



**PUBLIC**

**DOCUMENT OF THE INDEPENDENT CONSULTATION AND INVESTIGATION MECHANISM**

**CO-MICI002-2011  
COLOMBIA: ASSESSMENT REPORT OF THE CONSULTATION PHASE FOR  
LOAN 2477A-OC-CO,  
THE “EL DORADO INTERNATIONAL AIRPORT” PROJECT**

This document was prepared by the Project Ombudsperson for the Consultation Phase.

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# Assessment Report CO-MICI002-2011 El Dorado International Airport (2477A/OC-CO)



**Project Ombudsperson**

March 2012

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**COLOMBIA: EL DORADO INTERNATIONAL AIRPORT  
ASSESSMENT REPORT**

## **1. Background**

### **1.1. The Request**

1. On 12 August 2011, the Independent Consultation and Investigation Mechanism (ICIM or “the Mechanism”)<sup>1</sup> received a Request from *Comunidades Unidas Macroproyecto Aeropuerto El Dorado* (hereinafter “Comunidades Unidas,” or the “Representative”), on behalf of residents of Localidad Novena de Fontibón (the Requesters)<sup>2</sup> concerning the project for the modernization, expansion, operation, commercial use, maintenance, and management of the El Dorado International Airport (hereinafter, “the Project”) which is expected to be financed by the Inter-American Development Bank (IDB, or “the Bank”), in Bogotá, Colombia.
2. On 3 November 2011, the Project Ombudsperson declared the Request eligible for the consultation phase, thereby initiating the assessment stage of the process. This involves gathering further information on the various aspects of the Request; identifying the primary and secondary stakeholders; and assessing whether conditions exist for dialogue to address the Requesters’ concerns.
3. In the Request, and also in the interviews held during the assessment of the case, the Requesters reiterated their concerns about various sources of environmental and social damage which they alleged were being caused and could continue to be caused during project implementation. Specifically, the Requesters claimed that the participation and information campaigns implemented in connection with the project have not been effective, participatory, or appropriate for this type of project; and that there would be no real social management to address the concerns of the persons affected by it and mitigate the operation’s impact on the community. They also expressed their concern at the project’s environmental performance, its impacts on the environment and health in the community, alleging the following, among other things: (i) pollution of the water supplied to the airport; (ii) pollution caused by alleged shortcomings in the wastewater collection and treatment system; (iii) lack of operation of a solid waste incinerator; (iv) lack of a plan to manage hazardous materials and prevent and reduce pollution; and (v) noise levels that exceed the limits set forth in domestic environmental legislation.
4. These concerns relate to the Bank’s Environment and Safeguards Compliance Policy (OP-703).

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<sup>1</sup> The terms Mechanism, Management, Executive Secretary, Project Ombudsperson, Panel, Mechanism Policies, Eligibility, Consultation Phase, Assessment, and any other relevant term in this report shall have the meaning assigned to them in the Policy Establishing the Independent Consultation and Investigation Mechanism (ICIM) approved on 17 February 2010 and available at: [www.iadb.org/mici](http://www.iadb.org/mici).

<sup>2</sup> Ms. Gloria Molina submitted evidence that she represents Comunidaded Unidas. See “*Constitución de Veeduría Ciudadana*” [Constitution of citizen oversight] Comunidades Unidas Macroproyecto Aeropuerto El Dorado, 25 June 2011.

## 1.2. The project

### (a) Project background

5. The El Dorado International Airport (“the airport” or “El Dorado”) is located to the west of Bogotá. It was built in 1959, and currently serves as Colombia’s main airport for domestic and international flights. It has the fourth largest passenger flow and the highest level of cargo movement in Latin America. El Dorado occupies a total area of 966.14 ha, and has boundaries with: (i) the Simón Bolívar air terminal and El Dorado Avenue at Carrera 103 B, to the east; (ii) the Fontibón locality to the south; (iii) the new course of the Bogotá River and the municipios of Funza and Mosquera to the west; and (iv) the Engativá locality to the north. It currently has two runways of 3,800 m each and 51 parking positions.<sup>3</sup>
6. **Concession agreement** The project for the modernization, expansion, management, and operation of the airport was designed by the Special Civil Aeronautics Administrative Unit (Aerocivil), between 2004 and 2005, as a 20-year concession contract. Aerocivil awarded the contract to Concesionaria Aeroportuaria Internacional S.A. (OPAIN),<sup>4</sup> under Resolution 3500 of 28 August 2006, which formed the basis for Concession Agreement 6000169-OK-2006. The concession portion was handed over to OPAIN in January 2007.<sup>5</sup>
7. **Concession area.** Under the terms of the Concession Agreement, OPAIN undertakes to “secure and/or contribute to the total financing of the resources required to execute the project.”<sup>6</sup> In addition to modernization and expansion works, the concession includes the management, operation, maintenance, and commercial use of the concession area. This covers roughly 397 ha consisting of the following facilities:<sup>7</sup> (i) passenger terminals; (ii) domestic and international cargo areas; (iii) the general aviation area; (iv) Aerocivil’s administrative tower; (v) Aerocivil’s warehouse; (vi) Aerocivil’s Operational Systems Secretariat building; and (vii) the control tower.<sup>8</sup>

<sup>3</sup> Inter-American Development Bank (IDB), Environmental and Social Management Report (ESMR), Modernization, expansion, operation, commercial use, maintenance, and management of the El Dorado International Airport, paragraphs 2.1 to 2.4.

<sup>4</sup> OPAIN consists of: (i) Organización de Ingeniería Internacional, S.A., (Grupo Odinsa S.A.) with a 34.99% stake; (ii) CSS Constructores, S.A. with 29.98%; (iii) Construcciones el Condor, S.A. with 15%; (iv) Grupo Marval, S.A. with 10%; (v) Termitécnica Coindustrial, S.A. with 10%; (vi) Luis Héctor Solarte with 0.01% and Carlos Alberto Solarte with 0.01%; all of which are Colombian organizations or individuals; and (vii) Flughafen Zurich AG with a 0.01% stake. See IDB, Loan Proposal, Colombia, El Dorado International Airport (CO-L1029), paragraph 2.2.

<sup>5</sup> ESMR, paragraph 1.1.

<sup>6</sup> See Contract 6000169 OK of 12 September 2006. Concession for the Management, Operation, Commercial Use, Maintenance, and Modernization, and Expansion of the El Dorado International Airport, Clause 10(d).

<sup>7</sup> ESMR, paragraph 2.4.

<sup>8</sup> The nonconcession area occupies about 569 ha and includes: (i) the area of runways 1 and 2 granted under concession to Compañía de Desarrollo Aeropuerto El Dorado (CODAD); (ii) the Military Transport Air Command (CATAM); (iii) the National Police; (iv) the National Aeronautical Center (CNA); (v) the Aeronautics Study Center (CEA); (vi) zones assigned under loan-for-use (*comodato*) arrangements with the National Ministry of Defense; and (vii) Aerocivil’s hangar. ESMR, paragraphs 2.4 and 2.5.

8. For operational purposes, the airport's physical space has been structured into two large areas:
- (i) The airside – encompassing zones for moving aircraft such as the two runways, ramps, taxiways, and adjacent land, gates for cargo and passengers, and buildings related to these operations (civil aviation, air navigation, customs and police control, flight plan, and meteorology). Aerocivil is the state entity responsible for all operations on the airside of the airport, and in the corresponding airspace.
  - (ii) The landside – consisting of areas related to all ground activities linked to the airport's operations, such as passenger and cargo terminals, service facilities for aircraft and passengers, and commercial premises. OPAIN is responsible for the modernization and expansion of the concession areas included in the landside. It is also responsible for the administration, operation, commercial use, and maintenance of the concession infrastructure — apart from the *Puente Aéreo* shuttle terminal, Aerocivil, and the Military Transport Air Command (CATAM).<sup>9</sup>
9. **Environmental and social obligations.** Through Resolution 1330 of 7 November 1995, the Ministry of Environment, Housing, and Territorial Development (MAVDT, or “the Ministry”) granted Aerocivil an ordinary environmental permit for the execution of construction works, operation of a second runway, and/or expansion of the airport. The terms and duration of the permit matched the duration of the expansion project, although these have since been altered through numerous MAVDT resolutions.<sup>10</sup>
10. In 2005, Aerocivil requested a technical ruling from the Ministry as to the need for a new environmental permit or amendment of the existing one, for the execution of project works by the concession holder. According to the ESMR, the Ministry did not consider any additional permit necessary for the project “provided the operational configuration of the runways is not altered, there are no night-time operations on the second runway, and the frequency of takeoffs and landings on that runway is not increased.”<sup>11</sup>
11. Consequently, the Concession Agreement provided that the environmental obligations specified in the aforementioned environmental permit (see paragraphs 7 and 8 above), relating to the concession area, would be transferred to OPAIN. Based on that agreement, Aerocivil exempted OPAIN from environmental obligations relating to noise mitigation and monitoring measures, monitoring of air quality and social management, and any obligation not directly linked to the activities forming the subject of the contract.<sup>12</sup>

<sup>9</sup> See Concession Agreement, Clauses 1.75 and 1.76; and ESMR, paragraph 2.18.

<sup>10</sup> Resolutions 1389 of 1995, 392 of 1996, 768 of 1996, 405 of 1997, 534 of 1998, and 745 of 1998, issued by the Ministry in response to failure to comply with original obligations such as changes in the airport's operations. See Ministry of the Environment, Housing, and Territorial Development. Resolution 1001 of 1 June 2009, p. 1.

<sup>11</sup> ESMR, paragraph 3.17.

<sup>12</sup> Concession Agreement, Clause 48 and Appendix I, pp. 5 to 7.

12. On 17 February 2007, Aerocivil and OPAIN applied to the Ministry for partial transfer of the 1995 environmental permit,<sup>13</sup> which it granted through Resolution 1001 of 1 June 2009. This required OPAIN to assume obligations relating to: (i) the construction of an engine testing zone; (ii) the airport's solid waste management plan; (iii) the surface and ground water monitoring plan, but not noise and air quality monitoring, which would remain Aerocivil's responsibility; (iv) semiannual reporting to the Ministry on compliance with the environmental obligations for which it is responsible; (v) written information to all staff involved in the project, on the obligations, control measures and prohibitions specified by the Ministry, and the environmental management plan prepared by Aerocivil and approved by that body; and (vi) aircraft weighing.<sup>14</sup>
13. Resolution 1001 of 2009 was partly amended by the Ministry through Resolution 1695 of 7 September 2009, in response to an administrative appeal for reconsideration (*recurso de reposición*) filed by OPAIN. Under the new resolution, the Ministry accepted the deadline set in the Concession Agreement for OPAIN to construct the engine testing area, namely 24 months from the date of signing of the minutes recording the start of airport works.<sup>15</sup>

**(b) The project financed by the Bank**

14. OPAIN requested financing from the Bank to undertake the activities specified in the Concession Agreement signed with Aerocivil for the modernization, expansion, management, and operation of the airport.
15. The operation to be financed by the Bank is a non-sovereign guaranteed private sector loan from the Ordinary Capital. It was approved by the Bank's Board of Executive Directors on 3 December 2010. The total cost of the project is US\$1.086 billion, of which US\$165 million will be financed by the Bank. As the loan contract has not yet been signed by the parties, no disbursements have yet been made.<sup>16</sup>
16. The project's activities will be implemented in two broad stages: (i) the airport modernization and expansion stage; and (ii) the administration, operation, maintenance, and commercial use of the concession area. In particular, the modernization and expansion works include construction of: (i) a new terminal for domestic and international air transportation services; (ii) a new cargo infrastructure, with additional aircraft parking positions; (iii) a new administrative building for Aerocivil; (iv) a new maintenance area; and (v) a new fire service station.<sup>17</sup> These works began in 2007 and will be completed in 2014.<sup>18</sup>
17. The aim of the project is to help modernize an essential component of Colombia's infrastructure, namely its main airport. Once completed, the project is expected to have the

<sup>13</sup> Resolution 1001 of 2009, p. 1.

<sup>14</sup> Resolution 1001 of 2009, Article 2.

<sup>15</sup> *Idem*, p. 1.

<sup>16</sup> Loan proposal, paragraphs 1.3-1.5; Inter-American Development Bank (IDB), Description, CO-L1029 – El Dorado International Airport, Colombia, updated on 18 August 2011.

<sup>17</sup> ESMR, paragraph 1.2. Initially, the project also included the construction of a new control tower. According to information obtained from the Bank's project team, this is no longer an OPAIN responsibility.

<sup>18</sup> Loan proposal, paragraph 1.4.

following positive impacts: (i) reduction in aircraft and passenger delays resulting in greater productivity (business opportunities, fuel savings, maintenance costs, among others); (ii) expansion of the capacity and services provided to airlines and airport users; (iii) a macroeconomic impact (job creation, increased exports and tourism); (iv) improved passenger services and more efficient Aerocivil staff; and (v) tighter security throughout the airport (e.g. seismic control, fire prevention systems, improvements to the existing fire station, and construction of a new one, as well as new security systems and a new control tower).<sup>19</sup> El Dorado currently operates at service level E, according to the standards of the International Air Transport Association, but after the project has been implemented it is expected to operate at the equivalent of level C.<sup>20</sup>

**(c) The project's environmental and social impacts**

18. According to the loan proposal, OPAIN performed an environmental assessment in 2006, before taking on airport operation, to identify potential environmental risks and define an environmental and social management system. The control and mitigation measures currently being implemented in El Dorado are based on an environmental impact assessment prepared for the construction of a second runway in 1995, and the aforementioned environmental assessment performed 2006.<sup>21</sup>
19. According to the loan proposal, the project's main adverse environmental impacts can be classified as follows:
  - (i) Impacts related to construction activities, including waste from demolition activities, and greater nuisance and higher noise levels for airport users. These effects would be controlled by applying good construction practices.
  - (ii) Impacts relating to airport operation, linked to "airport activities, such as high noise levels and air emissions caused by takeoff and landing operations; generation of waste material and wastewater from aircraft (blue waters); and stress on land use in the areas surrounding the airport. In this regard, the loan proposal states that one of the project's challenges would be to reform the environmental management practices that some airport tenants (e.g. passenger and cargo airlines) have applied for years, such as inadequate waste management, and lack of security and health practices."<sup>22</sup>
20. In addition, the ESMR analyzes other project risks that would be beyond OPAIN's control, arising, among other things, from the possibility that Aerocivil might decide to operate the second runway at night, which is restricted under the airport's current environmental operating permit. On this point, the ESMR stresses that, while Aerocivil is responsible for air traffic and the operation of runways under the terms of the Concession Agreement, the airport operates under a single environmental permit (see paragraph 12 above). According to the ESMR, any

<sup>19</sup> Loan proposal, paragraph 1.7.

<sup>20</sup> *Idem*, paragraph 1.8.

<sup>21</sup> *Idem*, paragraph 8.1.

<sup>22</sup> *Idem*, paragraphs 8.2 to 8.5.

deviation or noncompliance should be disclosed to the Bank and dealt with appropriately to ensure compliance with the current permits and authorizations.<sup>23</sup>

**(d) Environmental and social safeguards for the project**

21. The project has been classified as a category B operation under the Bank's Environment and Safeguards Compliance Policy (OP-703).<sup>24</sup> To avoid and/or mitigate the impacts mentioned above, the ESMR states that in the loan contract the Bank will require, among other things, that OPAIN and all project components fulfill the requirements of Colombian legislation, the Bank's operational policies on environmental and social issues, and the environmental guidelines.<sup>25</sup> For that purpose, the Bank requested the consolidation and expansion of the environmental management system in what has been referred to as the Action Plan on Environmental, Health, and Safety Aspects ("Action Plan"), including specific activities relating to the treatment of water and waste management.
22. In addition to monitoring activities during the life of the loan, the ESMR requires OPAIN to submit:
  - (i) Prior to the financial closing, the aforementioned Action Plan,<sup>26</sup> which will include "an estimate of costs, timetable of activities, and assignment of responsibilities for taking actions to correct shortcomings and deficiencies identified in some plans and procedures during the Bank's due diligence"; and
  - (ii) Prior to the first disbursement, a proposal to identify and characterize contaminated soils and groundwater. Once the findings of these studies have been received, the liability-remediation options will be evaluated.<sup>27</sup>

**2. Assessment methodology and results<sup>28</sup>**

23. To evaluate the present case, the consultation team undertook the following activities, among others: (i) technical analysis of the documents and information submitted by the Requesters, the executing unit, Aerocivil, and the Bank's project team, together with documents obtained

<sup>23</sup> ESMR, paragraph 5.29.

<sup>24</sup> ESMR, paragraph 1.4. As provided for in OP-703, category B operations are those "likely to cause mostly local and short-term negative environmental and associated social impacts and for which effective mitigation measures are readily available." IDB, Environment and Safeguards Compliance Policy (OP-703), 19 January 2006.

<sup>25</sup> ESMR, paragraph 8.1.

<sup>26</sup> OPAIN submitted an action plan on environmental, social and occupational health management in April 2010, which was updated in December 2011 under the title "Plan de Acción Ambiental de Debida Diligencia Ambiental y Social" [Environmental action plan for environmental and social due diligence]. According to information obtained by the Bank's project team, the compliance status of this action plan will be reviewed to update its content and, if necessary, recommend other prevention and mitigation measures for the project.

<sup>27</sup> ESMR, paragraphs 8.2 and 8.3.

<sup>28</sup> ICIM policy, paragraph 42: "The purpose of the assessment is to clarify the issues and concerns raised by the Request, identify and gather information from stakeholders, including potentially other parties similarly situated to the Requester, inquire as to the views and incentives of all stakeholders, and help determine whether a resolution to the issues raised can be reached and what is the best process for doing so."

by the Ombudsperson's team; (ii) field visits;<sup>29</sup> (iii) discussions with the Requesters and their representatives, the executing unit, the project team, leaders of the Fontibón and Engativá communities adjacent to the airport, and other relevant stakeholders; and (iv) public meetings with the Fontibón community.<sup>30</sup> The consultation team was supported by an independent technical expert to analyze specific aspects of the project's environmental management related to the Request.

24. Based on the concerns raised by the Requesters, the main impacts attributed to the project were identified, and the actions taken by OPAIN to prevent, mitigate, and/or offset them were analyzed. The team also gathered information on the environmental and social issues for which Aerocivil is responsible. Although the latter is not the project's executing agency, the environmental obligations of OPAIN and Aerocivil are governed by the same environmental permit. Consideration was also given to the fact that the project activities undertaken by OPAIN provide Aerocivil with the services, tools, and infrastructure needed to operate the airport's runways. These two institutions would therefore have shared, concurrent, and complementary responsibilities for the project's environmental performance; for this reason, Aerocivil is considered a third party "*whose involvement is necessary to mitigate the environmental impacts or for the environmental enhancement of the project.*"<sup>31</sup> Under these circumstances, the impacts arising from Aerocivil's responsibilities are framed in the context of the "*risk factors that could affect the project's environmental sustainability,*" which would require OPAIN and Aerocivil to take appropriate steps to manage the risks in question.<sup>32</sup>
25. The results of these activities include: (i) the mapping of primary and secondary stakeholders, and their roles and positions; (ii) identification and analysis of the technical, social, and environmental characteristics of the impacts alleged by the Requesters, and the mitigation measures and plans envisaged in the project; and (iii) identification of the next steps to be taken to generate a dialogue process to help reach a consensus-based solution. The findings of these activities and the assessment are described in detail below.

<sup>29</sup> The Ombudsperson's team undertook two missions to the project area: (i) from 16 to 19 November 2011; and (ii) from 24 to 27 January 2012.

<sup>30</sup> The Mechanism held a meeting with roughly 70 people from the Fontibón community, at which residents expressed their concerns about the environmental and social impacts that would be caused by the airport in general and the project in particular.

<sup>31</sup> OP-703, VI. Definitions, Section 6.1. "Third party: A third party is a public agency that is not identified as an executing agency in a loan agreement but whose involvement is necessary for the effective mitigation of impacts or environmental enhancement of a project."

<sup>32</sup> OP-703, Section 4.8. "In addition to risks posed by environmental impacts, the Bank will identify and manage other risk factors that may affect the environmental sustainability of its operations. These risk factors may include elements such as the governance capacity of executing agencies/borrower and of third parties, sector-related risks, risks associated with highly sensitive environmental and social concerns, and vulnerability to disasters. Depending on the nature and the severity of the risks, the Bank will engage with the executing agency/borrower and relevant third parties to develop appropriate measures for managing such risks."



Photo 1: Meeting with Requesters (Source: ICIM)



Photo 2: Visit to airport facilities (Source: ICIM)

### 3. Mapping of stakeholders

26. With the aim of identifying stakeholders and their positions, stakeholders have been classified as primary or secondary. Primary stakeholders are those directly affected by the project or who have a direct influence on decision-making on issues that arise, and/or on the design, implementation and/or operation of the project, as well as their legitimate representatives. Secondary stakeholders are those who are not directly affected, but have influenced or could influence the context and/or decision-making of the project, and/or conflict resolution. The roles, interests, and positions of the primary and secondary stakeholders are summarized below, along with the relationships between them.

#### 3.1. Primary stakeholders

27. The Fontibón locality occupies roughly 3,326 ha and has an estimated population of 313,000. It is one of the most important industrial centers of Bogotá, accommodating a large number of factories, warehouses, laboratories, and various types of commerce, including the free zone. Thirteen of its neighborhoods are adjacent to the airport, and they are considered to be in the airport's direct area of influence: Las Brisas, La Aldea, El Refugio, Atahualpa, Versalles, La Cabaña, La Rosita, San José de Fontibón, Villa Blanca, Puerta de Teja, Santa Cecilia, Bosques de Modelia, and la Hacienda El Escritorio. Several organizations claim to represent the Fontibón community, including the Requesters. These organizations have different positions and interests with respect to the project and/or the environmental and social performance of the airport's operations in general.
28. **Comunidades Unidas** is the organization that submitted the Request to the Mechanism, on behalf of inhabitants of the Fontibón locality, particularly those in the area directly affected by the airport. The priority concerns of Comunidades Unidas relate to the activities undertaken by OPAIN (e.g. treatment of wastewater); Aerocivil (e.g. high noise level) and other entities

(possible resettlement of the community under the zoning plan for areas of influence of the El Dorado airport).<sup>33</sup>

29. The *Mesa Aeroportuaria de Fontibón* (Fontibón Airport Roundtable) consists of 16 members from the locality of Fontibón. It is recognized as representing Fontibón by OPAIN and Aerocivil, and serves as a counterpart in the social management tasks related to the airport. The Airport Roundtable provides general approval for the environmental and social performance of OPAIN and Aerocivil in relation to their different responsibilities. Although it filed a specific complaint on noise, it also acknowledged that Aerocivil has adopted noise mitigation measures.
30. The *Mesa Aeroportuaria de Engativá* (Engativá Airport Roundtable) consists of leaders from the Engativá locality. It is recognized as representing Engativá by OPAIN and Aerocivil, and serves as a counterpart in the project's social management tasks. The Airport Roundtable provides general approval for the environmental performance of OPAIN and Aerocivil. Nonetheless, it has been critical of the noise problem, and the system of participation and access to OPAIN and Aerocivil information. The Engativá and Fontibón Airport Roundtables maintain close relations with each other and hold joint meetings with OPAIN and Aerocivil.
31. **OPAIN** is the project executing agency and serves as operator and manager of the concession area, in other words the landside of the airport (see paragraphs 7 and 8 above). It is also responsible for the fulfillment of certain social obligations included within the environmental permits and transferred to it by Aerocivil. OPAIN is also the Bank's direct counterpart, and is responsible for fulfilling the obligations set out in the Bank's Safeguards and Operational Policies. During the assessment stage, OPAIN supplied extensive documentation on the project's environmental performance, among other information; it is open and available for limited dialogue on issues relating to its obligations as concession holder, partial guarantor of the environmental permit, and project executing agency.
32. **Aerocivil**—the Special Civil Aviation Administrative Unit—is a policy governing body under the Ministry of Transport, and is responsible for functions relating to air transportation (air navigation and the airport service); and it is also responsible for operating the airside of El Dorado (paragraphs 7 and 8 above).<sup>34</sup> Aerocivil has maintained communications with communities surrounding the airport through the airport roundtables; it is open to dialogue with the Requesters through the existing mechanisms and forums. In the next stage of the consultation phase, the Mechanism will confirm Aerocivil's willingness to participate in the dialogue process.

### 3.2. Secondary stakeholders

33. **The Ministry of Environment, Housing, and Territorial Development (MAVDT)**, formerly known as the Ministry of Environment (MMA), has objectives that include contributing to and promoting sustainable development, through the formulation and adoption of policies, plans, programs, and projects, as well as regulating environmental issues and access

<sup>33</sup> This plan was commissioned by the Administrative Department of District Planning in 2006, and at the present time it is undergoing revision and approval. The plan does not form part of the project financed by the Bank, and its preparation, approval, and implementation are not the responsibility of OPAIN or Aerocivil.

<sup>34</sup> ESMR, paragraph 3.2.

to renewable resources. The Ministry is also responsible for compliance with the environmental obligations specified in the ordinary environmental permit issued by the MMA to Aerocivil through Resolution 1330 of 1995 (paragraphs 9 and 12 above). Decree 1220 of 2005 makes the MAVDT the competent authority to grant environmental permits for the construction and operation of international airports.

34. The **District Environment Secretariat (SDA)** steers and leads policymaking on the environment and the sustainable use of natural resources and land in the capital district. Its functions include controlling and overseeing the fulfillment of rules on environmental protection and natural resource management, implementing the policy actions deemed relevant for this purpose, and, in particular, investigating and imposing the appropriate sanctions on entities that violate those rules. Its jurisdiction includes the localities of Fontibón and Engativá. In particular, the SDA is responsible for issuing environmental licenses and permits such as those governing the airport's atmospheric emissions.
35. The **Regional Autonomous Corporation (CAR) of Cundinamarca** is a public entity with administrative and financial autonomy, responsible for the environment and renewable natural resources, as well as for the fulfillment and timely enforcement of legal provisions issued by the MAVDT within its jurisdiction. The CAR is responsible for regulating all matters affecting the Bogotá River, including direct disposal of storm drainage and wastewater from the airport.
36. The **Empresa de Acueducto y Alcantarillado de Bogotá** [Bogotá Water and Sewerage Company] (EAAB) is a municipal company responsible for the planning, construction, operation, and provision of drinking water, sanitary sewerage, and storm drainage services in Bogotá. It provides drinking water services to the El Dorado airport, as well as water or drainage services to a number of neighboring municipios.
37. The **District Health Secretariat (SDS)** monitors the airport's environmental health performance, including specific aspects such as the health aspects of waste management inside the terminals. The SDS has obtained analytical data on the impacts of noise on the hearing capacity of students in Fontibón schools.

#### 4. Key findings of the Assessment

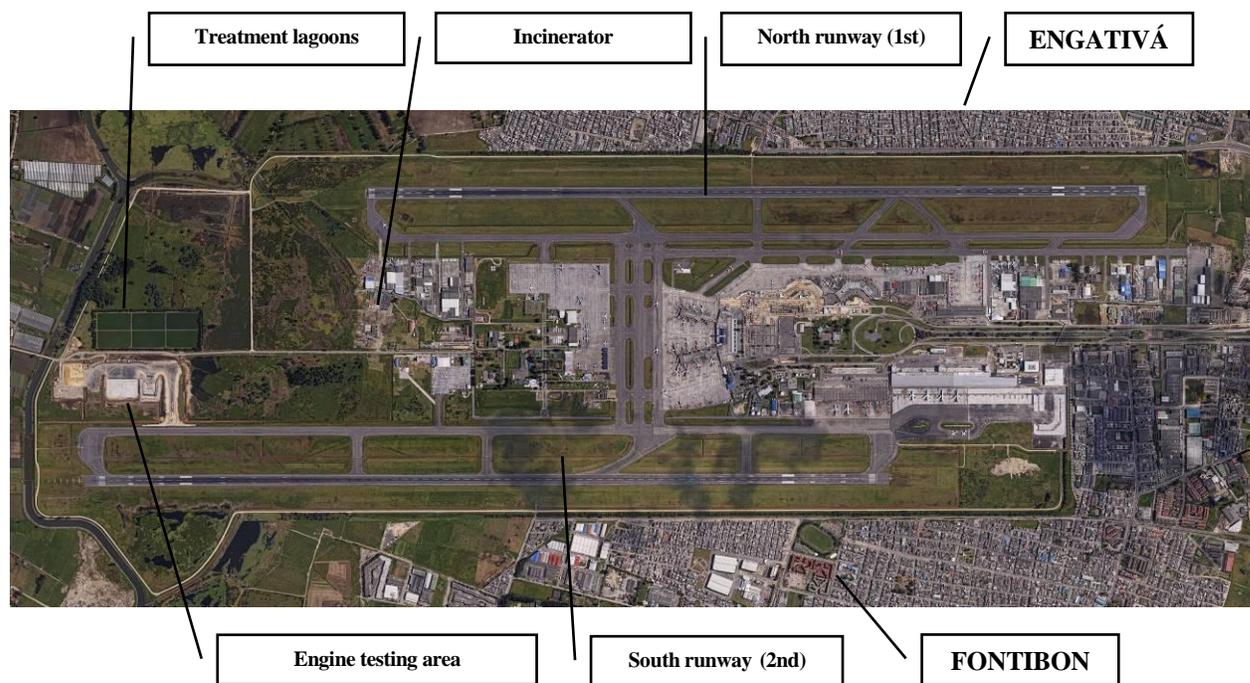
##### 4.1. Responsibilities in airport operation

38. Under the project, airport operation responsibilities are specified in the Concession Agreement, MAVDT Resolution 1001 of 2009 and its subsequent amendments (concerning the transfer of the environmental permits), and by the Bank's Safeguards and Operational Policies.
39. The **environmental responsibilities** contractually transferred by Aerocivil to OPAIN through the partial transfer of the airport environmental permit mentioned above (paragraph 12) form part of the complaints submitted to the ICIM.
40. In addition, according to the Concession Agreement, OPAIN's **social obligations** are limited to: (i) recognizing the organizations of the communities living in neighborhoods surrounding the airport; (ii) hiring unskilled labor from neighboring communities for the modernization and expansion works; (iii) promoting alternative job creation through social projects that benefit the neighboring communities; (iv) cooperating with Aerocivil in the airport social and community

plans; (v) maintaining regular communication with the district, commercial, and industrial authorities, and residents of the area around the airport, regarding its services; and (vi) setting up and maintaining an office to manage public relations with the community.<sup>35</sup>

41. As noted above (paragraphs 8, 11, and 12), the Concession Agreement exempts OPAIN from obligations relating to noise abatement, control and monitoring measures, monitoring of air quality, and social management, unless directly related to the activities assigned by the agreement.
42. Based on the Bank's Operational and Safeguards Policies, other environmental and social obligations could be assumed by OPAIN under the loan contract to be signed with the Bank (see paragraphs 21 and 22).

**Photo 3: Panoramic view of the airport (Source: OPAIN)**



#### **4.2. Project environmental management**

43. As noted above, the Bank asked OPAIN to produce an action plan with a view to setting a timetable for activities related to its environmental and social performance, within the framework of the Bank's Operational and Safeguards Policies (paragraph 19). Most of the concerns raised by the Requesters (paragraph 3) are included in this action plan, along with the respective prevention and/or mitigation measures.

<sup>35</sup> Concession Agreement, Appendix F, Section 6.13.7.1 (Social management), p. 45.

#### 4.2.1. Supply and monitoring of drinking water

44. The EAAB supplies drinking water to meet the airport's needs, piped directly to all of its facilities. In addition, in the case of outages in the supply of water by the EAAB, the airport has a reserve system, consisting of four storage tanks with a total capacity of 1,591 m<sup>3</sup>, which use the terminal's hydro-pneumatic pumping system. This system is switched on every night to recirculate the water in the storage tanks.
45. OPAIN monitors the quality of the drinking water in the storage tanks on a quarterly basis,<sup>36</sup> with measurements made in the PRODYCON laboratory.<sup>37</sup> Periodic monitoring performed in 2011 showed no signs of pollution. For example, the physical-chemical and bacteriological results of the sample taken by PRODYCON on 8 September 2011 show that the drinking water supplied by EAAB to the airport satisfied the limits set by Ministry Resolution 2115 of 2007, except for the level of residual chlorine and pH in the storage tanks (Annex 1, Table 1).
46. The low residual chlorine concentration, resulting from the long period for which the water is held (on reserve) in the storage tanks, and the pH index above the limit of the standard, are not seen at the airport's water consumption points. The independent specialist hired by the ICIM considers that these departures from the standard do not pose a risk for persons using the water supplied at the airport. Nonetheless, OPAIN is studying the possibility of increasing the frequency with which water is recirculated in the storage tanks, or adapting the chlorination system to resolve the problem.

#### 4.2.2. Wastewater collection and treatment

##### *(a) Combined system of wastewater collection and treatment*

47. The airport has a combined system for the collection of domestic, industrial, rain and surface run-off water, which was designed in 1998. The system is complemented by management and treatment elements such as: grease traps, a solid waste retention chamber, a pumping system with three impulse pumps, and lastly a biological treatment system with aeration lagoons distributed in two parallel trains of three basins each, originally designed for a treatment capacity of 25 L/s and a retention period of 45 days.<sup>38</sup> OPAIN operates and maintains the system prior to discharge into the Bogotá River.
48. Domestic wastewater (originating from sanitary facilities, food preparation, and airport cleaning), together with industrial wastewater, blue waters (see paragraph 52 below), and rainwater from the airport are collected through a single network. The final result is channeled

<sup>36</sup> OPAIN, Environmental Plan – El Dorado International Airport (PLN-AMB-001), implementation date: 20/06/2007, file 12.6 “Manejo de Agua Potable” [Management of drinking water], p. 124. In addition, each of the airport's water consumption points (e.g. commercial outlets, restaurants, etc.) has its own individual drinking water tank; and the SDS requires these establishments to report the results of the respective monitoring every month.

<sup>37</sup> The PRODYCON S.A. laboratory was accredited by the National Health Institute for the Interlaboratory Drinking Water Quality Control Program (PICAPP) for 2011. See Ministry of Social Welfare, Resolution 5554, of 30 December 2010; National Health Institute, Certificate of Registration - PICCAP program, 16 May 2011.

<sup>38</sup> CONCOL, Wastewater Management Report, El Dorado International Airport, phase 3-CIVIL, initial version of 30/01/2009, p. 9, and amended version of 03/03/2009, p. 13.

to the treatment lagoons located between the two runways to the west of the airport (see photo 3). During the visit of the ICIM technical expert, the lagoons were found to be well maintained, with no visible accumulation of foam or detritus (Photo 4).



**Photo 4: Treatment lagoons (final basin, southern train) (Source: ICIM)**

49. OPAIN has monitored the quality of wastewater collected and treated through the combined system, on a quarterly basis.<sup>39</sup> The analyses performed by the PRODYCON and Analquim Ltda laboratories<sup>40</sup> in June and September 2011, on the quality of wastewater discharged into the treatment lagoons and then discharged into the Bogotá River, had indices within the regulatory limits (Tables 2 and 3), in particular those specified in Agreement 43/2006 of the

<sup>39</sup> Environmental Plan, file 12.5 “Manejo y Disposición de Residuos Líquidos” [Management and disposal of liquid waste], p. 121. This plan also envisages the “Permanent inspection of the performance of adequate management of wastewater and industrial water generated by each tenant.”

<sup>40</sup> The PRODYCON S.A. laboratory is certified by the Institute of Hydraulics, Meteorology, and Environmental Studies (IDEAM) to perform these analyses. Nonetheless, the Requesters submitted Official Document OBDC 1000 of 28 September 2011, issued by the CAR, in which that institution refers to the permit for discharges into the Bogotá River, and mentions SDA Technical Report 194 of 19 July 2011. In this report, the SDA recommends that “Aerocivil submit supporting documents indicating the accreditation of Laboratorio PRODYCON S.A., in the parameters not covered; or else that the parameters in question be analyzed by laboratories that do have the respective accreditation, and are resubmitted to the [CAR]”. On this point, OPAIN stated that IDEAM extended the scope of accreditation to Laboratorio PRODYCON S.A. for the parameters corresponding to biochemical oxygen demand (BOD), suspended solids, and lead (see Resolution 1380 of 10 June 2011). With regard to the parameters for total coliforms and arsenic, these have been analyzed by Laboratorio Analquim Ltda. OPAIN stated that Analquim was accredited by the competent authorities for analyzing these parameters, but it did not produce the file of documents to support this information. This information could be presented during the dialogue process.

Regional Autonomous Corporation (CAR) of Cundinamarca.<sup>41</sup> Although handled by a combined system, wastewater treatment would satisfy the standards of the environmental authority.

50. Despite efforts made by Aerocivil and OPAIN, the Cundinamarca CAR has not yet issued the permit to discharge into the Bogotá River. During the meeting held with the ICIM technical consultant and the Bank's project team, the CAR authorities stated that water treatment at the airport would be compliant with the regulations, and that the procedure for requesting a discharge permit was at an advanced stage, awaiting the completion of procedures for signature according to the protocols of the entity in question.
51. In addition, the ESMR states that "the lagoons [received] an average flow of 50 L/s" and that "the problems described for the domestic wastewater system include excessive flows, mainly as a result of rainwater entering the treatment system."<sup>42</sup> The action plan does not specify measures to overcome this presumed excess flow. OPAIN states that the treatment system is currently operating within its capacity. Nonetheless, the ICIM did not find reliable data on the average flow of water generated in the airport that is treated and discharged into the Bogotá River. The issue of alleged excess flow, which worries the Requesters, can be clarified during the dialogue process.

**(b) Blue waters**

52. As noted above, another activity that generates wastewater are blue water discharges from aircraft sanitary facilities on domestic and international flights. In this regard, OPAIN has implemented a Blue Water Operating Procedure, which aims to "define, implement, control, and monitor activities related to the discharge of aircraft wastewater."<sup>43</sup>
53. Blue water is collected by the staff of the respective airlines using purpose-built vehicles, and is then flushed into a collection well connected to the airport's sewerage network,<sup>44</sup> before being collected by the combined wastewater treatment system (see paragraph 47 above). OPAIN is responsible for verifying compliance with the aforementioned operating procedure and current regulations governing this activity. Verification is of the land-based discharge

<sup>41</sup> Regional Autonomous Corporation (CAR) of Cundinamarca, Agreement 43 of 17 October 2006, specifying water quality objectives for the Bogotá River watershed to be achieved in 2020. Available at: <http://www.car.gov.co/?idcategoria=16034>. Last viewed on 16 March 2012. In accordance with the Wastewater Management Report produced by the consulting firm CONCOL, "within the quality targets set for the Bogotá River, the [Bogotá River watershed management and organization plan] indicates the average watershed (including the sector from which water from the El Dorado airport is discharged) as Class IV quality; in other words the quality of the source in that sector should allow for its use in agricultural and livestock activities." Wastewater Management Report, p. 8.

<sup>42</sup> ESMR, paragraphs 2.7 and 5.10. In addition, the CONCOL report states that: "Given the combined configuration of much of the sewerage networks, inflow into the system is also affected by rainwater during the winter. The treatment system is currently operating with a flow of about 50 L/s in each train of lagoons, although there are no records of calibrations of water entering the system, and the measurement instruments are not duly installed and do not allow for appropriate accuracy for this type of capacity". Wastewater Management Report, 8, initial version of 30/01/2009, p. 24, and amended version of 03/03/2009, p. 27.

<sup>43</sup> OPAIN, Blue Water Operating Procedure, Code: HSEQ-PR-0024, Version 5.0, September 2011.

<sup>44</sup> The collection system is available to receive blue water 24 hours a day.

system. OPAIN keeps a photographic record of discharge activities as evidence of the tenant's action in the collection zone.

**Photos 5 to 8: Blue water management (Source: OPAIN)**



54. According to the Operating Procedure, OPAIN undertakes annual monitoring specifically to check the status of blue water.
55. The ESMR notes that the blue water receptor site “does not have any type of protection and/or isolation to reduce the contamination risk for persons unrelated to this operation who move through the zone.”<sup>45</sup> The CONCOL report also mentions that, at the time, this zone “was situated on a road with high vehicle and pedestrian traffic, without any type of isolation or protection.”<sup>46</sup> On this point, OPAIN made clear that access to the area is currently restricted to vehicles and specialized staff undertaking blue water management activities. In OPAIN’s opinion there is no contamination risk.

**(c) Rainwater**

56. Rainwater falling in the airport area is collected through: (a) the combined wastewater collection and treatment system (paragraph 47 above); and (b) a system of perimeter canals

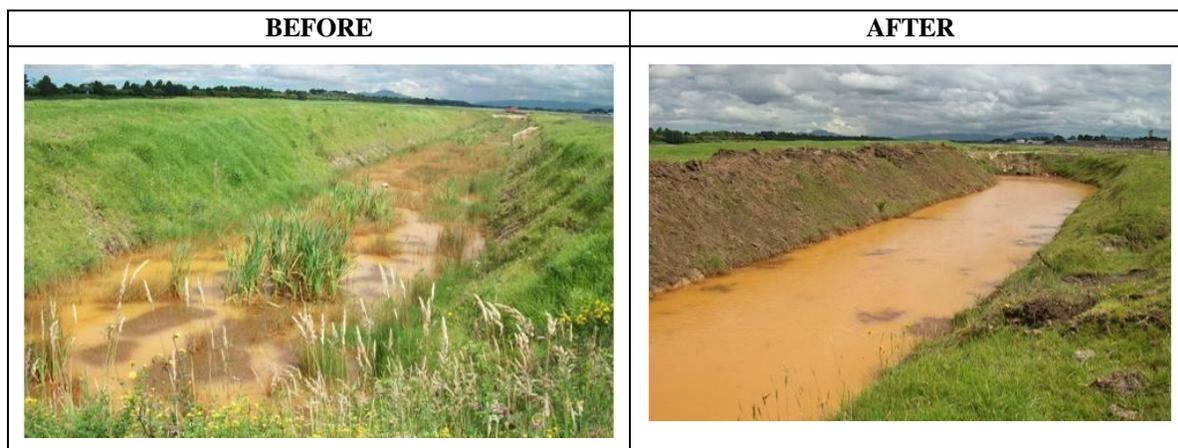
<sup>45</sup> ESMR, paragraph 5.13.

<sup>46</sup> Wastewater Management Report, 8, initial version 30/01/2009, p. 27.

parallel to the runways that are connected to secondary canals that discharge directly into the Bogotá River.

- 57. In relation to this second system, from September 2010 to September 2011, OPAIN performed an inventory of wastewater connections outside the primary airport network, and found that the neighborhoods of Bogotáno (consisting of 70 families) and Mirador Sector II are discharging domestic wastewater into the rainwater canals inside the airport zone. These clandestine connections are within the EAAB’s jurisdiction and, according to OPAIN, were reported to it. Thus far there has been no official response in terms of finding a solution, however.
- 58. OPAIN undertakes periodic maintenance of the rainwater canals within the concession area (Photos 9 and 10). It also upgraded the grease trap and sedimenter located at the start of the Simón Bolívar canal, to improve the quality of water received from both outside and inside the airport, and to channel most of it into the airport sewerage system (Photos 11 and 12). These measures minimize the impact of the combined waters entering the rainwater canals. OPAIN also makes monthly random inspections of airport tenants to check compliance in terms of equipment cleaning and maintenance.
- 59. In addition, OPAIN has performed quarterly monitoring of the quality of rainwater from surface canals, including a review of industrial liquid waste parameters.<sup>47</sup> The quality of these waters has been analyzed by Laboratorio PRODYCON. Although the analysis performed by this laboratory on 7 July 2011 (Table 4) indicated some pollution, the indices encountered do not exceed the limits established in CAR Agreement 43/2006.<sup>48</sup>

**Photos 9 and 10 – Canal maintenance (Source: OPAIN)**



<sup>47</sup> Environmental Plan, file 12.12 “Monitoreo y Seguimiento de Calidad de las Aguas” [Water quality monitoring], p. 149.

<sup>48</sup> At the date of this measurement, Laboratorio PRODYCON was not accredited to analyze total coliform (see Note 40 above). During the dialogue process, OPAIN may be asked to provide other documents on rainwater monitoring, related to the measurements possibly performed by other laboratories, such as happened in the framework of monitoring water treated in the combined system (see Note 40 above).

Photos 11 and 12 - Upgrading of the grease trap (Source: OPAIN)



60. The pollution mentioned results from the possible discharge of industrial wastewater and, in some sectors, probably from discharges of domestic wastewater from adjacent neighborhoods into the collection system (paragraph 57 above). In the opinion of the independent technical consultant hired by the ICIM for this assessment, the quality of this water does not pose any risk for people who may have occasional contact with it; and its effects on the Bogotá River in terms of volume and water quality are insignificant. Nonetheless, this consultant expected a high degree of variability in the volume and quality of this water, according to the regime and intensity of rainfall, which affect the concentration of total and fecal coliforms.

*(d) Future actions*

61. With the construction of the new terminal and demolition of the old one, which is expected to be completed by late 2014, a collector system with separate rainwater and sanitary sewerage networks will start operating, along with a new activated sludge treatment system to treat wastewater. The new storm drainage network in platforms will have a system of sumps, screens, and grease separators, prior to discharge into the network.

**4.2.3. Hazardous waste management**

62. Hazardous waste management is covered by the OPAIN Environmental Plan, and includes “activities aimed at providing the most suitable final disposal for hazardous waste, in accordance with its characteristics, including collection, transportation, storage, treatment, and elimination thereof.”<sup>49</sup> The Environmental Plan includes a contingency plan to deal with fuel spills, and an emergency plan, covering the presence of hazardous substances and/or merchandise, proposed by the fire service.<sup>50</sup> OPAIN has also implemented the *Manual para Manejo de Mercancías Peligrosas Transportadas por Vía Área* [Manual for the handling of

<sup>49</sup> Environmental Plan, pp. 6 and 63-70.

<sup>50</sup> Environmental Plan, pp. 159-175.

hazardous merchandise transported by air],<sup>51</sup> approved in September 2011, together with the hazardous materials handling standard. The latter aims to “adopt safety standards for the transportation, storage, handling, and final disposal of hazardous materials.”<sup>52</sup>

63. In particular, the executing agency has developed a procedure for reporting the arrival and departure of hazardous materials and merchandise, with the aim of keeping a monthly record of the arrival of such materials in airport facilities. In addition, OPAIN performed inspections to maintain an inventory of hazardous materials stored in the airport and, based on this information, prepared an airport risk zone plan, based on the hazardous merchandise manual.
64. In the case of hazardous waste,<sup>53</sup> each tenant is responsible for guaranteeing final disposal pursuant to the environmental plan and current regulations.
65. With regard to hazardous materials originating from project works, according to information provided to the ICIM, OPAIN has up-to-date procedures, protocols and forms for the identification, inventory and handling of hazardous materials both before and during demolition activities. OPAIN also is understood to have conducted a study to identify the types of structural materials in the transport terminal to be demolished, to determine the quantity, type, and characteristics of the hazard.
66. According to information from the SDA, based on technical control visits and surveillance of the airport, including some of its hangars, 12 hazardous waste requests were issued from November 2007 to October 2011.<sup>54</sup> The SDA document does not give details on these requests. In the same document, the Secretariat also states that, during nine monitoring visits to the sites of airport expansion and modernization works,<sup>55</sup> “general evidence was found of [...] hydrocarbon spills in different places; [...] storage of hydrocarbons and fuels in inappropriate places without anti-spill barriers.”<sup>56</sup> There would, therefore, be a shortcoming in the handling of hazardous materials; nonetheless, according to the same source, “in the last three visits, the project promoters have improved the project’s environmental management.”<sup>57</sup> On this point, OPAIN reported that “although the SDA has initiated a number of specific requests, to date no formal position has been adopted imputing responsibility to OPAIN. In fact, specific meetings are being held at which consensus roundtables forge agreements to improve the airport’s day-to-day environmental procedures.

<sup>51</sup> Aerocivil, Manual on the handling of hazardous merchandise transported by air, at the El Dorado International Airport (GIP-MIN-001), version 1.0, September 2011.

<sup>52</sup> OPAIN, Hazardous Materials Management Standard (HSEQ-ET-004), Version 2.0, p. 1.

<sup>53</sup> This is defined as “Residue or waste which, because of its corrosive, reactive, explosive, toxic, inflammable, infectious, or radioactive characteristics, could cause risk or harm to human health and the environment. Also included in the category of hazardous residue or waste are the containers, packages, and wrappings that have been in contact with them.” Hazardous Materials Management Standard, p. 4.

<sup>54</sup> District Environment Secretariat File #2011ee159356, Proc. 2248999, date: 2011-12-07.

<sup>55</sup> The SDA does not specify the date of these visits.

<sup>56</sup> File #2011ee159356, see Note 54 above.

<sup>57</sup> Idem.

#### 4.2.4. Solid waste collection and treatment

67. Fulfillment of the airport's solid waste management plan is one of the obligations acquired under the environmental permit granted to OPAIN.
68. Solid waste is taken to the airport's collection center managed and operated by a contractor,<sup>58</sup> which separates, classifies, and sells recyclable material as described in the environmental plan. Unclassified waste material is transported and finally disposed of by the public utilities firm ATESA in the Bogotá city Doña Juana sanitary landfill. In 2009, OPAIN improved and expanded the infrastructure of that center, acquiring new waste separation technologies.
69. Aerocivil also set up an incinerator inside the airport perimeter to burn the hazardous waste generated by international flights (Photo 13). On 19 April 2010, the SDA granted Aerocivil the atmospheric emission permits needed to operate this incinerator.<sup>59</sup> Nonetheless, as the incinerator does not fulfill the technical and operating specifications required by the environmental standard, the environmental authority does not allow it to operate. For this reason, OPAIN has not accepted receipt of these facilities, as originally provided for in the Concession Agreement, and the incinerator remains under Aerocivil's control. OPAIN has decided to incinerate solid waste outside the airport area. On this point, the environmental permit provides that, despite the existence of the permit, as the technical and operating conditions of the incinerator prevent it being operated in conformity with the existing legal standards, OPAIN will "incinerate waste material from international flights [...] in burners located outside the airport, provided they have the environmental permits and authorizations for this activity and current regulations on the transportation of hazardous waste are met."<sup>60</sup>



Photo 13: Airport waste incinerator (Source: ICIM)

<sup>58</sup> The contractor is the firm ESQUISAN.

<sup>59</sup> SDA, Resolution 3515 of 19 April 2010.

<sup>60</sup> Resolution 1001 of 2009 (see Note 10 above), p. 9.

70. Consequently, since 2009, no hazardous waste material has been received in the collection center. The waste in question, consisting mainly of the remains of food from international flights, is collected by the airline catering companies. Waste material is collected from the aircraft by trucks, taken to the catering plants, and then processed for final disposal in incinerators located outside the airport compound. OPAIN performs controls by requesting the incineration records every month.
71. In addition, hazardous hospital waste generated by port health and the Red Cross are handled by ECOCAPITAL, which collects the materials in question directly from the places of origin and makes final disposal outside the airport through autoclave sterilization.<sup>61</sup> OPAIN performs controls by requesting the disposal records every month.
72. According to OPAIN, these firms hold the respective environmental permits, and their transportation and handling practices are appropriate for each type of material.<sup>62</sup> In addition, in 2011, OPAIN updated its comprehensive solid waste management procedure, and circulated it among airport tenants. OPAIN has performed random inspections to verify compliance with these procedures.
73. On solid waste management, the Mechanism had access to an SDA document which states that the institution has made control and monitoring visits to the sites of airport modernization and expansion project works. This document states that general evidence has been found of inappropriate handling of solid waste, in terms of classification at the source.”<sup>63</sup> The dates of the visits were not specified in the document, nor were there any further details on the SDA’s findings. It also referred to improvements in environmental management at the airport (see paragraph 66). Regarding the SDA’s statements, OPAIN reported that it had introduced corrections to substantially improve the operation, and this issue has now been overcome (paragraph 66).

#### 4.2.5. Noise levels

74. Under the terms of the Concession Agreement and environmental permit, noise monitoring, control and mitigation remain an Aerocivil responsibility. According to the interviews conducted by the ICIM, this is the main cause of concern among the communities living next to the airport.
75. Based on the terms of Ministerial Resolution 745 of 5 August 1998, the environmental permit granted by the Ministry states that the airport runways must operate as follows:
- a. On the first runway: (i) between 6:00 a.m. and 10:00 p.m., all types of aircraft may operate without restriction; (ii) between 10:01 p.m. and 11:00 p.m., all types of aircraft are subject to restrictions on takeoff and landing routes, except when such restrictions are prevented for weather reasons; and (iii) between 11:01 p.m. and

<sup>61</sup> ESMR, paragraph 5.16.

<sup>62</sup> OPAIN filed Official Document OPSO 316, issued by the CAR on 16 March 2010, which certifies that the firm Incineradores BOK S.A. E.S.P. holds an environmental permit for this activity.

<sup>63</sup> File #2011ee159356, see Note 54 above.

- 6:00 a.m. only aircraft meeting the noise level requirements may operate<sup>64</sup> and are subject to takeoff and landing route restrictions. Aircraft transporting the press and flights that are delayed are exempted from these rules;
- b. On the second runway: (i) between 6:00 a.m. and 9:00 p.m., all types of aircraft may operate without restriction; (ii) between 9:01 p.m. and 10:00 p.m., all types of aircraft are subject to restrictions on takeoff and landing routes, except when such restrictions are prevented for weather reasons; and (iii) between 10:00 p.m. and 6:00 a.m., no type of aircraft may operate; and
  - c. On both runways, at any time, aircraft of any type that may operate if they have to use the airport as an alternative air terminal for meteorological, technical, or safety reasons; aircraft operating on medical or disaster assistance missions, or other types of emergency, and special flights of the Ministry of Defense.<sup>65</sup>
76. According to the Requesters, flight operations generate a very high level of noise and vibration, causing serious harm to the population's health. The Requesters state that they have not had access to information on the methodology and results of noise level measurements performed by Aerocivil, nor on the mitigation measures planned.
77. Moreover, according to the Requesters, the regulatory conditions mentioned are constantly ignored by Aerocivil, which they allege operates flights on the second runway 24 hours a day. On this point, Aerocivil states that it has requested special permits from the competent authorities to undertake transport operations outside the permitted timetable and route restrictions, to accommodate the increase in traffic volume (from 9.5 million in 2009 to 20.4 million passengers in 2011), and because of the works to repair the first runway and weather conditions, among other reasons. On 16 December 2011, the National Environmental Permits Authority granted an extension on the authorization to suspend operational restrictions on the airport's second runway until 31 March 2012, "a period covering the coming months of heavy rainfall, to allow the airport [...] to operate outside the restricted timetable, under the framework of special alleviation operational procedures."<sup>66</sup>
78. Aerocivil stated that it has adopted noise abatement measures. Among other things, in 2004, it launched a home soundproofing program, which involved installing acoustic protection in house roofs and windows.<sup>67</sup> Nonetheless, the measure was suspended at the request of the community, owing to: (i) the heat caused indoors when the windows were closed; and (ii) the presence of pests on the barriers installed under the roof.<sup>68</sup> On this point, the Requesters state

<sup>64</sup> These requirements are stipulated by the Civil Aviation Convention (Chapter III, Annex 16). The environmental permit requires Aerocivil to notify the Ministry of aircraft fulfilling these requirements.

<sup>65</sup> When any of the aforementioned exceptions are applied, Aerocivil must notify MAVDT within three days following the event. See Resolution 1001 of 2006, and Resolution 745 of 1998, Article 2, referred to in Note 10 above.

<sup>66</sup> MAVDT, National Environmental Permits Authority, Notice 2400-2-149735, 16 December 2011, p. 6.

<sup>67</sup> According to the Aerocivil data mentioned in the ESMR, "a total of 10,200 homes in the outskirts of the airport have been soundproofed; and a housing census was performed on properties located within the 65 dB curve." ESMR, paragraph 5.23.

<sup>68</sup> The Aerocivil representative explained that the population should have been better informed about the cleaning required after installing the barriers.

that soundproofing merely involved the installation of double-glass 3 mm thick in certain windows—mainly in the bedrooms—in the houses closest to runway 2. Acoustic barriers were also installed under the roofs of some houses. The local inhabitants claimed that these measures were insufficient to prevent the noise; nor did they solve the problem of vibrations; and they also caused considerable heat inside houses. For these reasons, many families decided to remove the windows themselves.

79. Aerocivil is implementing other noise abatement measures such as: (i) installation of 78 noise sampling and monitoring points; (ii) construction of an engine testing area (under the Concession Agreement with OPAIN); (iii) gradual renewal of the aircraft fleet used by the airport (except for military aviation); (iv) the design of takeoff and landing routes; (v) aircraft control measures;<sup>69</sup> and (vi) application of the noise abatement manual.<sup>70</sup> Aerocivil stated that, despite the increase in aircraft movements, these measures had lowered the noise level.
80. In addition, the new engine testing area, built by OPAIN close to the western end of runway 2 (Photos 3 and 14), has been operating since 2011 with noise monitoring devices.

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<sup>69</sup> These include the weighing of the aircraft, which forms part of OPAIN's environmental obligations.

<sup>70</sup> Approved through Resolution 3185 of 2004, this manual sets out a number of airport and aeronautical procedures, as well as some supervision mechanisms that, in conjunction with the development of infrastructure and control of the weight and type of aircraft, make it possible to mitigate noise pollution generated by the airport operations. See ESMR, p. 35.



**Photo 14: Engine testing area**

81. Despite these mitigation measures, the environmental noise modeling performed in August 2011 by Aerocivil concluded that “sound pressure levels in the different radial zones have values ranging between 50 and 90 dB(A), but with a clear rising trend, mainly in the second radial monitoring zone” (see Annex 2 for specifications of the monitoring points).<sup>71</sup> In the first two radial zones, the standards were frequently exceeded; and in the third, they were either not exceeded, or exceeded at most twice.<sup>72</sup>

#### **4.3. Project social management**

82. Under the Concession Agreement, Aerocivil exempts OPAIN from obligations relating to the social management of the airport, except for those explicitly defined in the contract, including recognition of the organizations of neighboring communities and the hiring of local labor (paragraph 40 above). Nonetheless, OPAIN developed a social management subprogram, and a Social Management Plan in May 2009.<sup>73</sup> The social management subprogram is updated every month, with actions such as regular communication with the district, commercial, and industrial authorities, and with residents of the area surrounding the airport, on the services provided by it; the hiring of local labor; the generation of alternatives to benefit the communities, and the maintenance of an office to handle public relations with the community. According to OPAIN, all of these activities are being implemented. Within the social management subprogram, OPAIN has also designed and is implementing a social responsibility policy. Aerocivil also approved its Aeronautical Social Policy in October 2007.<sup>74</sup>

<sup>71</sup> Aerocivil and Daphnia Ltda., *Modelación de Ruido Ambiental del Aeropuerto El Dorado* [Environmental noise modeling at the El Dorado Airport], Fontibón – Bogotá Final Report, Code TB-05-1423 (Copy), August 2011, p. 143.

<sup>72</sup> Idem.

<sup>73</sup> OPAIN, Social Management Plan, GHU-PN-0001, May 2009. OPAIN stated that implementation of that subprogram is neither a legal nor a contractual obligation, but it is being done on a voluntary basis, and in compliance with its internal policies.

<sup>74</sup> Aerocivil, Resolution 2005 of 16 October 2007.

83. OPAIN and Aerocivil hold joint quarterly meetings with representatives of the Fontibón and Engativá communities, through the so-called airport dialogue roundtables (paragraphs 29 and 30).<sup>75</sup> At these meetings, OPAIN and Aerocivil provide information on the airport's activities and project progress. These roundtables also transmit information received to the communities, through electronic reports, meetings, and public hearings with the neighborhoods located within the airport's direct area of influence. Aerocivil and OPAIN have also participated in these public hearings.
84. Nonetheless, the Requesters allege that the participation and information campaigns implemented by OPAIN and Aerocivil have not been effective. The meetings held with the community have always been merely informational, communicating the opinion and decisions taken by the two entities, without allowing for contributions or addressing the concerns of the communities affected by the project.
85. On 18 November 2011, during the meeting held with the consultation phase team and representatives of the airport roundtables, the latter expressed their general satisfaction with the environmental and social performance of OPAIN and Aerocivil. Nonetheless, the representative of the Engativá locality expressed concern at the fact that the airport roundtable meetings were always merely informational and unidirectional. At the same meeting, some representatives of both airport roundtables reported that the population had not received information on certain aspects of the project. Nonetheless, they acknowledged that they had been able to visit the airport facilities; and when they had questioned the OPAIN and Aerocivil team they had received immediate replies. They also confirmed the quarterly meetings held with OPAIN and Aerocivil.
86. Lastly, the action plan states that "the impacts and mitigation measures associated with social aspects linked both to the construction phase and to the current and future operation of the project, have not been identified by OPAIN. The program's social management subprogram only includes activities related to Appendix F of the Concession Agreement." According to that document, the social risk matrix for the project will only be defined in December 2012.

## 5. Basic elements for the consultation phase

87. Information obtained from the parties during the assessment stage show the following:
- a. *Wastewater management*: (i) the airport does not yet have a permit to discharge into the Bogotá River; (ii) the monitoring of rainwater canals and the combined wastewater treatment system are based on analyses by laboratories, whose accreditation for certain parameters is not totally clear; and (iii) the water collection and treatment system might or might not be operating with excessive flows;
  - b. *Hazardous materials*: The SDA has detected a number of shortcomings in the management of hazardous materials by airport tenants; contamination from hazardous

<sup>75</sup> OPAIN has also set up "a mailbox to receive complaints ([gestionsocial@elnuevodorado.com](mailto:gestionsocial@elnuevodorado.com)), which receives, classifies, and processes communications, forwarding those that relate to complaints about the quality of the air operations service to the operational management division, for processing by the customer service division; those relating to issues with the community and works are resolved and handled directly in that division." ESMR, paragraph 6.17.

- materials at the work sites, and deficient separation of solid waste at the source. Nonetheless, the SDA itself acknowledges an improvement in the management of these materials;
- c. *Noise*: The high level of noise that impacts the communities—possibly related to an increase in flight operations, as indicated in the ESMR—although an Aerocivil responsibility, could be considered a risk factor that could affect the social and environmental sustainability of the project; and
  - d. *Social management*: As mentioned in the action plan, the impacts and mitigation measures have not yet been identified in relation to the social issues associated with the project to be financed by the Bank. The Requesters hope that this process will be participatory.
88. These findings relate to the Bank’s Environment and Safeguards Compliance Policy (OP-703), particularly sections B.2 (Country Laws and Regulations), B.4 (Other Risk Factors), B.5 (Environmental Assessment Requirements), B.6 (Consultations), B.10 (Hazardous Materials), B.11 (Pollution Prevention and Abatement) and B.12 (Projects Under Construction). Accordingly, these form the grounds of the case and the consultation phase, without prejudging their nonfulfillment.

## 6. Final thoughts

89. The Project Ombudsperson considers that in this case the conditions exist to proceed with the consultation phase, and that elements exist for the dialogue to lead to consensus-based line of action between the parties.
90. The primary stakeholders identified during the assessment have indicated their willingness to participate in the dialogue promoted by the Mechanism. The communities have identified the main concerns with the project, and are willing to address them through the dialogue promoted by the ICIM. OPAIN and Aerocivil have expressed interest in participating actively in this process, and have offered to provide spaces for dialogue with the Requesters in existing communications systems. In the next stages of the process, the ICIM will confirm the willingness of the stakeholders, the scope of the issues to be discussed, and the most appropriate format for the dialogue.

## 7. Next steps

91. The next steps in the consultation phase include the following: (i) confirmation of the willingness of the parties and the scope for the dialogue; (ii) formation of guidelines for the dialogue;<sup>76</sup> (iii) the appointment of representatives of the parties who will participate in the

<sup>76</sup> The dialogue guidelines are initial references indicated by the parties, either during the assessment or in the preparatory tasks for the dialogue, as potential issues that could help construct a purposeful agenda. The guidelines normally reflect the stakeholders’ positions on the basic issues encountered during the assessment, or on specific complementary issues. Joint analysis of the guidelines presented by the parties serves to identify the conditions and circumstances needed to hold a constructive and productive dialogue during the consultation phase. If the guidelines determined by the parties specify issues, positions, or conditions that are incompatible or irreconcilable for the dialogue, the Project Ombudsperson will normally decide that the preconditions for dialogue do not exist.

dialogue; (iv) participatory design of the dialogue;<sup>77</sup> preparation of the parties for the dialogue including exchange of information; (v) facilitation of the dialogue, aimed at reaching solutions; and (vi) participatory design of arrangements for monitoring any agreements reached.

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<sup>77</sup> The parties will decide jointly whether they prefer to construct the dialogue within the systems and forums provided by project, or whether they require an independent process.

## ANNEX 1 – WATER QUALITY MONITORING

**Table 1: Drinking water quality at the airport**

Parameter	Unit	Standard	Sampling point					
			83785	83787	83784	83786	83788	83789
Average temperature	°C	-	17.6	16.5	17.1	18.2	23.6	17.7
Residual chlorine	mg/l	0.3 – 2.0	<b>0.13</b>	<b>0.29</b>	<b>0.05</b>	<b>0.06</b>	0.99	1.25
pH	Unit	6.5 – 9.0	<b>9.42</b>	7.26	7.04	7.15	6.86	6.94
Color	Unit Pt-Co	< 15	2	1	2	1	2	1
Turbidity	NTU	< 2	1.3	0.88	0.73	0.78	0.71	0.68
Fecal coliforms	NMP/100 ml	0	0	0	0	0	0	0
Total coliforms	NMP/100 ml	0	0	0	0	0	0	0
Total alkalinity	mg/l (CaCO <sub>3</sub> )	200	43	21	17	16	21	21
Total hardness	mg/l (CaCO <sub>3</sub> )	300	48	71	34	30	29	34
Aluminum	mg/l (AL)	0.2	0.1	<0.1	0.1	<0.1	<0.1	<0.1
Chlorides	mg/l	250	7.4	7.6	6.3	5.8	6.3	7.6
Fluorides	mg/l (F)	1.0	0.13	0.06	0.07	0.06	0.05	0.05
Phosphates	mg/ (PO <sub>4</sub> -P)	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	mg/ (Fe)	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrates	mg/ (NO <sub>3</sub> )	10	<6	<6	<6	<6	<6	<6
Sulfates	mg/ (SO <sub>4</sub> )	250	12	16	16	15	13	16
Zinc	mg/ (Zn)	3	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Source: OPAIN; Laboratorio PRODYCON; Sampling points used on 8 September 2011: <ul style="list-style-type: none"> <li>• 83785 - Storage tank 1.</li> <li>• 83787 - Storage tank 4.</li> <li>• 83784 - Storage tank 2.</li> <li>• 83784 - Storage tank 3.</li> <li>• 83788 - Random tap – “Cafetalito” tap.</li> <li>• 83784 - Random tap – Tap in the Platform Inspectors Offices.</li> </ul>								

Tables 2 and 3 Quality of wastewater (mixture of domestic and blue water)

Parameter	Units	Sampling point			CAR Agreement 43/2006 Class IV
		80154	80155	80158	
Water flow	L/s	0.12	0.16	0.28*	
pH		6.74	6.72	7.09	4.5 - 9.0
BOD5	mg/l	216	213	39	50
COD	mg/l	581	588	23	-
Greases and oils	mg/l	3.5	5.6	0.5	-
Total iron	mg/l Fe	9.9	9.4	3.5	5
Mercury	µmg/l Hg	0.3	0.4	< 0.1	10
Nickel	mg/l Ni	0.02	0.02	0.02	0.2
Lead	mg/l Pb	0.05	0.01	< 0.01	0.1
Vanadium	mg/l V	<0.06	<0.06	< 0.06	0.1
Total coliforms	NMP/100 ml	200,000	90,000	< 2	1,000
Fecal coliforms	NMP/100 ml	150,000	6,400,000	< 2	5,000

Source: OPAIN; Laboratorio PRODYCON, analysis performed on 12 June 2011.

- 80154: Inflow into lagoon train north side.
- 80155: Inflow into lagoon train south side.
- 80156: Outflow from lagoons (inspection well).

\* Value calculated in terms of the system inflow mass balance.

Parameter	Units	Sampling point 43744	CAR Agreement 43/2006 Class IV
Arsenic	mg/l	<0.006	0.1
pH		6.68 – 7.72	4.5 - 9.0
Total coliforms	UFC/100 ml	n.a.	1,000
Temperature	°C	16 - 17	N/A

Source: OPAIN; Laboratorio Analquim, analysis performed on 11 September 2011.

- 43744: Outflow from aeration lake.

Table 4: Quality - Storm drainage

Parameter	Units	Sampling points		CAR Agreement 43/2006 Class IV
		Satellite 16 Runway marker 13R	End of canal 13B	
Water flow	L/s	249	137	—
BOD	mg/l	5	5	50
COD	mg/l	27	16	-
Total suspended solids	mg/l	8	18	40
Total coliforms	NMP/100 ml	4	<2	1,000
Fecal coliforms	NMP/100 ml	<2	<2	5,000

Source; OPAIN; Laboratorio PRODYCON; Samples taken on 7 July 2011.

**ANNEX 2 – MODELING OF ENVIRONMENTAL NOISE AT THE EL DORADO AIRPORT  
(SOURCE: AEROCIVIL / DAPHNIA LTDA.)**

**Table 3.4 Location of Monitoring Points**

<b>RADIAL ZONE</b>	<b>POINT</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	
1	Point R4	Hacienda el Escondite, located roughly 2,000 m from runway marker ( <i>cabecera</i> ) 13R – runway 2	988.251E	1014.104N
	Point R5	Hacienda Torcoroma, El Cerrito road, located roughly 2,000 m from runway marker 13L – runway 1	990.392E	1013.991N
	Point R6	Highway 96 Bis B #25C-64. Puerta de Teja, Fontibón. Located roughly 2,000 m from runway marker 31L to the east of runway 2. Reference point for landings by runway marker 31L.	994.394E	1009.183N
	Point R9	Transversal 129B 22D -16. Barrio El Triángulo, Fontibón.	991.153E	1011.071N
	Point R15	Tv 112C #64D – 16. Barrio Villa Gladys –Engativá.	993.604E	1012.199N
	Point R23	Carrera 100 #23 H -83. Telecom housing complex, Rubén Vallejo	993.664E	1009.431N
	Point R24	CII 22 J Bis # 121-57. La Zelfita - Fontibón	991.845E	1010.646N
2	Point R1	Tv 93 # 53-78. Estadero la Florida, Alamos Sur – Engativá. Located roughly 1,000 m to the east of runway marker 31R.	995.571E	1010.046N
	Point R10	Between surveillance posts 5 and 6 - perimeter road. Roughly 1,000 m to the east of runway marker 31L.	993.595E	1009.796N
	Point R11	Surveillance posts satellite 40 - perimeter road. Roughly 1,000 m to the west of runway marker 13R.	989.014E	1013.218N
	Point R12	Surveillance posts satellite 25 - Perimeter road	990.881E	1013.651N
	Point R14	Surveillance posts satellite 32 - Perimeter road, midpoint of runway 1.	993.366E	1012.019N
	Point R17	Surveillance posts satellite 13 - Perimeter road, midpoint of runway 2	991.448E	1011.233N
	Point R18	Calle 23 H and Carrera 112, Fontibón.	992.662E	1010.202N
	Point R20	Calle 63 A # 121-04 El Mirador 1 – Engativá.	992.464E	1012.749N
3	Point R13	Cr 80 # 63 B – 21 Barrio Villa Luz – Engativá.	996.360E	1009.448N
	Point R16	Hacienda El Rancho Funza. Roughly 2,800 m to the southwest of runway marker 13R.	986.848E	1013.272N
	Point R21	Calle 64 B # 108- 59. Villas del Dorado, Engativá.	994.254E	1011.540N
	Point R22	Cr 116 B # 66 – 28, A Lenterama, Engativá.	993.282E	1012.821N
	Point R25	Calle 68 B and Cr 77. Santa Helenita, Engativá.	997.222E	1009.944N
	Point R26	Calle 22- C # 81 – 58, Rincón de Modela, Fontibón.	994.570E	1007.502N