircraft in these situations should be signalled to close down engines and repositioning carried out by tractor.

(4.9.e) LEADER (VAN) SERVICE.

At airports where ground guidance(follow-me) vehicles are in use, local orders should ensure that drivers are suitably trained in R/T procedures, visual signals, taxiing speeds and the correct aircraft/vehicle spacing.

4.10 APRON SAFETY MANAGEMENT 139-335.e ,f , 349.a,b

Procedures to ensure apron safety, including: (139-335.e1)

(4.10.a) Protection from jet blasts; (ECAR 139…….)
(4.10.b)Enforcement of safety precautions during aircraft refueling operations; (ECAR 139…….)

(4.10.c) Apron sweeping; ((ECAR 139…….)

(4.10.d) Apron cleaning; (ECAR 139…….)

(4.10.e) Arrangements for reporting incidents and accidents on an apron; and

(4.10.f) Arrangements for auditing the safety compliance of all personnel working on the apron.

(4.10.A) PROTECTION FROM JET BLASTS; (ECAR 139…….)

1- *All apron users should be made aware of the hazards arising from jet effluxes and propeller slipstreams. Where necessary, apron design shall incorporate blast fences*
2- *All vehicles and wheeled equipment must be left properly braked and, where appropriate, on jacks to minimize the risk of movement when subjected to jet blast or propeller slipstream.*
3- *Particular care must be exercised with apron equipment having a large flat side surface area. Litter or rubbish can constitute a risk when acted on by blast and it is thus necessary to ensure that aprons are kept clean. Responsibility for the marshalling of passengers across aprons rests with the airline or it's agent. However, Aerodrome staff should be aware of the risk to passengers on aprons from jet blast and should be prepared to give warning when necessary*

(4.10.B)ENFORCEMENT OF SAFETY PRECAUTIONS DURING AIRCRAFT REFUELING OPERATIONS; (ECAR 139…….)

The main points to be observed:

1) *No smoking or naked lights within the fuelling zone;*
2) *Auxiliary power units and ground power units shall not be started during the fuelling operation;*
3) *A clear exit path shall be maintained to and from the aircraft to allow the quick removal of fuelling equipment and persons in an emergency;*
4) *Aircraft and supply sources shall be correctly bonded and the correctly bonded and the correct earthling procedures employed;*
5) *Fire extinguishers of a suitable type should be readily available; and*
6) *Fuel spillage should be immediately brought to the attention of the fuelling overseer. Detailed instructions should be laid down for dealing with fuel spillage.*

   When necessary, aircraft fuelling companies should be given instructions with respect to the acceptable positioning of vehicles relative to the aircraft to ensure that taxiing clearance limits are not infringed. Guidance on precautionary measures to be taken while fuelling operations are carried out is contained in the. EAC 139-18

(4.10.c) APRON SWEEPING (ECAR 139…….)

A regular program should be instituted for the mechanical sweeping of aprons and taxiways so that in a given period of time all the operational paved areas where aircraft taxi or park will have been swept

(4.10.d) APRON CLEANING (ECAR 139…….)

1. *For safety reasons the surfaces of aprons are cleaned daily of sand debris, stones or other loose objects. Reference is made to 139.349.b because of aircraft engines can easily ingest loose material, and suffer server compressor blade or propeller damage. There is also the risk that propeller or jet engine blast may cause loose objects to be "shot" like bullets against adjacent aircraft, vehicles, buildings or people. Also the tires of taxing aircraft or any other moving vehicle may throw up objects and damage. Maintenance of movement areas requires daily constant monitoring and regular sweeping of surfaces.*

(4.10.E) ARRANGEMENTS FOR REPORTING INCIDENTS AND ACCIDENTS ON AN APRON;

نموذج إبلاغ عن حادث أو واقعة

1. **ساعة وتاريخ الإبلاغ:** ----------
2. **اسم المبلغ:** ----------
3. **الجهة التابع لها:** ----------
4. **رقم تليفونه:** ----------

بيانات الحادث أو الواقعة

1. **حروف تسجيل الطائرة:** ----------
2. **طراز الطائرة:** ----------
3. **مالك الطائرة/المستثمر:** ----------
4. **رقم الرحلة:** ----------
5. **ساعة وتاريخ الواقعة/الحادث:** ----------
6. **مكان وموقع الواقعة/الحادث:** ----------
7. **أسماء طاقم القيادة:** ----------
8. **الغرض من الرحلة:** ----------
9. **المرحلة التي حدثت خلالها الواقعة/الحادث:** ----------
10. **الإصابات بالأفراد:** ----------
11. **التلفيات المبدئية بالطائرة:** ----------
12. **التلفيات الأخرى:** ----------
13. **ملخص الواقعة/ الحادث:** ----------
14. **أي معلومات أخرى يرى المبلغ إضافتها:** ----------

متلقي البلاغ،

الاسم:

الوظيفة:

التوقيع:

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(4.10.F) ARRANGEMENTS FOR AUDITING THE SAFETY COMPLIANCE OF ALL PERSONNEL WORKING ON THE APRON.

4.11 AIRSIDE VEHICLE CONTROL: (139 -335.g,)

Particulars of the procedure for the control of surface vehicles operating on or in the vicinity of the movement area, including the following: (139-333.i)

(4.11.a) Applicable traffic rules ((ECAR 139…….)
Method of issuing driving permits for operating vehicles in the movement area. (ECAR 139…….)

(4-11-c) maintenance secluded

(4.11.A) DETAILS OF THE APPLICABLE TRAFFIC RULES (INCLUDING SPEED LIMITS AND THE MEANS OF ENFORCING THE RULES) (ECAR 139…….)

No vehicle may operate on the aircraft operating area unless authorized by ATC, and with appropriate vehicle warning devices and appropriate operator training.

1. *No vehicle may operate on the Aerodrome unless it has a need to conduct official business.*
2. *Vehicles shall be limited to specific operations or routes. When operating on runways or taxiways the operator shall have continuous contact with ATC. When operating near aircraft they shall be well marked and observe adequate separation to ensure they do not interfere with normal aircraft operations.*
3. *Vehicle operators shall have special training qualifications to operate on the Aerodrome . They shall receive periodic refresher training to ensure continued compliance with Aerodrome regulations.*
4. *Vehicles should not pass within 7 meters (20 feet) of a parked aircraft.*
5. *Vehicles should maintain a slow speed to ensure clearance from all obstacles. Near aircraft and passengers this is restricted to 5 miles per hour (MPH) or no faster than a person can walk. Normally the maximum speed on the apron is 30 KM/H (20 MPH). Emergency vehicles may operate at a high speed with extreme caution.*
6. *Vehicles operating at night shall have appropriate lighting and marker flags. No vehicle shall be left unattended on the apron, runway or taxiway at night.*
7. *Vehicles operating on the Aerodrome shall be maintained in high quality. Electrical systems, brakes and tires shall be inspected routinely for high quality. Debris shall be removed from vehicles to ensure it is not deposited on the operating area.*
8. *Vehicles shall not be left unattended on the apron with the engine running.*
9. *No vehicle shall park within 60 meters (200 feet) of the runway edge without ATC approval.*

Contractors operating on the Aerodrome shall have designated operating areas and operating procedures. All drivers shall have specific training on Aerodrome safety regulations. Drivers or Contractors that violate these regulations shall not be permitted on the aircraft operating area

(4.11.b) THE METHOD OF ISSUING DRIVING PERMITS FOR OPERATING VEHICLES IN THE MOVEMENT AREA. (ECAR 139…….)

4-11-C) MAINTENANCE SECLUDED

4.12 WILDLIFE HAZARD MANAGEMENT: (ECAR 139…….)

Particulars of the procedures to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight pattern or movement area, including the following:

(4.12.a) Arrangements for assessing wildlife hazards;

(4.12.b) Arrangements for implementing wildlife control programs; and

(4.12.c) Responsible staff

(4.12.a) ARRANGEMENTS FOR ASSESSING WILDLIFE HAZARDS;

4-12-a-1 EVENTS TRIGGERING A WILDLIFE HAZARD ASSESSMENT

The ----------Airport Manager will arrange for a Wildlife Hazard Assessment to be conducted by ----------Wildlife Services when any of the following events occurs on the airport or within 10,000 feet of the airport:

1. *An air carrier aircraft experiences a multiple bird strike or engine ingestion.*

2. *An air carrier aircraft experiences a damaging collision with wildlife other than birds.*

3. *Wildlife is observed to have access to any airport movement area or flight pattern, in a size or in numbers capable of causing one of the above events.*

If one of the above events occurs, the Airport Manager will notify the FAA Airport Certification and Safety staff.

4-12-a-2 COMPLETION OF A WILDLIFE HAZARD ASSESSMENT

The Wildlife Hazard Assessment conducted at the airport will contain the following:

1. *Analysis of the event which prompted the Wildlife Hazard Assessment.*
2. *Identification of the species and numbers.*
3. *Identification of the locations of the species and local movements.*
4. *Identification of daily and seasonal occurrences of wildlife observed.*
5. *Identification and location of features on and near the airport that attract wildlife.*

Description of the wildlife hazard to air carrier operations

4-12-a-3 WILDLIFE HAZARD MANAGEMENT PLAN

If the ECAA determines that a Wildlife Hazard Management Plan is needed at the Plainville Municipal Airport, the airport will formulate a plan and submit it to the ECAA for accepted , as an amendment to the Airport Certification Manual. The Wildlife Hazard Management Plan will be included in the ACM as Appendix ---- and implemented upon ECAA approval

The plan should include at least the following:

(1) The persons who have authority and responsibility for implementing the plan.

(2) Priorities for needed habitat modification and changes in land use identified in the ecological study, with target dates for completion.

(3) Identification of resources to be provided by the certificate holder for implementation of the plan.

(4) Procedures to be followed during air carrier operations, including at least:

(i) Assignment of personnel responsibilities for implementing the procedures;

(ii) Conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;

(iii) Wildlife control measures; and

(iv) Communication between the wildlife control personnel and any air traffic control tower in operation at the Aerodrome .

(4.12.B) ARRANGEMENTS FOR IMPLEMENTING WILDLIFE CONTROL PROGRAMS; AND

1- Periodic evaluation and review of the wildlife hazard management plan for:

(i) Effectiveness in dealing with the wildlife hazard; and

(ii) Indications that the existence of the wildlife hazard, as previously described in the ecological study, should be reevaluated.

2- A training program to provide Aerodrome personnel with the knowledge and skills needed to carry out the wildlife hazard management plan

3- Priorities for needed habitat modification and changes in land use identified in the ecological study, with target dates for completion.

4- *Identification of resources to be provided by the certificate holder for implementation of the plan.*

(4.12.c) THE NAMES AND ROLES OF THE PERSONS RESPONSIBLE FOR DEALING WITH WILDLIFE HAZARDS, AND THEIR TELEPHONE NUMBERS DURING AND AFTER WORKING HOURS.

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4.13 OBSTACLE CONTROL: (139 – 317) LAW 29 FOR YEAR 2003

Particulars setting out the procedures for:

(4.13.a)Monitoring the obstacle limitation surfaces and Type A Chart for obstacles in the take off surface;

(4.13.b) Controlling obstacles within the authority of the operator;

(4.13.c)Monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces;

(4.13.d)Controlling new developments in the vicinity of aerodromes; and

(4.13.e)Notifying the ECAA of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amendment of the AIS publications.

(4.13.A)MONITORING THE OBSTACLE LIMITATION SURFACES AND

1. *Each object in each area within the authority of which exceeds any of the heights or penetrates the obstacle limitation surfaces described in EAC 139-23, and is marked or lighted as required.*
2. *The marking pattern is made up of white and red or white and orange rectangles except where such colors merge with the background.*
3. *The obstruction lights shall be steady red or flashing red or flashing white according to the height and distance of obstruction in respect to approach or take off areas.*

Type A Chart for obstacles in the take off surface;

(4.13.b) CONTROLLING OBSTACLES WITHIN THE AUTHORITY OF THE OPERATOR;

(4.13.c)MONITORING THE HEIGHT OF BUILDINGS OR STRUCTURES WITHIN THE BOUNDARIES OF THE OBSTACLE LIMITATION SURFACES;

(4.13.d)CONTROLLING NEW DEVELOPMENTS IN THE VICINITY OF AERODROMES;

(4.13.e)NOTIFYING THE ECAA OF THE NATURE AND LOCATION OF OBSTACLES AND ANY SUBSEQUENT ADDITION OR REMOVAL OF OBSTACLES FOR ACTION AS NECESSARY, INCLUDING AMENDMENT OF THE AIS PUBLICATIONS.

4-14 REMOVAL OF DISABLED AIRCRAFT: (139-335 C) EAC 139-22

Particulars of the procedures for removing a disabled aircraft on or adjacent to the movement area, including the following:

4-14- -a the roles of the aerodrome operator and the holder of the aircraft certificate of registration;

4-14-b Arrangements for notifying the holder of the certificate of registration;

4-14-c Arrangements for liaising with the air traffic control unit;

4-14-d Arrangements for obtaining equipment and personnel to remove the disabled aircraft; and

4-14-e **The names, role and telephone numbers of persons responsible for arranging for the removal of disabled aircraft**.

Each Aerodrome should draw up a comprehensive plan for the removal of a disabled aircraft. In addition to covering and amplifying the points above, the plan should deal with the following:

a) A list of equipment available on or in the vicinity of the Aerodrome ;
b) A list of additional equipment available from other Aerodrome s on request;
c) A list of nominated agents acting on behalf of each operator at the Aerodrome ;
d) A statement of the airline arrangements for the use of pooled special equipment; and
e) A list of local contractors (with names and telephone numbers) able to supply heavy removal equipment on hire.

4-14- A THE ROLES OF THE AERODROME OPERATOR AND THE HOLDER OF THE AIRCRAFT CERTIFICATE OF REGISTRATION;

4-14-a-1) The Roles Of The Aerodrome Operator

1- *issue required NOTAM as may be appropriate;*
2- *the ----------Aerodrome operations co-ordinate the aircraft removal operation and an officer should be designated for this purpose. His telephone / telex number should be made available to aircraft operators.*
3- *inspect all areas prior to resumption of normal aircraft operations*
4- *provide for security of the accident site and co-ordinate with the aircraft accident investigation authority on measures to be taken before the aircraft removal operation is initiated;*
5-

4-14-a-2) The Roles Of The Holder Of The Aircraft Certificate Of Registration;

1- *The task of moving the aircraft is responsibility of aircraft owner or operator .*
2- *Each operator using the Aerodrome should nominate a person or organization authorized to act on his behalf prior to the commencement of flight operations into the Aerodrome*
3-
4-

4-14-b) ARRANGEMENTS FOR NOTIFYING THE HOLDER OF THE CERTIFICATE OF REGISTRATION;

4-14-c) ARRANGEMENTS FOR LIAISING WITH THE AIR TRAFFIC CONTROL UNIT;

4-14-d) ARRANGEMENTS FOR OBTAINING EQUIPMENT AND PERSONNEL TO REMOVE THE DISABLED AIRCRAFT;

4-14-e THE NAMES, ROLE AND TELEPHONE NUMBERS OF PERSONS RESPONSIBLE FOR ARRANGING FOR THE REMOVAL OF DISABLED AIRCRAFT.

NO.	*Name*	*Title*	*Responsibility*	*Tel. no.*	*Remark*

4-15 HANDLING OF HAZARDOUS MATERIALS 139.337

Particulars of the procedures for the safe handling and storage of hazardous materials on the aerodrome, including the following:

4-15-a Arrangements for special areas on the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other hazardous materials; and

4-15-b The method to be followed for the delivery, storage, dispensing and handling of hazardous materials.

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4-15-A) ARRANGEMENTS FOR SPECIAL AREAS ON THE AERODROME TO BE SET UP FOR THE STORAGE OF INFLAMMABLE LIQUIDS (INCLUDING AVIATION FUELS) AND ANY OTHER HAZARDOUS MATERIALS; 139.337.b

4-15-a-1 FUELING AGENTS

The following fueling agents operate at the airport:

1. *caltex*
2. *mobil*

4-15-a-2 FIRE SAFETY FUEL HANDLING STANDARDS

Fire safety fuel handling standards have been established at -------- Airport and a copy of the standards has been provided to all fueling agents including self fuelers. The fire safety standards are as follows:

a- Fuel Storage Areas and Unloading/Loading Stations

1. *Fuel storage areas will be fenced, locked when unattended, and posted with signs to reduce chance of unauthorized entry and/or tampering.*
2. *Fuel storage areas and unloading/loading stations will be posted with "No Smoking" signs.*
3. *Fuel storage areas and unloading/loading stations will be free of materials, equipment, functions, and activities that could be ignition sources.*
4. *Piping will be underground or reasonably protected from damage by surface vehicles.*
5. *Fuel storage areas and unloading/loading stations will be equipped with a minimum of two accessible fire extinguishers, at least 20lbs-BC rated.*
6. *Electrical equipment, switches, and wiring in fuel storage areas and unloading/loading stations will be explosion proof and reasonably protected from heat, abrasion, or impact which could cause an ignition source.*
7. *Piping, filters, tanks, and electrical components will be electrically bonded together and interconnected to an adequate ground.*
8. *Unloading/loading stations will be equipped with bond/ground wire with appropriate clip for grounding tankers and mobile fuelers.*
9. *Loading stations will be equipped with a deadman control feature.*
10. *Loading stations will be equipped with a boldly marked emergency cutoff capable of stopping all fuel flow with one physical movement.*

b- Mobile Fuelers

11. *Mobile fuelers will be marked with letters at least 3 inches high on all sides to show flammability, and display standard hazardous material placards. A "NO SMOKING" sign will be posted in the cab. Smoking equipment such as cigarette lighters and ash trays shall not be provided.*

12. *Mobile fuelers will be equipped with a minimum of two fire extinguishers, at least 20lbs-BC rated, each accessible from a different side.*

13. *Mobile fuelers will be equipped with a system capable of overriding all other controls and stopping all fuel flow with one physical movement. Emergency fuel cutoffs should be boldly marked. Mobile fuelers will also be equipped with a tank bottom outflow cutoff valve that can block fuel flow in the event of piping rupture or valve failure.*

14. *Fuel tanks on mobile fuelers will be equipped with gasket dome covers, which contain an emergency vapor pressure relief valve and are adequate to prevent fuel spillage during vehicle movement.*

15. *Electrical equipment, switches, and wiring in mobile fuelers, will be explosion proof and be reasonably protected from heat, abrasion, or impact which could be an ignition source.*

16. *Mobile fuelers will be equipped with bonding wires/clamps to facilitate prompt, definite electrical connection to the aircraft being fueled.*

17. *Fuel systems on mobile fuelers will have electrical continuity between all metallic or conductive components.*

18. *Fuel system piping on mobile fuelers and cabinets will be reasonably protected from impact/stress that could cause fuel spillage.*

19. *All nozzles on mobile fuelers will be controlled by a deadman flow cutoff feature.*

20. *Mobile fuelers will be equipped with a spark arrestor and leak-free exhaust system terminating in a standard baffled muffler. Mobile fuelers will contain no feature that would allow fuel or concentrated fumes to contact the exhaust system if overfilled.*

c- Fueling Personnel & Staff Will:

21. *Ensure that appropriate clothing is worn. Garments shall be made of fabric other than silk, polyesters, nylon with wool, or other static generating fabrics. Shoes shall not contain taps, hobnails, or other material that could generate sparks on pavement.*

22. *Ensure that matches or cigarette lighters are not carried, that could become an ignition source if operated, bumped, hit, or dropped.*

23. *Ensure that fueling is performed only outside, never in a building.*

24. *Ensure that mobile fuelers are never parked closed than 10 feet from each other or closer than 50 feet from a building, except for maintenance facilities approved by the Fire Marshall for servicing fueling vehicles.*

25. *Ensure that all fuel systems and mobile fuelers are bonded between aircraft, tankers, or fuelers, before commencing and during all fuel transfer operations.*

26. *Ensure that before opening any aircraft or mobile fueler tank or commencing any fueling operation, and at all times during fuel transfer, a bonding wire is connected between mobile fueler and loading station or between fueler and the aircraft being fueled.*

27. *Ensure that all fueling equipment is in good operating condition and free of fuel leaks prior to use.*

28. *Ensure that all fuel storage areas and equipment is kept neat and free of trash or debris that could contribute to the spread of fire.*

29. *Ensure that all fire extinguishers are sealed, charged, and inspected annually.*

30. *Ensure that fuel service operations are suspended when there are lightning discharges in the immediate vicinity of the airport.*

d. TRAINING STANDARDS

1. *A supervisor with Midwest Aviation has completed an aviation fuel training course in fire safety.*

2. *All other employees with Midwest Aviation, who fuel aircraft, accept fuel shipments, or handle fuel, will receive at least on-the-job training in fire safety from the supervisor who has completed an aviation fuel training course in fire safety acceptable to the Administrator. All new employees with Midwest Aviation will receive on-the-job training in fire safety from a qualified supervisor during their initial training program.*

3. *All fueling agents, engaged in handling and dispensing fuel at the airport, will certify to airport management, by letter prior to January 1 of each year, that the above training standards have been accomplished. Those records will be maintained in the Airport Manager office.*

E . THE FIRE CODE

1- FIRE CODE ----------

2- Fuel Tank

no	*Type*	*Dim*	*Capacity*	*Re.*
1-	*Horizontal*	*10*5*2 m*	*100000L*	

4- FIRE SYSTEM

Turret no.	*Flow rate (l / m)*	*Fome tank no*	*Capacity*

5- Fuel tank cooling system

a- no. of nozzle provided for each tank -------
b- deices charge rate ----------

F- QUARTERLY INSPECTIONS OF FUELING FACILITIES

---------- Airport (office) personnel conduct quarterly inspections of the fuel storage areas, mobile fuelers, and fuel cabinets for compliance to the above Airport Fire Safety Fuel Handling Standards. Quarterly inspections are conducted ---------- each year. Follow-up inspections will be conducted when unsatisfactory items are found. Inspection records are maintained in the Airport Manager's office for at least 12 months.

All fueling agents engaged in handling and dispensing aviation fuel at --------- Airport are required to take immediate corrective action be taken whenever notified of noncompliance with any of the Airport Fire Safety Fuel Handling Standards. If corrective action cannot be accomplished within a reasonable period of time, the Airport Manager will notify the ECAA and the ---------- Chairman.

Attachment

A- ALL DRAWING OF THE FUEL STATION INCLUDE

1- STATION LAYOUT PLAN SHOW (FUEL TANKS location ,exit access, fire sys .location.…)

3- FIRE EXTINGUISHING SYSTEM

4-

B. MAINTENANCE SCHEDULE

4-15-B THE METHOD TO BE FOLLOWED FOR THE DELIVERY, STORAGE, DISPENSING AND HANDLING OF HAZARDOUS MATERIALS.139.337 , EAC 139-18 CH.16

4-15-b-1 The following general precautionary measures should be taken during aircraft fuelling operations:

a) Aircraft fuelling operations should be done outdoors;

b) Bonding and/or grounding, as appropriate, should be done in accordance with 16.4;

c) Aircraft fuelling vehicles should be positioned so that:
1) Accessibility to aircraft by rescue and fire fighting vehicles is not interrupted;

2) a cleared path is maintained to permit rapid removal of fuelling vehicles from an aircraft in an emergency;

3) They do not obstruct evacuation from occupied portions of the aircraft in the event of a fire; and 4) the vehicle engines are not under the wing;

d) all vehicles performing aircraft servicing functions other than fuel servicing (e.g. baggage trucks, etc.) should not be driven or be parked under aircraft wings while fuelling is in progress;

e) the exhaust systems of all vehicles required to operate in the fuelling zone must be subjected to the most stringent and regular maintenance to eliminate defects which may result in the emission of sparks or flames capable of igniting fuel or fuel vapour;

f) aircraft-borne auxiliary power units which have an exhaust efflux discharging into the zone should be started before filler caps are removed or fuelling connexions made;

g) if an auxiliary power unit is stopped for any reason during a fuelling operation it should not be restarted until the flow of fuel has ceased and there is no risk of igniting fuel vapours;

h) Aircraft should not be fuelled within the immediate vicinity of radar equipment under test or in use in aircraft or ground installations;

i) Aircraft batteries should not be installed or removed nor should battery chargers be connected, operated or disconnected;

j) Connecting of ground power generators should not be done during this period;

k) Electric tools, drills or similar tools likely to produce sparks or arcs should not be used;

1) Photographic flash bulbs or electronic flash equipment should not be used in the immediate vicinity of the fuelling equipment or of the fill or vent points of the aircraft;

m) open flames and lighted open flame devices should be prohibited on the apron and in other locations within 15 m of any aircraft fuelling operation. Included in the category of open flames and lighted open flame devices are the following:
1) lighted cigarettes, cigars, pipes; 2) exposed flame heaters;
3) welding or cutting torches, etc.; and

4) flare pots or other open flame lights;

n) Cigarette lighters or matches should not be carried or used by anyone while engaged in aircraft fuelling operations;

o) Extreme caution should be used when fuelling during lightning and electrical storms. The fuelling operations should be suspended during severe lightning disturbances in the immediate vicinity of the airport;

p) when any part of an aircraft undercarriage is abnormally heated, the airport rescue and fire fighting service should be called and fuelling should not take place until the heat has dissipated; and

q) Portable fire extinguishing equipment suitable for at least initial intervention in the event of a fuel fire and personnel trained in its use shall be readily available and there shall be a means of quickly summoning the rescue and fire-fighting service in the event of a fire or major fuel spill. It should be ensured by regular inspection and maintenance that this equipment is maintained in a fully serviceable condition.

4-16 **: LOW VISIBILITY OPERATIONS: 139-335 H ,** EAC 139-30&EAC 139-25

Particulars of procedures to be introduced for low visibility operations, including the measurement and reporting of runway visual range as and when required, and the names and telephone numbers, during and after working hours, of the persons responsible for measuring the runway visual range.

Low visibility procedures

.1 When low visibility operations are likely, and at a pre-agreed visibility condition, air traffic control should notify Aerodrome operations, and Category II/III Aerodrome surface security checks should commence. After operators should be notified immediately prior to low visibility procedures actually beginning .

.2 Aerodrome appropriate should respond to the initial call from air traffic control by arranging for the tasks detailed below, as appropriate, to be carried out:

a) Advise Aerodrome security so that airside access for vehicles and personnel is restricted;

b) Prohibited areas are closed off by lighting, portable or switched ;

c) Ensure that all contractors working in manoeuvring area evacuate the area, and leave the site marked and secure;

d) Check that any lights provided to indicate the ILS sensitive area are switched on and working;

e) Notify the following, advising them that "Category ....operations on the appropriate runway are being conducted":

- *Aerodrome rescue and fire fighting service*
- *Security control staff*
- *Apron management staff*
- *Senior operations management; and*

f) Advise ATC when the checks are completed and safeguarding complete.

.3 Once all controlled accesses have been closed by airside security, operations may have to arrange escort vehicles to supervise taxiway crossings to remote stands, fuel farms, etc., for the movement of essential vehicles.

4 Perimeter security should notify operations of any unauthorized vehicle or persons seen entering the manoeuvring area, and a team should be dispatched to investigate and keep air traffic control and senior operations management informed.

5 When advised by the air traffic control that Category II/III conditions are cancelled, operations should ensure that the actions detailed in previous paragraphs are positively restored and previously notified personnel are re-advised.

4-17 PROTECTION OF SITES FOR RADAR AND NAVIGATIONAL AIDS: 139-341

Particulars of the procedures for the protection of sites for radar and radio navigational aids located on the aerodrome to ensure that their performance will not be degraded, including the following:

4-17-a Arrangements for the control of activities in the vicinity of radar and navaids installations;

4-17-b Arrangements for ground maintenance in the vicinity of these installations; and

4-17-c Arrangements for the supply and installation of signs warning of hazardous microwave radiation.

4-17-a Arrangements for the control of activities in the vicinity of radar and navaids installations;

1- *All NAVAIDS are located on Airport property within the perimeter fence and are protected against vandalism and theft by this fence.*

2- *Periodic inspection of security fences and material condition of the navigational aid is assigned to the Security office.*

3- *Utility plans for airport utilities are on file in the Engineering office.*

4- *Airport Engineering personnel prior to the start of construction will mark the location of any airport utility lines in the areas of construction.*

5- *Utility lines for NAVAIDS and ILS critical areas will be marked by Engineering office under the direction of the Airport Manager.*

6- *Airport Operations Manager is responsible for monitoring construction activity on the airport to prevent the interruption of visual and electronic signals of NAVAIDS.*

7- *No facilities will be constructed on the airport that, when it is determined by the ECAA , would derogate the operation of an electronic or visual NAVAID or air traffic control facilities.*

8- *The Airport Manager will notify the ECAA if aware of any changes in construction plans or equipment.*

9- *Interruption of visual and electronic signals of NAVAIDS is prevented, insofar as it is within the Airport's authority. ILS critical areas are identified by signs, and ground vehicle procedures are established to prevent inadvertent entry into a critical area by a vehicle.*

A listing of all NAVAIDS, their location and inspection cycle is included in this manual.

NAVAIDS	Location Inspection cycle

4-17-d) ARRANGEMENTS FOR GROUND MAINTENANCE IN THE VICINITY OF THESE INSTALLATIONS; AND

4-17-E) ARRANGEMENTS FOR THE SUPPLY AND INSTALLATION OF SIGNS WARNING OF HAZARDOUS MICROWAVE RADIATION.

4-18 Reporting of Runway Surface Conditions (ECAR 139.307) , EAC 139-66

1 Particulars of procedure for assessing and reporting runway condition code (RWYCC) for each third of the runway in the prescribed format

2 Particulars of procedure for reporting significant changes to RWYCC without dealy

3 Measurement and promulgation of water, slush and other contaminants including depths on runways and taxiways.

4 Assessment and promulgation of runway surface conditions:

PART (5)

PART 5: AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM 139.303 :

(a) **Aerodrome Administration:**

- Particulars of the aerodrome administration, including the following:
- An aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities;
- The name, position and telephone number of the person who has overall responsibility for aerodrome safety; and
- Aerodrome committees.

Safety Management System (SMS) 139.305.d

Particulars of the safety management system established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance, the essential features being:

a. The safety policy, insofar as applicable, on the safety management process and its relation to the operational and maintenance process;
b. The structure or organization of the SMS, including staffing and the assignment of individual and group responsibilities for safety issues;
c. SMS strategy and planning, such as setting safety performance targets, allocating priorities for implementing safety initiatives and providing a framework for controlling the risks to as low a level as is reasonably practicable keeping always in view the requirements of the Standards and Recommended Practices in ECAR Part 139, standards, rules or orders;
d. SMS implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement of safety requirements;
e. A system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures program);
f. Measures for safety promotion and accident prevention and a system for risk control involving analysis and handling of accidents, incidents, complaints, defects, faults, discrepancies and failures, and continuing safety monitoring;
g. The internal safety audit and review system detailing the systems and programs for quality control of safety;
h. The system for documenting all safety related aerodrome facilities as well as aerodrome operational and maintenance records, including information on the design and construction of aircraft pavements and aerodrome lighting. The system should enable easy retrieval of records including charts;
i. Staff training and competency, including the review and evaluation of the adequacy of training provided to staff on safety related duties and of the certification system for testing their competency; and
j. The incorporation and enforcement of safety related clauses in the contracts for construction work at the aerodrome.