

ANNEX 1

Monitoring and Follow-up Protocol of the Information Subsystem on the Use of Renewable Natural Resources (SIUR) for Different Productive Sectors

Version 1

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1. OBJECTIVE

Establish the RUA conceptual framework and structure; the initial list and update of substances and wastes subject to report with their respective thresholds and reporting means; the methods of determination, sampling and analytical characterization of the physicochemical and microbiological parameters; the applications for RUA information filling, administration and consultation; the quality review of information filled out in the RUA and its submission to the SIUR, the information transfer mechanism from the RUA to the SIUR and the RUA reports or information outputs.

2. RUA CONCEPTUAL FRAMEWORK

Economic activities under Colombia's Environmental Information System play a key role in terms of the use, exploitation or damage of the nation's renewable natural resources. Therefore, SIUR was created, and RUA adopted as its capture instrument.¹

The RUA's been structured based on a balance criterion and, as far as possible, on an energy one as well in accordance with the analysis unit², which is the establishment subject to RUA report, referring to a pre-established period of time called "Balance period" (annual period, between January 1 and December 31 of a specific year), on georeferenced information inputs (water, energy, raw materials and consumables) and outputs (energy, discharges, emissions to the atmosphere, products, and services offered and waste).

By use of international classifications such as the International Standard Industrial Classification (ISIC)³ or the Central Product Classification (CPC)⁴, lists and parameterized reporting thresholds (for variables, fields, substances and residues) as well as the international georeferencing system, RUA captured information allows to obtain standardized, homogeneous and systematic information on the use and/or exploitation of renewable natural resources and the emission and transfer of pollutants originated by establishments from different productive sectors during the course of their activities. The general structure of ISIC Rev. 4 A.C. (2020) with the sectors, divisions, groups or activities that comprise it are presented in Annex 1 of this protocol.

The PRTR states that such registry is to be articulated with the Environmental Information System (SIA), conceived as an information outlet that is an integral part of the RUA. The RUA web application, in turn, is to be used for filling information and annual updates. To achieve PRTR-RUA integration, reportable substances were identified through an international code and information was supplemented, adjusted, and organized in such a way it meets PRTR requirements in accordance

¹ Resolution 0941 of 2009. The Ministry of the Environment, Housing and Territorial Development (today the Ministry of the Environment and Sustainable Development).

² Defined as a company or part of a company located in a single location in which at least one productive activity is conducted. A location can be interpreted as a specific address, or as a geographical unit, as is the case of projects, works or activities that, due to their extension, cover large areas. **In the case of licensed projects that cover a large area... (sentenced isn't finished in original document).**

³ Adapted for Colombia, National Department of Statistics (DANE).

⁴ Adapted for Colombia, National Department of Statistics (DANE).

with international good practices. A mechanism for public access to information is to be put in place as well in this regard.

The PRTR's framework understands the following as provided herein:

Emission: introduction of pollutants (either fixed or diffused) into the air, water, and/or soil whether on purpose or accidentally, regularly or exceptionally.

Fixed sources of pollution (FFC): Any establishment whose productive activity can release pollutants into the air, water, or soil.

Non-point source of pollution (DCF): sources from which pollutants can be released into water, air or soil, whose combined impact on such environments may be significant and for which it is not feasible to obtain disaggregated data. For example, controlled open burning in rural areas, forest fires, vehicular transport, unpaved roads from which dust is generated.

Transfer: transfer outside the limits of the establishment of pollutants in wastewater destined for treatment or hazardous waste destined for use, treatment or final disposal.

Threshold: minimum condition from which establishments subject to reporting must report releases and transfers to the PRTR through the RUA.

Substance: refers to the chemical element and its compounds in their natural state or obtained through any production process, including additives necessary to preserve the stability of the product and the impurities resulting from the process used and excluding solvents that can be separated without compromising substance stability nor modifying its composition.

Figure No. 1. Diagram of the general cycle of the RUA information management

As can be seen in figure No. 1, the application for registration in the RUA must be made by the establishments subject to their report to the corresponding Environmental Authority for their registration in the RUA. The Environmental Authorities will make their registration informing establishments your identification number in the system as well as your access codes (username and password).

Subsequently, the establishment will make the initial report of the information in the RUA and will update it annually. The information will be validated by the corresponding Environmental Authority, and should it be the case, it will request its review, confirmation or correction from the establishment. Once corresponding Environmental Authorities carry out validation, they will have it submitted it to the SIUR, a subsystem IDEAM-administered.

Figure No. 1 General cycle of RUA information management

IDEAM will identify atypical data and manage through the corresponding Environmental Authority, its review, confirmation or correction by the establishment.

Subsequently, the IDEAM, based on the information submitted to the SIUR by the corresponding Environmental Authorities, will make the annual publication of RUA results on the use and exploitation of renewable natural resources (RUA portal) and on the emission and transfer of pollutants (RETC portal). With the Ministry of Environment's support, it will also publish the report on the use and exploitation of renewable natural resources and the report on the emission and transfer of pollutants.

3. RUA STRUCTURE

The RUA is composed of thirteen (13) chapters. Its completion will depend on production process and environmental requirements of the establishment in the balance period. Therefore, for a particular establishment all chapters not necessarily need be completed.

- CHAPTER 1: Company / Establishment.
- CHAPTER 2: Procedures.
- CHAPTER 3: Energy.
- CHAPTER 4: Water.
- CHAPTER 5: Air.
- CHAPTER 6: Biotic.
- CHAPTER 7: Soil.
- CHAPTER 8: Raw materials.
- CHAPTER 9: Products and Services.
- CHAPTER 10: Waste.
- CHAPTER 11: Contingencies.
- CHAPTER 12: SCPM import.
- CHAPTER 13: Environmental Management Actions.

Figure No. 2 General diagram of the Registry's components

Figure No. 2 RUA components

3.1. CHAPTER 1 - COMPANY / ESTABLISHMENT

This chapter identifies and locates the company and establishment for which the RUA is being filled out. General and complementary information, location and operation data, infrastructure and contact details as well as the person responsible for filling out information are requested.

This chapter is divided into two (2) sections: Company Data and Establishment Data.

- **Company Data:** information corresponding to identification and location of the administration, general management or main registered office of the company to which the establishment registered in the RUA belongs, as well as its legal representative.
- **Establishment data:** information corresponding to the establishment registered in the RUA, the section “Establishment data” is in turn divided into six (6) subsections:
 - General information
 - Complementary information
 - Location data
 - Operating data
 - Responsible for the completion
 - Infrastructure

Figure No. 3 Schematization Chapter 1 - Company / Establishment

3.2. CHAPTER 2 - PROCEDURES

This chapter lists environmental licenses, environmental management plans, permits, concessions for which the RUA is being completed, whether valid or pending during the balance period. Also, information presented during the balance period and previous year is reported to the Environmental Compliance Reports (ICAs).

This chapter consists of three (3) sections: Registry Procedure; Period ICAs and Previous ICAs.

- **Registry procedure:** information on permits, concessions, authorizations or licenses environmental in nature, which have been processed before the corresponding environmental authority, either valid or pending during balance period.
- **ICAs Period:** information corresponding to the Environmental Compliance Reports (ICAs) presented to the corresponding environmental authority during balance period.
- **Previous ICAs:** information corresponding to the Environmental Compliance Reports (ICAs) presented to the corresponding environmental authority in the year prior to the balance period.

Figure No. 4 Schematization Chapter 2 - Procedures

3.3. CHAPTER 3 - ENERGY

Reports information necessary to determine total energy consumption of the establishment for which the record is being filled out during the balance period; that is, in the form of electrical energy and total consumption of fuel used for combustion processes in the establishment (fixed and mobile sources inside the establishment), not as raw material, for the development of its activity. Information

on emission-generating equipment and fuel storages (used in the establishment during the balance period) is captured too.

This chapter consists of five (5) sections: Electric Power Consumption; Total Fuel Consumption; Equipment; Fuel storage, and SCPM equipment.

- **Electric power consumption:** information on electric power purchased, sold, received and transferred whether transfer or generated; total consumption of electrical energy is obtained.
- **Total fuel consumption:** information on the purchase, sale, reception and cession in transfer, production, use as raw material, storage and consumption by mobile sources outside the establishment; total consumption of fuel used for combustion processes in the establishment (fixed and mobile sources within the establishment) of the different fuels used is obtained.
- **Equipment:** information on equipment, units or emission-generating processes, that is, emissions different than those of substances controlled by the Montreal Protocol (SCPM). As for those whose emissions come from combustion processes, fuels used for their operation are reported. "Equipment" section is divided into two (2) subsections:
 - Equipment, units or processes
 - Fuel equipment
- **Fuel storage:** provides information on the storage of the different fuels stored in the establishment.
- **SCPM equipment⁵:** provides information on the equipment using SCPM for their operation.

Figure No. 5 Schematization Chapter 3 - Energy

3.4. CHAPTER 4 - WATER

Provides information on water supply (water inlets), spilling or discharges (water outlets) made by the establishment during the balance period. Additionally, information on the occupation of the channel, the transfer from one basin to another and the management of the reservoir made by the establishment in the same period is reported

This chapter consists of five (5) sections: Water Inlets; Water Outlets; Water Channel Occupancy; Transfer and Reservoir.

- **Water Inputs:** identifies and locates sources and water catchment points made in the establishment during the balance period. Are reported: uses of the water, extraction methods,

⁵ Substances Controlled by the Montreal Protocol (SCPM): these substances include ozone-depleting substances as well as pure hydrofluorocarbons (HFC), which are considered to be GHG, and their mixtures.

monthly and total volume captured, flow granted, authorized time and volume stored at the end of the period; total volume consumed is obtained. "Water inlets" is in turn divided into two (2) subsections:

- Pickup source
- Catchment point
- **Water Outlets:** receptors are identified, and points of spills or discharges made in the establishment during the balance period are located. Samples and measurements are reported at each spilling or discharge point; calculation of load dumped and annual average load for each point is obtained and confirmed or self-declared. "Water Outlets" section is in turn divided into five (5) subsections:
 - Receiver
 - Download point
 - Samples per point
 - Measurements per point
 - Average annual load
- **Water Channel Occupancy:** water source wherein occupation takes place is identified and located, listing additional information on the source and the work. "Water Channel occupation" is in turn divided into two (2) subsections:
 - Source information
 - Channel occupation
- **Transfer:** identifies and locates transfer, reports the monthly volume used for the transfer, the monthly environmental flow, the uses of the transfer, flow granted, receivers associated with the transfer and the monthly volume discharged.
- **Reservoir:** identifies and locates the reservoir, reports the monthly volume used from the reservoir, monthly environmental flow, uses of the reservoir, total storage capacity, useful volume of the reservoir, flow granted, receivers associated with the reservoir, volumes downloaded and stored monthly. Additionally, the monitoring points of the water quality of the reservoir are reported, as well as samples and measurements of each point. "Reservoir" is in turn divided into four (4) subsections:
 - Reservoir
 - Reservoir points
 - Samples per point
 - Sample measurements

Figure No. 6 Schematization Chapter 4 - Water

3.5. CHAPTER 5 - AIR

Fill out Information corresponding to air quality monitoring within the establishment's area of influence, pollutant emissions into the atmosphere, and noise generated during the course of their activities. Additionally, as for pollutant emissions, calculation of loads discharged, and annual average load is obtained and confirmed or self-declared.

This chapter consists of three (3) sections: Air Quality; Emissions, and Noise.

- **Air quality:** information corresponding to all air quality monitoring campaigns (measurements) carried out by the establishment during the balance period in accordance with requirements made by the corresponding environmental authority (environmental license, environmental management plan and/or permit for atmospheric emissions). "Air Quality" is in turn divided into four (4) subsections:
 - Point/Site
 - Campaign
 - Measurements or Analysis.
 - Consolidated.
- **Emissions:** information corresponding to atmospheric emissions generated in the establishment during the balance period by fixed sources (either specific or dispersed/diffuse) and mobile sources within the establishment (only for GHG emissions). "Emissions" is in turn divided into four (4) subsections:
 - Emissions Except GHG and SCPM.
 - SCPM emissions.
 - GHG emissions.
 - Consolidated. Emissions.
- **Noise:** information on the establishment's noise emission measurements made during the balance period in accordance with requirements made by the corresponding environmental authority (environmental license, environmental management plan and / or air emissions permit). "Noise" is in turn divided into three (3) subsections:
 - Noise point
 - Measurements
 - Campaigns

3.6. CHAPTER 6 - BIOTIC

This chapter provides information on the flora and fauna component (by use and exploitation) and monitoring obligations.

This chapter consists of four (4) sections: Permit Information; Ecosystems; Exploitations; and Monitoring points.

- **Permit information:** information on procedures mentioning the permit for the use of fauna or flora, or monitoring obligations provided by the corresponding environmental authority.
- **Ecosystems:** information corresponding to ecosystems established in the Map of Continental Coastal and Marine Ecosystems of Colombia (MEC) at a scale of 1: 100,000 prepared by IDEAM, on which procedures regarding the permit for use of fauna and flora have an influence; or monitoring obligations provided by the corresponding environmental authority; likewise, the land covers present in each Ecosystem as per the National Land Cover Legend CORINE Land Cover Methodology, Adapted for Colombia at a scale of 1: 100,000.

The “Ecosystems” section is in turn divided into three (3) subsections:

- General information of the ecosystem.
- Coverages.
- Photographic record.
- **Harvesting:** permits granted by type of forest harvesting (single, persistent, domestic or isolated trees), both for timber forest products (PFM) and non-timber forest products (NTFP), as appropriate. Also permits granted for the use of fauna (commercial hunting, promotion hunting, control hunting, sport hunting, reproduction in a zoo, registration of biological collection). In this section, uses can be listed whether granted by type of coverage or by species.

The “Exploits” section is in turn divided into three (3) subsections:

- Use information.
- Coverage.
- Species harvested.
- **Monitoring points:** those established during the balance period pursuant to the administrative act or under provisions of environmental management plans. The scientific name of the species (flora or fauna) must be selected indicating the degree of threat according to international and national lists.

The “Monitoring Points” section is in turn divided into three (3) subsections:

- Point information.
- Monitoring evidence.

- Characterization.

Figure No. 8 Schematization Chapter 6 - Biotic

3.7. CHAPTER 7 - SOIL

In this chapter basic information is filled out with regards to the balance of the soil quality as a receiving component for spills or wastewater discharges, final disposal of solid waste, or remediation or restoration activities made by the establishment during the balance period.

This chapter consists of one (1) section: Soil Quality.

- **Soil quality:** information corresponding to the general basic information of the geomorphological classification of the soil; current soil degradation processes; the physical, chemical and biological properties determined in the field and/or in the laboratory.

The “Soil Quality” section is in turn divided into three (3) subsections:

- Point information.
- Samples.
- Measurements.

3.8. CHAPTER 8 - RAW MATERIALS AND CONSUMABLE GOODS

This chapter collects information on those raw materials and consumable goods used by the establishment during the course of their productive activities, those with the highest consumption, the greatest environmental impact and/or those with greater influence on waste generation.

This chapter consists of three (3) sections: By CPC; By Substance; and By Natural Resources.

- **By CPC:** information corresponding to consumption of raw materials and consumable goods. CPC Code-discriminated. The Central Product Classification (CPC) includes categories for all products that can be the object of national or international transactions or that can be stored. Products that are the result of an economic activity are described therein, including transportable goods, non-transportable goods, and services.
- **By Substances:** reports information on PRTR substances in raw materials and consumable goods (either pure or part of their formulation or in the form of impurities or inert ingredients) used by the establishment during the balance period in the course of their productive activity and that are relevant to spills or discharges or to emissions into the atmosphere. In this case, “productive activity” refers to the substance being used in the production process or in processes other than production, such as storage, wastewater treatment, cleaning and maintenance, etc.

- By Natural Resources: information corresponding to the consumption of raw materials and consumable goods from natural resources requiring either a single national safe-conduct for mobilizing specimens labelled under biological diversity (forest or fauna products) or a referral for mobilizing wood or forest products of primary transformation from forestry activities or agroforestry systems for commercial purposes duly registered.

Figure No. 10 Schematization Chapter 8 - Raw materials and consumables

3.9. CHAPTER 9 - PRODUCTS AND SERVICES

This chapter lists main manufactured goods and/or services offered by the establishment during the year of the balance period as well as the corresponding amounts or values.

This chapter consists of two (2) sections: By CPC; and By Substances.

- By CPC: information corresponding to the production of goods, or the provision of services CPC Code discriminated. The Central Product Classification (CPC) includes categories for all products that can be the object of national or international transactions or that can be stored. Products that are the result of an economic activity are represented in it, including transportable goods, non-transportable goods and services.
- By Substances: reports information on PRTR substances in raw materials and consumable goods (either pure or part of their formulation or in the form of impurities or inert ingredients) used by the establishment during the balance period in the course of their productive activity and that are relevant to spills or discharges or to emissions into the atmosphere.

Figure No. 11 Schematization Chapter 9 - Products and Services

3.10. CHAPTER 10 - WASTE

Information on establishment-generated waste management. Non-hazardous waste, hazardous waste (RESPEL) and waste delivered by the establishment during the balance period under post-consumer refund programs.

This chapter consists of three (3) sections: Hazardous Waste; Non-hazardous waste; and Post-consumer Waste.

- Hazardous Waste: information on establishment-generated hazardous waste management produced during the balance period both domestically and abroad. **Waste produced is obtained? (¿Se obtiene su generación?)** Additionally, monthly amount generated is requested during the balance period; and moving average of the last six (6) months is verified, as well as the generator category.

The “Hazardous Waste” section is in turn divided into two (2) subsections:

- Hazardous Waste Generation and Management.
- Category of Hazardous Waste Generator.
- Non-Hazardous Waste: Hazardous Waste: information on establishment-generated hazardous waste management produced during the balance period both domestically and abroad. **Waste produced is obtained? (¿Se obtiene su generación?)**
- Post-consumer Waste: information corresponding to types of waste and quantities delivered under Post-Consumer Refund Programs (under current national regulations).

Figure No. 12 Schematization Chapter 10 - Waste

3.11. CHAPTER 11 - CONTINGENCIES

Information corresponding to contingencies (leak, spill, fire, explosion, other) occurred in the establishment during the balance period and in which one or more natural resources (water, air, soil) were compromised, involving one or more PRTR substances.

This chapter consists of two (2) sections: General Information on Contingency and Substances.

- **General information on the contingency:** information on the contingency, such as its identification, date and time of occurrence, duration, location, actions taken, and means compromised.
- **Substances:** PRTR substances load involved in the contingency is listed by means compromised.

Figure No. 13 Schematization Chapter 11 - Contingencies

3.12. CHAPTER 12 - ENVIRONMENTAL MANAGEMENT ACTIONS

This chapter requests information on self-management or self-regulation actions carried out in the establishment during the balance period, such as those from strategies of the National Policy for Cleaner Production, that is, environmental management systems, cleaner production agreements, environmental excellence programs or cleaner production measures implemented.

This chapter consists of six (6) sections: General Information; Environmental Management Systems; Cleaner Production Agreements; Environmental Excellence Programs; Cleaner Production Measures or categories and subcategories of Pollution Reduction Practices; and Reduction Actions.

- **General information:** different environmental management actions implemented in the establishment during the balance period.

- **Environmental management systems.** implemented in the establishment during the balance period, either audited or certified.
- **Cleaner Production Agreements:** Cleaner Production Agreements the establishment was part of during the balance period.
- **Environmental excellence programs:** in which the establishment participated during the balance period are completed.
- **Cleaner production measures o Categories and subcategories of pollution reduction practices:** implemented in the establishment during the balance period.
- **Pollution reduction actions:** filling out information on substances in water outlets and emissions to the atmosphere. Reduced quantity of these substances is calculated or reported based on activity indexes (by consumption, by production, or other obtained from cargo dumped or emitted and quantity consumed or produced, respectively) of the year prior to the reported balance period and the year of the reported balance period. Actions derived from cleaner production measures (Categories and subcategories of pollution reduction practices) implemented in the establishment during the balance period.

Figure No. 14 Schematization Chapter 12 - Environmental Management Actions

3.13. CHAPTER 13 - SCPM IMPORT

This chapter requests information on importation of SCPM substances on behalf of the establishment during the balance period.

This chapter consists of one (1) section: Import Information.

- **Import information:** information corresponding to imports made directly by the establishment during the balance period in which one or more SCPM substances are involved.

Figure No. 15 Schematization Chapter 13 - SCPM Imports

4. INITIAL LIST AND UPDATE OF SUBSTANCES AND WASTE SUBJECT TO PRTR REPORT AND THEIR RESPECTIVE THRESHOLDS AND REPORTING MEANS

Initial list of substances subject to PRTR reporting. Through base platform, RUA and their respective thresholds and mean(s) are presented in Annexes 2 to 8 of this Protocol.

Substances and other parameters having maximum permissible limits or analysis and reporting under current environmental regulations will be RUA reported as per current regulations.

Substances not having maximum permissible limits or analysis and reporting under current environmental regulations will be RUA reported should they equal or exceed threshold.

As for hazardous waste reporting, Annex I List of Hazardous Waste by processes or activities and Annex II List of Hazardous Waste by waste streams (Article 2.2.6.2.3.6 of Decree 1076 of 2015 will be used).

5. METHODS FOR DETERMINING PHYSICOCHEMICAL AND MICROBIOLOGICAL PARAMETERS

Physicochemical and microbiological parameters regulated by current environmental regulations must be determined using measurement methods specified in said regulations.

Should a method for a particular parameter not be specified in current environmental regulations, best information available should be used by direct measurement methods (analytical characterization) or indirect measurement (emission factors, mass balances, other calculations, estimated), preferably those recommended by the OECD or at least those of the EPA (Federal Agency of the U.S.), the American Society for Testing and Materials (ASTM), or other internationally recognized organizations.

Information supporting measurements must be available to corresponding environmental authority.

RUA will record measurements results of physicochemical and microbiological parameters valid in balance period for which RUA is being completed, taking into account that, should the establishment not be subject to measurement for such period, measurements made in previous periods must be reported should the operating conditions be the same.

Current year measurements result applicable to RUA required in administrative acts issued by the corresponding environmental authorities —through which environmental license and plan, permits and concessions were granted— must be timely RUA reported.

6. SAMPLING AND ANALYTICAL CHARACTERIZATION OF PHYSICOCHEMICAL AND MICROBIOLOGICAL PARAMETERS

Under Decree 1076 of 2015 (Article 2.2.8.9.1.5. Paragraph 2), sampling and analytical characterization of physicochemical and microbiological parameters must be carried out in IDEAM-accredited laboratories⁶. Should there not be an in-country accredited laboratory for a specific analytical characterization, characterizations result abroad by laboratories accredited under the ISO/IEC 17025 standard (current version) may be accepted.

⁶ Under Decree 1076 of 2015 (Sole Regulatory Decree of the Environment and Sustainable Development Sector) laboratories producing quantitative, physical, chemical, and biotic information for environmental studies or analytics (required by the corresponding environmental authority) and those providing official information regarding the quality of the environment and of natural renewable resources, shall be IDEAM accredited. See Article 2.2.8.9.1.5 – Paragraph 2 of said Decree.

Should analytical characterization (direct measurement) result reports be in a language other than Spanish, regulations related to presentation of private documents issued abroad and to be presented to authorities in Colombia must be complied with.

7. RUA WEB APPLICATION

Information provided by establishments subject to RUA fill-out through the computer capturing tool designed by IDEAM allows, among others, to obtain standardized, homogeneous and systematic information on the use and/or exploitation of renewable natural resources and emission and transfer of pollutants originated in establishments from different productive sectors during the course of their activities.

A Manual for establishments exists to guide and facilitate registration, completion, and annual update online. Latest version published (IDEAM website and computer tool) shall always be used.

8. REMOVAL

Request for removal from the Single Environmental Registry (RUA) must be made by natural persons or legal representatives of legal persons by written communication to the environmental authority where it is registered under, therein attaching the technical and legal support by which said industrial establishment requests the removal.

Possible grounds for removal (without prejudice of others) are:

- Closure (liquidation) of the establishment
- Establishment is not to submit information
- Establishment changed location
- Establishment changed owner and NIT (Taxpayer Identification Number)
- Establishment merged

The environmental authority must evaluate information presented by the establishment and verify said information should it deem it necessary before proceeding to notify removal.

9. APPLICATION FOR RUA INFORMATION ADMINISTRATION BY ENVIRONMENTAL AUTHORITIES

Process to formalize registration, application management, and technical requirements is included. Latest version published (IDEAM website and computer tool) shall always be used.

10. QUALITY REVIEW OF INFORMATION SUBMITTED TO THE RUA AND THE SIUR

RUA information validation mechanisms include following aspects:

- **Self-declaration:** establishment subject to RUA report will guarantee RUA information, as it must be truthful and precise and taken as submitted under oath.
- **Automatic validation controls:** In the information capturing computer tool, automatic validation controls will be verified, taking into account defined information inputs. It'll be applied by different sectors.
- **Quality assessment by the corresponding environmental authority and review by IDEAM regarding information submitted to the SIUR:** Before publishing data and preparing national reports, information filled out by establishments will be subject to validation by the environmental authority and review by IDEAM (completeness, coherence, credibility and precision will be factored in).
- **Completeness:** refers to report completeness and to report of all expected releases and transfers.
- **Consistency:** related to the fact that data reported in different chapters make sense to each other and that source identification and determination of amounts issued and transferred are in accordance with definitions and methodologies established.
- **Credibility and Accuracy:** truthfulness, authenticity, or reliability. In the context of the RUA, consistency and credibility are closely related. Validation activities include general methods such as:
 - Precision checks in data collection and calculations.
 - Use of approved standard procedures for emission measurements and calculations.
 - Estimation of uncertainties.
 - Information storage.
 - Notification.

The foregoing does not exclude visits to the establishment or to the facility subject to report (on behalf of the corresponding environmental authority) to confirm data reported.

This stage (information review/verification) must be conducted by the corresponding environmental authority once information submitted is verified. After review, information must be relayed to the SIUR. IDEAM will then look for possible atypical or possibly erroneous values and will inform corresponding environmental authority to check data (together with reporting) user and correct it if necessary. Once process is completed, information is published in the RUA and RETC portals, and the Report on the use and exploitation of renewable natural resources and the Report on pollutant releases and transfers is thereby prepared.

Corresponding environmental authority must revise information and SIUR submission of each and every one of the records closed and sent by the establishments registered in its jurisdiction,

considering records of establishments whose environmental license or environmental management plan was provided by the Ministry or ANLA will be reviewed by ANLA or by a similar institution.

RUA information review and SIUR submission has been systematized in the Web Application For RUA Information Administration By Environmental Authorities. In the Manual previously referred to, in turn, the procedure for conducting such review and submission is detailed. Latest version published (IDEAM website and computer tool) shall always be used.

11. MECHANISM FOR TRANSFERRING INFORMATION FROM THE RUA TO THE SIUR

As an IDEAM administered mechanism for transferring information from the RUA to the SIUR there's an online app for establishments (completing information) and another for the environmental authority (administration) with following characteristics:

- Designed in a Web environment
- Contain controls that allow users to define access to the system according to roles created and leave a trace of all transactions made
- It has four (4) user groups, each with access to different information. User profiles are: the establishment, the corresponding environmental authority, IDEAM (as SIUR administrator), and the Ministry of Environment
- They are characterized by a menu based on user profile and role appearing upon login.

Access codes (username and password) are, of course, dependent of the user profile. As for establishments, access codes will be automatically provided by the system when corresponding environmental authority carries out the registration process. As for the environmental authority's and Ministry's profiles, access codes will be provided by IDEAM.

In Figure 16, information flowing from its capture to delivery of specific products to different users, is outlined, thereby acquiring reports or information outputs necessary for decision-making.

Figure 16 Information flow from RUA to SIUR and RETC.

12. APPLICATION FOR IDEAM RUA INFORMATION ADMINISTRATION

In the Manual for such purpose, process for assigning user codes for the environmental authorities and the Ministry of Environment is included, as well as application management and technical requirements. The latest version of this manual published on the IDEAM website should always be used.

13. APPLICATION FOR RUA INFORMATION VERIFICATION BY THE MINISTRY OF ENVIRONMENT

In the RUA consulting manual (for the Ministry of Environment), application management and technical requirements are included. The latest version of this manual published on the IDEAM website should always be used.

14. RUA REPORTS OR INFORMATION OUTPUTS

Reports or outputs of information filled out, validated, and submitted to the RUA SIUR allow disseminating consolidated information on the use and/or exploitation of natural resources (in aggregate form) and pollutant emission/transfer to different natural resources (in aggregate and disaggregated form) by establishments subject to reporting. Access to this information is public through the RUA and RETC portals, respectively, and no prior request for information will be required from the environmental authorities, IDEAM, or the Ministry of the Environment for either consultation or use by any interested party.

Information reported and considered confidential (generic name of PRTR substances, contact details, and details of person responsible for filling information) will not be disclosed in the Information outputs or otherwise published on RUA or RETC portals.

To obtain reports or outputs, information is consolidated both aggregately (depending on filters selected in the query) and disaggregately (by establishment). Different types of queries generated through RUA web portals and Colombia's RETC have been implemented, those which results are presented in graphs, tables and maps that can be downloaded in digital files by any user.

Filters for temporal analysis unit:

- **Balance period:** allows output information to be consolidated considering information referring to a specific year.
- **Trend:** allows output information to be consolidated considering information from a specific year within the last fifteen years.

Filters for spatial analysis unit:

- **Establishment level:** Allows output information to be consolidated considering information of a specific establishment.
- **Municipality level:** allows output information to be consolidated considering information of establishments located in a specific municipality.
- **Department level:** allows output information to be consolidated considering information of establishments located in a specific department.
- **Jurisdiction level of environmental authority:** Allows output information to be consolidated considering information of establishments located in the jurisdiction of a specific environmental authority.
- **ANLA level:** Allows output information to be consolidated considering information of ANLA registered, reviewed and submitted establishments.

- **National level:** allows output information to be consolidated considering information of the establishments located in the national territory.

Filters for unit of analysis economic activity:

- **By economic activity:** allows output information to be consolidated considering information of establishments with specific main economic activity.
- **All economic activities:** allows output information to be consolidated considering information of establishments, regardless of their main economic activity.

Filters for pollutant analysis unit:

- **By substance:** Allows output information to be consolidated considering information of establishments emitting or transferring a specific substance.
- **All substances:** allows output information to be consolidated considering information of establishments emitting or transferring substances, regardless of the substance.

Filters for the hazardous waste analysis unit:

- **By hazardous waste:** Allows output information to be consolidated considering information by establishments transferring a specific hazardous waste.
- **All hazardous waste:** Allows output information to be consolidated considering information of establishments transferring hazardous waste, regardless of the waste.

14.1. RUA Reports or Information Outputs on Use and/or Exploitation of Natural Resources

Following are reports or information outputs to be initially obtained based on information filled out, validated and submitted to the RUA SIUR regarding the use and/or exploitation of natural resources. Based on information submitted in the RUA, additional reports or information outputs may be obtained.

Water Indicators

- Total load discharged by substance
- Total flow granted for water use
- Water discharges by receiver category
- Total volume captured by source category
- Treated and untreated spilled volume.

Energy, Air Quality & Atmospheric Emission Indicators

- Number of air quality monitoring points
- Exceedances of maximum permissible level PM10

- Exceedances of maximum permissible level PM2.5
- Fuels consumed
- Number of equipment generating atmospheric emissions by processes other than combustion
- Number of equipment generating atmospheric emissions from combustion processes (by type of equipment)
- Number of equipment generating atmospheric emissions from combustion processes (by type of fuel)
- Number of establishments reporting GHG emissions
- Number of discharge points for polluting emissions

Biotic Indicators:

- Number of wildlife uses
- Number of flora uses
- Number of wildlife monitoring points
- Number of flora monitoring points
- Number of flora / fauna monitoring points
- Types of land cover most affected by environmental procedures reported to RUA
- Types of ecosystems most affected by environmental procedures reported to RUA
- 10 most used species of fauna
- 10 most used species of flora

Raw Materials Consumed Indicators:

- Consumption of raw materials by CPC code
- Raw materials by CPC code with highest consumption of foreign origin (by economic activity).

Non-Hazardous Waste Indicators

- Generation of non-hazardous waste.
- Amount of non-hazardous waste managed by type of management (use, treatment and final disposal).
- Hazardous Waste Indicators
- Generation of hazardous waste.
- Generation of hazardous waste by type of generator category.
- Amount of hazardous waste managed by type of management (use, treatment and final disposal).

14.2. RUA Reports or Information Outputs on Pollutant Releases and Transfers

Following are reports or information outputs to be initially obtained based on information filled out, validated and submitted to the RUA SIUR regarding the use and/or exploitation of pollutants. Based on information submitted in the RUA, additional reports or information outputs may be obtained.

Common Emissions of Pollutants:

- Common emissions into water
- Common emissions into the air
- Common emissions into the soil

Common Emissions Report (water):

- Common emissions into water, from discharges to bodies of water
- Constant emissions into water due to discharges into the sewer system without third-party treatment
- Common emissions into water in other wastewater discharges

Common Emissions Report (air):

- Common emissions into the air - except GHG and SCPM
- Constant GHG emissions into the air
- Common air emissions SCPM
- Common emissions to the air - except GHG

Common Emissions Reports (soil):

- Constant emissions into the soil due to discharges on the ground in the establishment
- Constant emissions into the soil due to discharges outside the establishment not destined for treatment
- Constant emissions into the soil due to other wastewater discharges on the ground in the establishment.
- Constant emissions into the soil due to other wastewater discharges on the ground outside the establishment not destined for treatment.

Accidental Emissions of Pollutants:

- Accidental emissions into water.
- Accidental emissions into the air.
- Accidental emissions into the soil.

Accidental Releases Reports (water):

- Accidental emissions into water due to discharges in bodies of water

- Accidental emissions into water due to discharges into the sewer system without treatment on behalf of third parties.
- Accidental releases into water in other wastewater discharges

Accidental Emissions Reports (air):

- Accidental emissions into the air - except GHG and SCPM
- Accidental GHG emissions into the air
- Accidental SCPM releases into the air
- Accidental emissions into the air (except GHG)

Reports of Accidental Emissions (soil):

- Accidental emissions into the soil due to discharges on the ground in the establishment
- Accidental emissions into the soil due to discharges outside the establishment not destined for treatment
- Accidental emissions into the soil due to other wastewater discharges on the ground in the establishment
- Accidental emissions into the soil due to other wastewater discharges on the ground outside the establishment not destined for treatment.

Total emissions of pollutants:

- Total emissions into water.
- Total emissions into the air.
- Total emissions into the soil.

Total Emissions Report (water):

- Total emissions into water from discharges in bodies of water
- Total emissions into water from discharges into the sewer system without third-party treatments
- Total emissions into water in other wastewater discharges

Total Emissions Reports (air):

- Total emissions into the air - except GHG and SCPM
- Total GHG emissions into the air
- Total SCPM emissions into air
- Total emissions to air, except GHG

Total Emissions Reports (soil):

- Total emissions into the soil due to discharges in the establishment
- Total emissions into the soil due to discharges outside the establishment not destined for treatment
- Total emissions into the soil due to other wastewater discharges on the ground in the establishment
- Total emissions into the soil due to other wastewater discharges on the ground outside the establishment not destined for treatment

Pollutant Transfer:

- Transfer in wastewater destined for treatment.
- Transfer in hazardous waste.

Destined-for-Treatment Wastewater Transfer Reports.

- Transfers in discharges into the sewerage for treatment by third parties
- Transfers in other wastewater discharges water outside the establishment destined for treatment.
- Transfers in discharges into soil outside the establishment destined for treatment.
- Transfers in other wastewater discharges on the ground outside the establishment destined for treatment.
- Total transfers in wastewater destined for treatment

Hazardous Waste Transfer Reports

- Transfers for recycling
- Transfers for energy recovery
- Transfers for treatment
- Transfers for final disposal
- Total transfers in hazardous waste

Types of Inquiries on Releases and Transfers:

For generating and visualizing output information in the Web Portal of Colombia's RETC, user has three (3) types of queries:

- **Consolidated data consultation:** shows results on emissions (constant, accidental and total) and pollutant transfers graphically and tabulated, by establishment.
- **Advanced search:** shows discriminated results on emissions (constant, accidental and total) and pollutant transfers tabulated, by establishment.
- **Geographical query:** shows establishments as well as results on emissions (usual, accidental and total) and on pollutant transfers. The former, tabulated; the latter, by establishment.

14.3. RUA Information Sheets:

URUA users, in any of their profiles, can download Excel files with consolidated information reported in each section, subsection or tab of the thirteen (13) thematic chapters that make up the RUA, depending on the query filters selected by the user.

Information filters

To see RUA information sheets, different information reports have been implemented that are generated through the computer tool of this Registry, the results of which are presented in tables that can be downloaded in digital files by the user logged in. Depending on the user profile logged in, the following filters for information outputs are presented:

- **Environmental Authority (Optional):** allows filtering information by establishments registered in the RUA by a specific Environmental Authority. Enabled for IDEAM and Minambiente administration profiles.
- **Department (Optional):** allows filtering information by establishments registered in the RUA located in a specific department. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Municipality (Optional):** allows filtering information by establishments registered in the RUA located in a specific municipality. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Economic sector (optional):** allows filtering information by establishments registered in the RUA that carry out ISIC economic activities corresponding to a specific economic sector. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **ISIC economic activity (optional):** allows filtering information by establishments registered in the RUA with a specific ISIC economic activity. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Company (optional):** allows filtering information by establishments registered in the RUA corresponding to a specific company. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Establishment (optional):** allows filtering the information by a specific establishment registered in the RUA. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.

- **Report status (Mandatory):** allows filtering information by statuses RUA-registered establishments records must present for a specific balance period, that is, should information to be included in information sheet is to be extracted from Closed records (already sent by the establishment to corresponding Environmental Authority but which have not yet been validated and submitted to IDEAM) or Transmitted records (already validated and submitted to IDEAM by the corresponding environmental authority). Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Balance period (mandatory):** allows filtering information by closed or transmitted records of RUA-registered establishments for a specific balance period. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Consultation date (from) (Mandatory):** allows filtering information by statuses (closed/transmitted) RUA-registered establishments records must present for a specific balance period *from* date indicated in this filter. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Consultation date (until) (Mandatory):** allows filtering information by statuses (closed/transmitted) RUA-registered establishments records must present for a specific balance period *until* the date indicated in this filter. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Chapter (Required):** allows filtering information by RUA Chapter. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Section (Required):** allows filtering information by a specific *section* of each RUA Chapter. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.
- **Subsection (Mandatory):** allows filtering information by a specific *subsection* of each RUA Chapter. Enabled for profile administration on behalf of Environmental Authorities, IDEAM and Minambiente.

Information sheets for an establishment user profile will present results only with information reported by the establishment that logged in. As for environmental authorities user profiles, information sheets will present results only with information reported by RUA-registered establishments on behalf of the environmental authority that logged in. As for IDEAM and Ministry profiles, information sheets will present results with information reported by RUA-registered establishments (nationally).