[UNOFFICIAL TRANSLATION]

SUBMISSION FILED WITH THE COMMISSION FOR ENVIRONMENTAL COOPERATION OF THE NORTH AMERICAN FREE TRADE AGREEMENT

REVISED SUBMISSION A14/SEM/15-002/01/SUB

PARTY: Mexico

SUBMITTER(S):

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file this submission as citizens and civil society organizations on the basis of Articles 14, 15 and 45.2. paragraph a) and other related and applicable provisions of the North American Agreement on Environmental Cooperation, an agreement signed by the governments of the United States of America, Canada and Mexico and which came into effect on 1 January 1994, to denounce the failure to effectively enforce the following instruments:

- **The Stockholm Convention** (Annex I.3.12)
- **The Political Constitution of the United Mexican States** (*Constitución Política de los Estados Unidos Mexicanos*) (Annex I.3.2)
- **The General Ecological Balance and Environmental Protection Act** (*Ley General del Equilibrio Ecológico y La Protección al Ambiente*—LGEEPA) (Annex I.3.4)
- **The General Law for the Prevention and Comprehensive Management of Waste** (*Ley General para la Prevención y Gestión Integral de los Residuos*—LGPGIR) (Annex I.3.5)
- **The Federal Environmental Liability Act (*Ley General de Responsabilidad Ambiental*)** (Annex I.3.3)
- **The Planning Act** (*Ley de Planeación*) (Annex I .3.9)
- **The General Social Development Act** (*Ley General de Desarrollo Social*) (Annex I.3.10)
- **The General Health Law** (*Ley General de Salud*) (Annex I.3.11)
- **The Regulations to the General Law for the Prevention and Comprehensive Management of Waste** (*Reglamento de la Ley General para la Prevención y Gestión Integral de los Residuos*—RLGPGIR) (Annex I.3.6)
- **Official Mexican Standard NOM-052-Semarnat-2005** (Annex I.3.8)
- **Official Mexican Standard NOM-161-Semarnat-2011** (Annex I.3.7)

Every paragraph, article, section, table and chapter cited in the above instruments has been included in Annex I.3.13 to facilitate the Secretariat's consultation and analysis thereof.

Regarding our efforts to satisfy the provisions of Articles 14 and 15, we offer the following remarks:

I. REASON FOR THE SUBMISSION: To denounce the failure to effectively enforce the conventions, laws, regulations and standards enumerated above, which are all applicable to the public policy developed by Mexico's Federal Government to implement the transition from analog TV transmission to digital television transmission. These enforcement failures

translate into incomplete and faulty public policies on the environment with consequences that generate imminent risks to the environment and public health.

II. OBJECT OF THE SUBMISSION: To request that the Commission for Environmental Cooperation express its opinion on this matter, in relation to the following subparagraphs of NAAEC Article 1:

(a) foster the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations;

(g) enhance compliance with, and enforcement of, environmental laws and regulations;

(h) promote transparency and public participation in the development of environmental laws, regulations and policies;

(i) promote economically efficient and effective environmental measures;

(j) promote pollution prevention policies and practices;

and their pertinence in relation to the following matters: lack of clarity in public policy and management and control tools, allocation of public resources, institutional agreements, infrastructure improvements, responsibility and cooperation issues, and monitoring and inspection in the management of waste generated due to the transition to digital television transmission in Mexico and the risks therein to public health and the environment.

We also request that the Secretariat consider the elaboration of an independent report in accordance with NAAEC Article 13, a process that is separate from a submission on enforcement matters pursuant to Articles 14 and 15.

III. POTENTIALLY AFFECTED PARTIES: The 112,336,538 Mexicans – men, women, seniors and children – who, in the face of the risk that up to 67,319 tons of lead oxide and brominated flame retardants may be released into the environment, have been left in a defenseless state, which is a violation of their human right to a healthy environment. The rights of 32 states and 2,468 municipalities have been infringed as they were given responsibilities to address the risk posed by this potential release of hazardous materials without, however, the resources to exercise them effectively. The environment is an affected party due to the imminent risk of damage to ecosystems and their constituent elements. In effect, there is a high potential for the pollution of bodies of water, soil, air, flora and fauna due to the way that lead and brominated flame retardants volatilize and disperse in the environment.

IV. BACKGROUND:

a) We, the Submitters, filed a submission with the CEC on 24 August 2015. Our submission is now officially known as SEM-15-002 (Management of Analog TV Waste).
b) On 22 September 2015, the Secretariat notified us that the submission did not satisfy the admissibility requirements stipulated in NAAEC Article 14(1) and we were given 60 days to present a revised submission in compliance with Articles 6.1 and 6.2 of the Guidelines for Submissions on Enforcement Matters.
c) This revised submission refers to annexes already in the CEC Secretariat's possession, i.e., those enclosed with the original submission. Consequently, we have only enclosed with the present document elements that were not previously enclosed with the original submission.

V. STATEMENT OF THE FACTS:

In this section, we recap the development of public policy on the transition to digital television transmission in Mexico. This particular public policy began in 2004 under the administration of president Vicente Fox Quesada, which laid the groundwork for its realization. In 2015, it now falls to the administration of the current president, Enrique Peña Nieto, to complete the transition to digital television transmission.

1.- On 2 July 2004, the Official Gazette of the Federation (*Diario Oficial de la Federación*—DOF) published the **Agreement on the adoption of the digital television transmission technological standard and the establishing of the policy on the transition to digital television transmission** (Annex I.4.1). The publication of this agreement in DOF initiated the transition to digital TV in Mexico. It sought to facilitate said transition by creating the conditions for making digital TV receivers and decoders increasingly accessible in the country; specifically, it highlighted the advantages and requirements of the digital TV model, as well as the relevant specifications and recommendations of the International Telecommunication Union.

2.- On 2 September 2010, the **Decree establishing the actions that the Federal Public Administration must carry out to make the transition to Digital Television Transmission a reality** was published in the Official Gazette of the Federation (*Diario Oficial de la Federación*—DOF (Annex I.4.2). Said decree observed that to date the Netherlands, Norway, Sweden, Belgium, Spain, Finland, Germany, Switzerland and the United States of America had terminated analog TV transmission. These countries provided information and assistance to the public on the transition process, including measures such as economic assistance to purchase decoders. Based on international practices, this document opined that Mexico would follow the same trends observed in the aforementioned countries. Among the actions stipulated in this decree, which are under the jurisdiction of the federal public administration, one in particular stands out: promoting access to digital receivers or decoders to enable the public to receive digital television transmission signals. This decree created

the Inter-ministerial Commission on the Digital Transition (*Comisión Intersecretarial para la Transición Digital*—CITD) with the objective of coordinating the actions required to implement the transition to digital TV.

3.- On 4 May 2012, the **Agreement on amending, adding and repealing various provisions of the Agreement of 2 July 2004 on the adoption of the digital television transmission technological standard and the establishing of the policy on the transition to digital television transmission** was published in DOF (Annex I.4.3). This agreement highlighted the experiences of other countries with respect to analog blackouts. In particular, it observed that a step by step termination of analog transmission enables a gradual transition process. The Advisory Committee on Digital Broadcasting Technologies (*Comité Consultivo de Tecnologías Digitales para la Radiodifusión)* proposed in its "*Reporte respecto al desarrollo de la Televisión Digital Terrestre (TDT) durante el año 2010 con las recomendaciones que corresponde"* (*Report on the development of digital television transmission [DTT] in 2010 with corresponding recommendations*) an analog blackout pilot project for that year in Tijuana to be followed by analog blackouts in Mexico City and Guadalajara in 2014. However, this agreement indicated that, in light of the conditions established in said report, it was necessary to postpone the pilot project in Tijuana until 2013, and assessment with which The Federal Telecommunications Commission (*Comisión Federal de Telecomunicaciones*) concurred. As a result, the gradual termination of analog transmission was scheduled to begin on 16 April 2013 and conclude nationwide by 31 December 2015. The report indicated that to institute the gradual termination of analog transmission it would be necessary to first achieve a 90% DTT penetration rate amongst the broadcast television dependent population. Should said penetration rate be lower than 90% a month prior to the scheduled analog blackout in a given locality, the Commission would have to reschedule the date of said blackout.

4.- On 28 November 2012, the **Operating Rules of the Inter-ministerial Commission on the Digital Transition** were published in DOF (Annex I.4.4). The object of these "rules" is to regulate the operations of the CITD, i.e. how it is organized and functions, the responsibilities assigned it and how working groups are set up. **Semarnat does not belong to this Commission.**

5.- On April 4 2013, the **Agreement amending the Agreement of 2 May 2012 on amending, adding and repealing various provisions of the Agreement of 2 July 2004 on the adoption of the digital television transmission technological standard and the establishing of the policy on the transition to digital television transmission** was published in DOF (Annex I.4.5). This agreement postponed the start date of the gradual termination of analog transmission from 16 April 2013 to 28 May 2013, due to a lack of evidence that the 90% DTT penetration rate required to implement the analog blackout had been achieved in Tijuana, Baja California.

6.- On 20 May, **The 2013-2018 National Development Plan** was published in DOF (Annex I.4.6). Included in section VI.4., "*A Prosperous Mexico,*" were objective 4.5. "*Democratizing access to telecommunications services*" and objective 4.5.1. "*Fostering development and technological innovation in telecommunications, which broadens coverage and accessibility, thereby fostering better services and promoting competition, by seeking cost reductions and communications efficiency*." In addition, its lines of action included "*Creating a work program to ensure full implementation of the policy on the transition to digital television transmission.*"

7.- On June 1 2013, the **Agreement amending the Agreement of 2 July 2004, previously amended on 4 May 2012 and 4 April 2013, on the adoption of the digital television transmission technological standard and the establishing of the policy on the transition to digital television transmission** was published in DOF (Annex I.4.7). According to said agreement, the Federal Telecommunications Commission facilitated the delivery and installation of digital antennae and decoders in low income households in Tijuana, Baja California, in order to achieve the required DTT penetration rate in said city, as well as to fulfil the objectives of the DTT transition policy. This agreement also set new dates for the gradual termination of analog television transmission, scheduled to begin on 18 July 2013 (in order to accommodate the election of July 7 2013) and definitively conclude on 31 December 2015, at the latest. It's worth noting that analog transmission had already ceased in Tijuana, Baja California on 28 May 2013; however, on 30 May 2013, the Radio and Television Committee of the Federal Electoral Institute (*Comité de Radio y Televisión del Instituto Federal Electoral*) asked the Commission to reinstate analog transmission in Tijuana to ensure that all citizens would receive information on the electoral process from the electoral authorities, as well as from political parties, in the interests of informed voting. Under this agreement, the concessionaires and license-holders required to terminate analog television transmission were ordered to do so on either 18 July 2013 or 26 November 2013, in accordance with their location.

8.- On 11 June 2013, the **Decree amending and making additions to various provisions of Articles 6, 7, 27, 28, 73, 94 and 105 of the Political Constitution of the United Mexican States, in relation to telecommunications** was published in DOF (Annex I.4.8). This constitutional decree (also known as the Telecommunications Reform), which stipulates in its fifth transitory article that the transition to DTT shall conclude on 31 December 2015, also establishes that the federation's authorities must provide the budgetary resources necessary to ensure that sufficient digital receivers and decoders are installed to implement the DTT transition policy. **NO mention is made of the obligation on the part of the federation's authorities to provide the budgetary resources for implementing the collection, recycling and confinement or final disposal of the analog television sets that will go out of use. Nor was any mention made of the obligation to elaborate and implement an end-of-life management plan for the digital television receivers or decoders that will be distributed to ensure full implementation of the transition to DTT, in accordance with NOM-161-Semarnat-2011.**

9.- On 18 July 2013, analog transmission permanently ceased in the city of Tijuana, Baja California (the SCT had delivered antennae and decoders to disadvantaged populations to guarantee the required rate of DTT penetration).

10.- On 31 July 2013, the **Agreement amending the Agreement of 2 July 2004, previously amended on 4 May 2012, 4 April 2013 and 1 June 2013, on the adoption of the digital television transmission technological standard and the establishing of the policy on the transition to digital television transmission** was published in DOF (Annex I.4.9). Under this agreement, the concessionaires and license-holders required to terminate analog transmission were ordered to do so on 18 July 2013 (the pilot project in Tijuana) or 29 May 2014 (in Ciudad Juárez, Nuevo Laredo, Reynosa, Matamoros and Monterrey) or 26 November 2014 (in Mexico City, Guadalajara and Mexicali). According to this agreement, the analog blackouts implemented on the latter two dates were to be patterned on the pilot project.

11.- On 14 October 2013, **Official Mexican Standard NOM192SCFI/SCT12013, Telecommunications-Specifications for television sets and decoders** was published in DOF (Annex I.4.10). As this Standard observes, in light of the DTT transition process, it's necessary to establish the characteristics and/or specifications of digital signal receivers to ensure compliance with the timelines stipulated in the DTT transition policy. In effect, standards are indispensable to ensure that televisions for sale are capable of receiving, tuning and reproducing digital television signals. To that end, this Standard established the mandatory specifications applicable to television sets and decoders for sale in Mexico. This Standard therefore decreed that the sale of analog televisions in Mexico would cease on 13 January 2014.

12.- On 31 January 2014, the SCT announced **public tender 1A009000987-N3-2014** (Annex I.4.16) to adjudicate the procurement of the first 120 thousand digital television sets for the transition to DTT, despite the fact that no national program had yet been approved and promulgated for that purpose. This public tender drew on resources from the Telecommunications Social Coverage Fund (*Fondo de Cobertura Social de Telecomunicaciones*—FONCOS), originally designed by the SCT in 2004 to increase the coverage, penetration and variety of telecommunications services to low income populations in the country's rural areas. This initiative was consistent with the public policy in telecommunications established at the time by the 2001-2006 National Development Plan (*Plan Nacional de Desarrollo*—PND) and the 2001-2006 Telecommunications Social Coverage Sectoral Program (*Programa Sectorial de Cobertura Social de Telecomunicaciones 2001-2006*). According to the 20 February 2014 edition of Excélsior **http://www.dineroenimagen.com/2014-02-20/32928** (Annex I.4.17) and the 19 February 2014 edition of El financiero **http://www.elfinanciero.com.mx/empresas/sct-adjudica-abasto-de-120-mil-televisores-para-apagon-analogico.html** (Annex I.4.18), a contract was award recommendation was announced on 7 February 2014.

13.- On 26 February 2014, PAN senator Víctor Hermosillo Celada, in **arguing in favor of a point of agreement communicated to senator Raúl Cervantes Andrade, Chair of the National Senate Executive Board during Legislative Session LXII** (Annex I.4.19), urged the federal executive to publish the work program for the implementation of the policy on the transition to digital television transmission and the corresponding registry of beneficiaries prior to proceeding with the delivery of digital televisions to citizens affected by the "analog blackout." The senator observed that said program, elaborated by the SCT, was still under review at various ministries (Finance and Public Credit, Economy, Social Development, and Environment and Natural Resources). Furthermore, it substituted COFETEL's program, which consisted of distributing decoders for use with old television sets to convert analog signals into digital signals. The new program would instead distribute free digital televisions. Moreover, the senator observed that SCT approval of the delivery of these sets was "striking" given that the DTT transition program remains the object of an ongoing analysis and review process. Furthermore, the SCT opened the tender process to contract companies for the production and delivery of digital sets when the new program to ensure the continuation of the digital transition process had yet to be promulgated. Finally, the senator even wondered whether it is preferable, from a cost reduction perspective, to distribute decoders or antennae – the former policy – rather than digital televisions.

14.- On 13 May 2014, the **Work Program for the Transition to Digital Television Transmission (DTT)** (*Programa de Trabajo para la Transición a la Televisión Digital Terrestre [TDT]*) was published in DOF (Annex I.4.11). This program was the first to mention the provision of digital televisions to the population versus the provision of decoders, and it recognized that:

a) electronic waste would be generated as analog sets were discarded;
b) analog televisions will constitute a grave environmental problem unless proper management of electronic waste is ensured; and
c) actions must be taken to ensure the proper management and environmentally correct final disposal of discarded analog sets, which would require, among other measures, the elaboration of a management plan.

Quote: "*As part of the DTT transition process millions of analog television sets will no longer be used and as a result turn into electronic waste. Analog televisions are manufactured with cathode ray tube (CRT) technology and include components containing toxic materials such as Pb, Cd and brominated flame retardants, which can damage the environment unless they are collected and properly disposed of. At the same time, other components such as* ***plastics and glass have high recycling potential.*** *The proper management, partial or total disassembly and recycling of analog televisions at the end of their product cycle is of utmost importance to avoid negative impacts on the environment (e.g., electronic waste dumps) and on the health of exposed groups (such as workers without industrial safety measures). For these reasons, actions must be taken to ensure the proper management and environmentally correct final disposal of 'electronic waste' generated during the transition process to DTT."*

Pursuant to the foregoing...

*"**Objective 2**. Protect the environment from the negative impacts that may arise from the improper management and final disposal of analog televisions discarded as a result of the transition to digital television transmission and reduce the environmental impacts arising from economies in energy consumption.*

***Description of the objective:** As a result of the DTT transition process, millions of analog televisions will no longer be in use and turn into electronic garbage. Some analog television components contain chemicals that can damage the environment if they are not collected and disposed of properly. Other components like plastics and glass can be recycled. Consequently, the State must take actions to ensure that the 'electronic scrap' generated during the DTT transition process is properly collected and disposed of or, if appropriate, recycled.*

This measure also generates environmental benefits due to the savings in energy consumption attributed to the change in technology.

***Strategy 2.1** Ensure the environmentally correct management and final disposal of discarded analog television sets.*

Courses of action:

> *Develop a management plan for analog television sets discarded due to the transition to DTT which considers collection and recycling."*

In the **Work Program for the Transition to Digital Television Transmission**, the SCT and Semarnat are associated with the realization of said Management Plan. However, this work program's instruments and tools have yet to be designed, implemented and executed in accordance with the provisions of LGPGIR Article 27. The **Work Program** is a public policy without legal basis in relation to waste management in the country, inasmuch as it imposes powers and responsibilities on Mexican authorities that are not stipulated in the LGPGIR, thereby violating the principle that "an authority may only exercise the powers and responsibilities which the law permits it to exercise"; as a consequence of the foregoing, there exists a lack of security, legality and legal certainty for citizens, which leaves them in a defenseless state due to the high vulnerability of, and risk to, the human rights to health and a healthy environment.

This program is bereft of courses of action and comprehensive strategies designed to guarantee protection of the fundamental rights to health and a healthy environment provided for in the Political Constitution of the United Mexican States. On the contrary, its sole focus is ECONOMIC as it pursues the following two objectives and various lines of action:

a) developing the national production and consumption of digital television sets; and
b) reduction of energy use and subsidies.

Even when the risk and potentially grave impact on health and a healthy environment are recognized, no actions and compliance indicators are stipulated to ensure that public policy may be implemented and evaluated. This is a violation of Article 25 of the Political Constitution of the United Mexican States, which stipulates that "the State is responsible for the stewardship of national development to guarantee that it is comprehensive and sustainable and that it strengthens national sovereignty and the country's democratic system…" It is also in violation of LGEEPA Article 15 sections IV, V, VI, IX, X, XII and XVI.

The document in question includes a work schedule which stipulates that said management plan shall be in place by May 2014.

15.- On 20 May 2014, the provision of digital television sets in Mexico commenced in Nuevo Laredo.

16.- On 2 September 2014, the SCT published on CompraNet, the public tenders page of the Ministry of Public Administration (*Secretaría de la Función Pública*), **public tender 1A009000987-N73-2014** (Annex I.4.20), the second of its kind, to procure 2,532,289 digital televisions. A procurement which, one might assume, would imply, at the very least, the generation of a like quantity of electronic waste requiring the existence of infrastructure for the safe management thereof, without risk to health and the environment. This public tender as well was supported by FONCOS. Bidders were required to provide a telephone call center to answer questions about the functioning of digital televisions, as well as customer service centers to ensure timely processing of repairs, warranties (a minimum of 18 months) and replacement of defective digital sets. However, as with the preceding public tender (1A009000987-N3-2014), there was no mandatory requirement to elaborate and present a plan for the management of end-of-life digital televisions, as stipulated by RLGPGIR Articles 16, 17, 20 and 22 and the sections thereto. Moreover, in section ***VIII*** paragraph ***a*** of its normative annex, NOM-161-Semarnat-2011 specifically mentions liquid crystal and plasma screens (including television sets), as waste requiring special management and the presentation of a management plan. This NOM identifies the parties subject to the legal obligation to elaborate a waste management plan. In effect, the major manufacturers and producers, importers, exporters, retailers and distributors of products, which, upon being discarded, become waste requiring special management, are all subject to this obligation. Such management plans must observe and comply with Article 9 of said Official Mexican Standard, including all sections and sub-paragraphs thereto.

17.- On 18 December 2014, the **Decree abrogating the Decree of 2 September 2010 establishing the actions that the Federal Public Administration must carry out to make the transition to Digital Television Transmission a reality** was published in DOF (Annex I.4.12). The rationale for this abrogation: the Work Program for the Transition to Digital Television Transmission fulfils the objectives stipulated in the decree of 2 September 2010.

18.- On 14 January 2015, analog transmission ceased in Nuevo Laredo, Reynosa and Matamoros. The SCT provided digital televisions to the beneficiaries of different Sedesol social programs in these localities. No collection of analog televisions was carried out during the analog blackouts by any authority or company in these cities, thereby leaving citizens in a vulnerable and unprotected state.

19. On 25 March 2015, the Federal Institute for Access to Information and Data Protection (*Instituto Federal de Acceso a la Información y Protección de Datos*—IFAI) issued its **ruling on file no. RDA0920/15** (Annex I.4.21). In this file, the applicant had requested, via INFOMEX, Semarnat's management plan and work schedule on analog televisions, documents mentioned in the **Work Program for the Transition to Digital Television Transmission**. In response to said request, Semarnat succinctly replied – after having filed an appeal against the request – **that no actions to collect television sets would be carried out nor would a management plan be elaborated as it was under no legal obligation to do so**. To this assertion the IFAI replied that yes it was, said obligation having been established in the **Work Program for the Transition to Digital Television Transmission.** Moreover, the IFAI added that the Standing Commission of the Federal Congress (*Comisión Permanente del Honorable Congreso de la Unión*) had called on the Minister of the Environment and Natural Resources, in a public document, to report as soon as possible on the status of the elaboration of the Management Plan for discarded analog televisions and its projected publication date. In the same vein, the IFAI urged Semarnat to search its files for said Management Plan and work schedule. If, however, this search should prove fruitless, the IFAI would direct Semarnat to explain, within 5 working days, why it was not in possession of said information.

20. On 26 March 2015, the analog blackout was instituted in Mexicali in conjunction, once again, with the provision of digital televisions. However, analog televisions were not collected.

21- On 31 March 2015, the SCT published public tender **LA-009000987-N19-2015** on CompraNet to contract the procurement and delivery of 3,130,111 digital televisions (Annex I.4.22). This tender also drew on FONCOS resources. As with past public tenders, bidders were required to provide a telephone call center to answer questions on the functioning of digital televisions and at least one in-person customer service center to ensure efficient processing of warranties, repairs and digital set replacements. However, this public tender did not require bidders to comply with NOM-161-Semarnat-2011 and the RLGPGIR as parties subject to the legal obligation to elaborate a management plan for digital televisions, based on the principle of shared responsibility.

22.- On 12 May 2015, the **Agreement on the Bases for Collaboration on Protecting the Environment from the Negative Impacts that May Result from the Improper Management and Final Disposal of Analog Televisions Discarded due to the Transition to Digital Television Transmission** was signed by Semarnat and the SCT (Annex I.4.13). Said document establishes the foundations for a collaboration in which both parties coordinate resources and efforts to protect the environment from the negative impacts that may result from the improper management and final disposal of analog televisions discarded due to the transition to DTT. This document states that a management program would be publicly released within 30 working days of its signing. Semarnat would implement the program until its conclusion and issue monthly progress reports; furthermore, Semarnat would, with the SCT's support, conduct environmental education, communications and awareness campaigns. Finally, these partners would collaborate in supporting the establishment of collection centers in the vicinity of the television set delivery points. This agreement references strategy 2.1. of the DTT work program in the following quotation: *"Insuring the environmentally correct management and final disposal of discarded analog television sets"* by *"Establishing a management plan for analog television sets discarded due to the transition to DTT, which considers the collection and recycling thereof."*

Two clarifications should be made concerning said bases for collaboration:

I. To date, no budgetary resources have been earmarked to ensure implementation of said management program; nor, consequently, have any such resources been appropriated or spent.
II. Although the **Work Program for the Transition to Digital Television Transmission** had established that a management plan would be formulated for analog televisions, what in fact emerges from the present agreement is the "National Program for the Management of Televisions Discarded due to the Transition to Digital Television Transmission" (*Programa Nacional para la Gestión de los Televisores Desechados por la Transición a la Televisión Digital Terrestre*); in effect, the SCT and Semarnat are failing to fulfil the responsibilities entrusted to them, under LGPGIR Article 28, paragraph 1 section III, to formulate a management plan, despite official statements that these agencies would be charged with doing so.

23.- On 24 June 2015, Semarnat and the SCT published the **National Program for the Comprehensive Management of Television Sets Discarded due to the Transition to Digital Television Transmission** (*Programa Nacional para la Gestión Integral de los Televisores Desechados por la Transición a la Televisión Digital Terrestre*) (Annex I.4.14). Based on the content of this document, the program is based on a model of comprehensive management of analog televisions, in which the latter is processed as electrical and electronic devices waste. The Program considers the transfer, collection, transport, storing, recycling and final disposal of this waste. Moreover, it indicates that it is a mixed private-public sector endeavour, as well as a collective and national program. It also describes the allocation of activities and actions between the three levels of government, among others actors. However, there are legal implications in the change in terminology from **"MANAGEMENT PLAN"** to **"NATIONAL PROGRAM."** What is implied is a change from the authorizing and verifying of an LGPGIR management and control tool to the creation of a PUBLIC POLICY, for which no budgetary resources have as yet been appropriated for its implementation. This means that it cannot be applied and, consequently, it puts at risk both the environment and the health of citizens, who are left in a defenseless state.

This uncertainty in relation to the obligations inherent to a management plan vs. those of an unfunded public policy, is further aggravated by the opacity and inconsistencies of certain legislation, specifically official Mexican standards, bearing on the classification of electronic waste from analog televisions. Whereas, according to Official Mexican Standard NOM-161-Semarnat-2011 such waste is under the jurisdiction of the states and classified as waste requiring special management in its entirety, NOM-052-Semarnat-2005, another Official Mexican Standard of equal legal standing, classifies waste containing lead and brominated flame retardants as hazardous waste. Said opacity and confusion implies that there have been changes in powers and responsibilities and waste management requirements, which is a situation that does not provide Mexican society with security and legal certainty; this confusion is so delicate that the statements of certain authorities contradict those of others. In effect, while some consider analog TV waste to be waste requiring special management, others consider it hazardous waste.

Electronic waste from analog televisions must be considered hazardous waste and managed accordingly since list no. 5 of NOM 052-Semarnat-2005 indicates that waste generated during the production of the coating on electronic tubes and welding wastes from the production of electronic circuits containing lead or other metals in Table 2 of this Official Standard are subject to particular management requirements. In Table 2 of NOM 052, which lists toxic substances and the maximum permissible limits above which they shall be considered CTEP listed environmental toxins, one reads that lead (CAS number 7439-92-1) has an MPL2 of 5.0 mg/L. In this connection, the study enclosed in Annex II.1.4 of this submission (**"Characterization of Lead Leachability from Cathode Ray Tubes using the Toxicity Characteristics Leaching Procedure")** concludes, after the processing and analysis of 36 CRTs, that the average lead concentration per CRT is 18.5 mg/L, which exceeds the regulatory limit of 5.0 mg/L. In conclusion, CRTs must be considered environmentally toxic hazardous waste, subject to particular management requirements. Moreover, LGPGIR Article 31, which specifies which types of hazardous waste require a management plan, identifies, in section VII, additives that may contain mercury, cadmium or lead. In section X, it identifies persistent organic compounds.

Moreover, although it is true that monitors containing cathode ray tubes (including television sets) are listed in NOM-161-Semarnat-2011 as waste requiring special management in accordance with a management plan, the LGPGIR specifically lists these components "inside" television sets as hazardous. Furthermore, if we add the weight of the components containing lead in an analog television – specifically the CRTs – to that of components that contain persistent organic pollutants – such as the plastic housing and the circuit board (see Table 3 of Annex II.1.2.) – this equals 91.39% of the average total weight of an analog set (see Table 4 of Annex II.1.5). In conclusion, analog television waste should be considered hazardous waste.

Having made this assertion, we now refer to LGPGIR Article 29, which stipulates that management plans for consumer products that become hazardous waste, once they are discarded, must consider the following issues, among others:

I. The procedures planned for the collection, storage, transport and dispatching of such waste for recycling, processing or final disposal.
II. The strategies and media used to communicate to consumers the actions they must take to return listed products to vendors or to the appropriate collection centers, as the case may be.
III. The procedures used to inform consumers of the precautions they must take, if necessary, to prevent or reduce risks when handling products that they will return to vendors.
IV. Identification of who is in charge of the management plan and of the parties who will participate in its formulation and implementation.

In reality, the implementation of the **National Program for the Comprehensive Management of Discarded Television Sets** falls well short of fully satisfying these requirements throughout the nation.

24. On 14 July 2015, analog transmission ceased in Tecate and Ciudad Juárez in the same manner as in the communities immediately preceding them. In Ciudad Juárez, analog television collection centers were set up for the first time, albeit without any budget appropriation, even for the National Program, without any training program for the personnel involved, nor any environmental communications strategy. Nor were transport, storage, recycling, disposal or safe confinement processes implemented to ensure the proper management of this analog TV waste. Local authorities were NOT given the resources to operate collection centers.

25. On 30 Jul 2015, SCT published public tender **LA-009000987-T67-2015** (Annex I.4.23) on CompraNet to contract the procurement and delivery of 3,599,964 digital televisions. According to this document, the process will be funded with 2015-2016 budget resources in accordance with the SHCP multi-year authorization (folio 2015-9-411323). This public tender requires bidders to establish a business relationship between a provider of in-person customer service centers and the manufacturer of digital televisions to deal with repairs, warranties and replacements. In addition, this public tender requires the bidder to maintain a national landline telephone number to answer calls on the functioning of digital televisions and/or product defects. However, as with all preceding public tenders, compliance with NOM 161, the LGPGIR and the regulations thereto were not contemplated. It's important to clarify that as the Transition to DTT is a national program pursuant to a constitutional decree, the federal government is thereby implicated as a "distributor" (Article 3 paragraph 3.3 of **NOM 161**) and as such is legally required to elaborate a mixed public-private, collective and national management plan for the digital televisions procured via public tenders, in accordance with the principle of shared and differentiated responsibility.

26.- On 26 August 2015, the IFT announced, via **Press Release No. 66/2015** (Annex I.4.24) that as of 24 September 2015 analog television transmission would cease in Monterrey and Sabinas Hidalgo (Nuevo León), Bahía Asunción, Bahía de Tortugas, Guerrero Negro, San Ignacio and Santa Rosalía (Baja California Sur) Cuencamé (Durango) and San Nicolás Jacala (Hidalgo). The collection centers for said localities are listed at http://www.depositatutele.gob.mx/. However, no federal budget was appropriated for said collection centers. Consequently, these localities were not provided with the resources to operate them, to ensure proper storage or to produce environmental education materials informing the public of the harmful effects to health and the environment from improper management of discarded analog televisions.

27.- On 24 September, the "analog blackout" was completed in Monterrey and Sabinas Hidalgo (Nuevo León), Bahía Asunción, Bahía de Tortugas, Guerrero Negro, San Ignacio and Santa Rosalía (Baja California Sur), Cuencamé (Durango) and San Nicolás Jacala (Hidalgo).

28.- On 1 October 2015, the IFT announced, during a plenary meeting, via **Press Release no. 81/2015** (Annex I.4.25) that the analog blackout would be extended to Torreón (Coah.), Gómez Palacio (Durango), San Luis río Colorado (Sonora) and Cuernavaca (Morelos) on 29 October 2015 at 12:00 am. The collection centers in these localities are listed at http://www.depositatutele.gob.mx/. Once again, no information was released concerning the management, final disposal or status of the analog TV waste collected. Nor was information publicly released concerning training programs for collection center operators. Finally, the strategies and awareness campaigns regarding the risks of improper management of discarded analog televisions are unknown. Each local government had to defray the costs of their respective collection centers as no federal budget was appropriated for this purpose.

29- On 20 October 2015, the SCT published public tender no. **LA-009000987T77-2015** (Annex I.4.26). This was the first public tender to contract "a comprehensive collection service, including the picking up of analog TVs already collected in authorized and installed collection centers, as well as the transport, disassembly, recycling and final disposal of analog televisions discarded as a result of the Transition to Digital Television Transmission (DTT)," with the costs to be covered by budget line 33903. This budget line is described in the 2015 Expenditure Budget of the Federation (*Presupuesto de Egresos de la Federación 2015*) as follows: *Professional, scientific, technical and comprehensive services, particularly the latter – An appropriation for covering outlays made when agencies and entities contract with physical or moral persons to provide diverse services, which cannot be specifically disaggregated in terms of the specific expenditure lines identified under Chapter 3000 – General Services – as they entail a combination of related services, the provision of which is stipulated in an integrated manner and which in terms of total cost is less expensive to the State.* The fact that resources were taken from this budget line indicates that no specific budget resources were planned and appropriated to cover the costs pursuant to ***Strategy 2.1*** *Ensuring the environmentally correct management and final disposal of discarded analog televisions* (see the **Work Program for the Transition to Digital Television Transmission** released on 13 May 2014).

Said public tender contained the following flaws:

- It only contemplates setting up collection centers in the state capitals of the country's five regions – in addition to picking up the analog television sets warehoused in the authorized collection centers previously established by the SCT and Semarnat. These centers may be located by consulting www.depositatutele.gob.mx and www.gob.mx/semarnat. Both websites will be continually updated with the gradual extension of the analog blackout. This distribution of collection centers means that citizens who do not live near the collection centers in state capitals or the collection centers listed on www.depositatutele.gob.mx lack access and are left in a defenseless state. Furthermore, if one considers the fact that analog-only television sets are used by the most disadvantaged sectors of the population, one can easily see how taking discarded sets to a collection center may be an issue for such citizens in terms of transportation and expense, which would make selling them to scrap dealers a more attractive and convenient option.
- This public tender stipulates that the deadline for bids is 3 November 2015, that the contract award recommendation will be announced three days later on 6 November, that on 9 November, the contract will be signed with the successful bidder(s) and on 10 November, the successful bidder(s) will have already installed the collection centers in locations in the country's 32 states. Neither the identity nor the number of these locations is specified. It would be impossible for any successful bidder to install a network of collection centers of this magnitude in 4 days and also successfully implement a training program for the operators in charge of handling the televisions at each stage of the process.
- The maximum acceptable bid was set at 10 million pesos for the entire country and the maximum payment per kilo of television at 8.5 pesos. Given these parameters, a successful bidder would be able to manage a total of no more than 37,193.59 televisions, i.e., just 0.1082% of the total number of analog televisions in Mexico or 0.1799% of the analog-only televisions, according to INEGI's 2014 MODUTIH survey (see **chart no. 1** (Annex I.4.27). These quantities are not remotely sufficient to deal with the issue at hand. If one takes the SCT's maximum reference price per zone (8.50 pesos per kilo) and considers that a comprehensive collection service would – in addition to picking up analog sets already collected in authorized and installed collection centers – include the transport, disassembly, recycling and final disposal of discarded analog televisions, the total amount required to process every analog television in the country would be 9,244,848,594.10 pesos or 5,558,798,031.57 pesos should said processing be restricted to analog-only television sets. This does not include other related collection service operations, such as weighing, labeling, identification and wrapping.
- The document specifies that the contracted services will be provided from the day following the signature of the contract until 31 December 2015, the termination date of the analog blackout as stipulated by constitutional decree. It is obvious that although the analog blackout is being phased in gradually in different locations via a

process that will continue until 31 December 2015, this process will only cover a fraction of the country's total population. After all, people will discard their analog televisions gradually over the medium term. This is a process that will mostly occur after the national analog blackout has been completed and not before. However, this public tender does not stipulate the provision of post-analog blackout collection centers.

- This public tender requires the use of methodologies to ensure the recycling of at least 85% of analog television sets (by weight), including the CRTs. However, no detailed description of the leaded glass recycling process is required to demonstrate compliance with environmental law and international treaties. Nor is proof required that lead will not leach in any possible future use (and not just during the manufacturing and recycling process) which may be proposed for the recycled product (see Annex I.5.2). Nor are bidders required to demonstrate their installations' capacity to receive the volumes involved in these specific processes. In the scientific and electronic waste recycling industry literature on CRT recycling there is wide general agreement regarding the complexity and problematic nature of this issue. In effect, CRT recycling (whether in terms of applications or processes) is either not environmentally or socially safe, or it is not economically viable or is in little demand – glass to glass recycling being a notable example. Consequently, this type of waste represents major challenges in terms of international research and development (see Annexes I.4.35, I.4.36 and I.4.55). This type of glass is commonly abandoned or improperly disposed of in many countries (see Annexes I.4.37, I.4.38, and I.4.39).
- In light of the requirement to recycle 85% of television sets (by weight) and the actual weight of CRTs, this public tender does not allow for temporary confinement of leaded glass in a specialized single purpose landfill, a process which is internationally recommended and which would permit the future safe and viable recycling of this type of glass, using a known but as yet uncommercialized technology. Such temporary confinement infrastructure does not exist in Mexico. Nor does this requirement permit the less desirable but environmentally safe option of the permanent confinement of leaded glass as hazardous waste.
- This public tender also requires that bidders enclose documents certifying their compliance with the following standards:

    a. NOM-001-Semarnat-1996, Which establishes the maximum permissible limits of pollutants in wastewaters discharged into bodies of water or properties under national jurisdiction. **Although this standard does apply to bidders, the successful bidder would be unable to present certification of compliance as it is not included in the list of authorized CRT recycling operators published by Semarnat (see fact #40 below).**
    b. NOM-052-Semarnat-2005, Which establishes the characteristics of hazardous wastes and the procedures for the identification, classification and listing thereof. **This standard is not applicable to bidders.**
    c. NOM-053-Semarnat-1993, Which establishes the extractive testing procedure for determining the constituents that render a waste hazardous due to their toxicity in the environment. **Although this standard is applicable to bidders, the successful bidder would be unable to present certification of compliance as it is not included in the list of authorized CRT recycling operators published by Semarnat t (see fact #40 below).**
    d. NOM- 161- Semarnat-2011, Which establishes the classification criteria for Waste Requiring Special Management, determines which types of waste are subject to a Management Plan, establishes a list of said wastes and stipulates the procedure for the inclusion or exclusion of wastes therein, and identifies the elements and procedures required to formulate management plans. **This standard is not applicable to bidders.**

30.-On 28 October 2015, as a complement to the services contracted via public tender **LA-009000987-T77-2015**, public tender **LA-009000987-T79-2015** was published on CompraNet (Annex I.4.29) "to contract comprehensive services for the weighing, labeling, identification and wrapping in plastic required during the pickup of previously collected analog televisions. Moreover, the successful bidder shall provide the installations and personnel to operate said installations, as well as to administer and coordinate this program." This contract, as with the previous public tender, will be defrayed by budget line 33903. In addition, this public tender indicates that the successful bidder(s) must set up collection points in the state capitals of the country's five regions – in addition to picking up the analog television sets warehoused in the authorized collection centers previously established by the SCT and Semarnat. These centers may be located by consulting www.depositatutele.gob.mx and www.gob.mx/semarnat. Both websites will be continually updated with the gradual extension of the analog blackout. The maximum budget appropriated to contract these services in the entire country is in the amount of $4,500,000.00, the minimum in the amount of $1,800,000.00. As with the terms and conditions of public tender **LA-009000987-T77-2015**, services shall be provided from the day following the signing of the contract until 31 December 2015. Bid proposals will be opened on 6 November, the contract award recommendation will be announced on 10 November and the corresponding contract shall be signed on the 11th day of the same month. The collection centers must be installed on the following day. The successful bidder shall receive, register, weigh, record and label the analog televisions; in addition, the successful bidder will present a discount voucher to each person who turns in his or her analog television. Said voucher will be worth a 20% discount in electricity charges, to be authorized by the CFE upon payment of the next bimonthly electricity bill. In addition, the successful bidder must turn over the consolidated database, in writing, of the information recorded during the provision of services to the SCT upon termination of services.

31.- On 29 October analog transmission ceased in Cuernavaca, Torreón, Gómez Palacio and San Luis Río Colorado. The relevant local collection centers were publicized at www.depositatutele.com. The partnership agreements between the federal government, states and municipalities were not made public, except in the case of Coahuila. Nor was information released concerning the federal resources appropriated for picking up already collected television sets.

32.- On 29 October 2015, a **second clarifications meeting was held concerning public tender LA-009000987-T77-2015** (Annex I.4.30), with the participation of three potential bidders. The tendering authority made the following clarifications:

- Collection centers are to be set up in each state capital of the region where a successful bidder has been awarded a contract. The analog televisions stored in the authorized collection centers previously installed by the SCT and Semarnat are to be picked up as well. The location of said collection centers may be consulted at www.depositatutele.gob.mx and www.gob.mx/semarnat. Both websites will be continually updated as the analog blackout is gradually extended.
- It was reiterated that at least 85% of the materials of each analog television processed must be recycled, including the cathode ray tubes and that this percentage applied to all brands and models.

33.- On 30 October, a **second clarifications meeting was held concerning public tender LA-009000987-T79-2015** (Annex I.4.31). Among the clarifications: wrapping would not be part of the required services; and testing would be conducted, requiring bidders to install test collection modules. Furthermore, it was announced that bid proposals would be opened on 9 November.

34.- On 6 November 2015, an announcement on **bid submissions and bid openings for public tender LA-009000987-T77-2015** was published on CompraNet (Annex I.4.32). Said announcement listed the bids of three companies: REIND QUIMICA S. DE R.L. DE C.V., E-SCRAP DE MÉXICO SAPI DE CV, AND ECOLSUR S.A. DE C.V., none of which are authorized by Semarnat to *recycle cathode ray tubes and leaded glass from discarded monitors and television sets* according to the listing in **Recycling of Hazardous Industrial Waste, Version of 31 August 2015**, which may be found on Semarnat's official website http://tramites.semarnat.gob.mx/images/stories/menu/empresas/rubro1.pdf. Only REIND QUIMICA S. DE R.L. DE C.V. appears on said listing, with an authorization for *recycling oily water from oil well drilling, oil well service water and used caustic soda solutions*, but not for the recycling of cathode ray tubes and leaded glass from monitors and televisions. This contradicts the requirements stipulated in the public tender's technical annex, which specifies that successful bidders must "apply recycling methodologies to ensure the reutilization of at least 85% of the materials, by weight, of the analog televisions to be processed (including the cathode ray tubes)" and that "analog televisions must be disassembled in a manner that ensures the maximum recycled value and use of their components." Finally, this document also indicated that a contract award recommendation would be announced on 12 November 2015.

35.- On 6 November 2015, the IFT issued a **press release** (Annex I.4.33) announcing that, on 11 December 2015, 27 stations would cease analog television transmission in localities in five states: San Felipe (BC), Parras de la Fuente, Ciudad Allende and Saltillo (Coahuila), Celaya and León (Guanajuato), Querétaro (Querétaro) and Caborca and Agua Prieta (Sonora).

36.- On 9 November 2015, the scheduled date for the opening of bid proposals for public tender LA-009000987-T79-2015, an **official announcement was made on the submission and opening of proposals** (Annex I.4.34), which rescheduled the opening of bid proposals to 18 November. Also announced was the elimination of the 20% discount on electricity bills.

37.- On 11 November, the Submitters received documents from Semarnat in response to **public information request 0001600309715** (Annex I.4.46), made via INFOMEX on 8 October, in which they requested information on the following matters:

a. the strategies and awareness campaign in relation to the risks of improper management of analog televisions;
b. the guidelines for the comprehensive management of analog televisions;
c. the agreements with state governments on the management of analog televisions;
d. information on the temporary warehouses;
e. the terms of the public tenders for the collection, transport, warehousing, dismantling, recycling and/or confinement of analog televisions and their components;
f. the budget appropriations and the allocation thereof between the three levels of government;
g. the training program for the persons operating the collection centers;
h. the operating guidelines for the collection centers;
i. the contracts signed with private companies on the management of analog televisions.

Six documents were received in response to our information request. We will now comment on three of them, having already analyzed the other three above. These documents are enumerated below in accordance with the subparagraphs to which they were given as a response:

a. **Semarnat's notification to the applicant** (Annex I.4.48). The key passage in this letter reads: "*In response to your information request, the **General Directorate for Environmental, Urban and Tourism Promotion** (Dirección General de Fomento Ambiental, Urbano y Turístico*—DGFAUT*), would like to inform you regarding the awareness campaign that a webpage was created where you may find all of the information on television collection and recycling, as well as the associated risks occasioned by the DTT transition program. Simply consult: www.depositatutele.gob.mx.*" As may be seen, no strategy or any vast awareness campaign concerning the risks of improper management of analog television sets is presented on said website. The same is true of the photographs enclosed with the **printed information materials published by the IFT** in relation to the DTT program (Annex I.4.50).

b. **Guidelines for the comprehensive management of analog televisions** (Annex I.4.51). Said guidelines include measures that neither the municipalities nor the state governments are able to implement, as they lack the time and human and economic resources required. In effect, they received no training for collection center operators, no packaging materials and no communications campaign materials.

c. **Semarnat-Coahuila DTT Coordination Agreement** (*Convenio de Coordinación TDT Semarnat- Coahuila*) (Annex I.4.28). The object of said agreement is to ensure that "Semarnat," the "STATE EXECUTIVE" and the state's municipalities implement the "DTT Program" within the purview of their respective jurisdictions. The proposed agreement contains the following evident irregularities:

- The proposed coordination agreement with the State is not consistent with either the **National Program for the Comprehensive Management of Television Sets Discarded due to the Transition to Digital Television Transmission** or the **Work Program for the Transition to Digital Television Transmission (DTT)** with respect to the allocation of activities among the different actors. Specifically, whereas the National Program stipulates that Semarnat is responsible for signing contracts with authorized recycling companies on the transport, recycling and processing of hazardous waste and waste requiring special management, Article 2 section VIII of the Agreement states that it is the State government's responsibility to sign contracts with authorized recycling companies on the installation of temporary warehouses and the transport, recycling and processing of hazardous waste and waste requiring special management, in accordance with local laws. Moreover, "Semarnat," via the "Responsible Unit", must abstain from intervening in contract adjudication procedures, agreements or any other legal instrument signed by the State and/or its Municipalities to execute the Programs and Guidelines which are the object of this "AGREEMENT."

- Moreover, the Agreement establishes that the state executive is responsible "for verifying that the recycling company (or companies) participating in the transition process from analog television to digital television comply with all authorizations required to carry out operations involving waste requiring special management." However, there is no mention of compliance with the authorizations required for operations in relation to hazardous waste in the form of CRTs, as per NOM 052.

- The Agreement will apply from 15 September 2015 to 28 November 2015, which, the Agreement states, is "*a period during which the 'DTT Program' will be completed in its entirety*." However, the IFT's communiqué of 6 November announced, among other things, that on 11 December 2015, 8 stations will cease analog television transmission in Parras de la Fuente and Saltillo, Coahuila. This suggests that the rest of the state of Coahuila will retain analog transmission until, one infers, 31 December 2015. Furthermore, common sense suggests that analog televisions will continue to be discarded as waste for months after this date.

- The Coordination Agreement does not specify any funding appropriations by Semarnat to implement the planned activities. The states, to say nothing of the municipalities, lack sufficient fiscal resources (whether appropriated or not) to assume this agreement, particularly towards the end of their annual budget cycles. As a consequence, the Agreement's guidelines are inoperable. This is a violation of **LGEEPA** Article 11 sections II and VIII, and Article 12 sections I, II, III, IV and VII, which establish the requirements that must obtain before coordination agreements between the federal government and the states and municipalities may be signed.

- The Agreement violates the guiding principle of waste minimization stipulated by the LGPGIR by indicating that "The analog blackout entails the discarding of all television sets not equipped to receive digital signals" without providing the option of their continued use through the installation of a signal decoder or subscription to pay television services.

- Article 9 indicates that the Agreement may be terminated in advance for any of the following reasons: fulfilment of the object of the Agreement; mutual agreement of "the parties"; and unforeseen circumstances or *force majeure*. Article 10 states that the only grounds for canceling the Agreement "is failure to fulfil the obligations contracted therein." It is paradoxical that there no penalties exist for breach of contract and that the simple agreement of the parties shall suffice to terminate the Agreement. These elements suggest that said document was only signed on a pro forma basis without any intention to operate a real management plan that could mitigate the potential effects on the environmental health of the country's entire population due to pollution from the release of up to 67,319 tons of lead oxide (Annex II.1.1).

It is clear that the SCT's public tenders LA-009000987-T77-2015 and LA-009000987-T79-2015 are not consistent with Semarnat's proposed coordination agreements with state governments in terms of the activities assigned to different actors. Said Coordination Agreement would also result in duplication of activities.

As for subparagraphs **a, b, f, g, h and i**, no response whatsoever was provided. One may therefore infer the following:

- No environmental communications program has been launched by Semarnat, the SCT or the IFT.
- Semarnat has made no budget appropriations, nor has it signed contracts with private companies to manage analog televisions, as is apparent in 2015's **first two quarterly reports on the resources appropriated for**

the transition program to digital television transmission (Annexes I.4.52 and I.4.53). The program for managing discarded analog televisions is only mentioned in subparagraph VII, on page 16 of the second quarter report, without, however, any mention of funding appropriations.

38.- On 18 November, the IFT announced in a **press release** that 67 stations would cease analog transmission on 16 December 2015 in different communities in the states of Baja California, Jalisco, Michoacán, San Luis Potosí, Tamaulipas, Coahuila and Sonora (Annex I.4.40). On 26 November 2015, said agreement, which was published in **DOF** (Annex I.4.44), detailed the IFT's information and awareness actions on the DTT policy. Specifically, it explained that the IFT would launch a generic national campaign on digital TV receivers and the adjustments required to receive DTT, as well as targeted local campaigns to inform the public of the location, date and time of the end of analog transmission in given communities. Regrettably, no information was provided on the risks to health and the environment of improper management of analog TV waste.

39.- On 19 November, the IFT announced in a **press release** that 28 stations would cease analog transmission on 17 December 2015, in different communities in the states of Sonora, Hidalgo, Tlaxcala, Puebla, Mexico, and the Federal District (Annex I.4.42). On **27 November**, this same information was published in DOF as the **Agreement through which the plenary of the Federal Institute of Telecommunications establishes the termination of analog transmission in the areas served by various television stations in Caborca and Agua Prieta, (Sonora), Puebla (Puebla), Tlaxcala (Tlaxcala), Pachuca (Hidalgo), the state of Mexico and the Federal District** (Annex I.4.49). This document details the IFT's information and public awareness actions pursuant to Article 16 of the DTT policy, which consist of conducting a generic national campaign on the benefits of DTT and local campaigns providing specific information on the analog blackout (hour, date, locations). **NO information was included on the risks to health and the environment of improper disposal of analog television waste**. In addition, it was announced that there would be follow-up on the partnerships formed with department stores and electronic stores to provide these retailers with information on the benefits of DTT and the key dates in the process, as well as information on the required digital receivers, through training and awareness activities. The object of these partnerships: to enable retailers to contribute to ensuring the public's preparedness for the transition. **Partnering with department stores on the procurement of digital TV receivers encourages consumption. As such, it is another example of the failure to respect the principle of waste minimization in accordance with Mexican environmental law.**

40.- On 20 November, **the contract award recommendation for public tender LA-009000987-T77-2015** was published (Annex I.4.41). The object of this process was to contract a comprehensive collection service, including the picking up of analog TVs already collected in authorized and installed collection centers, as well as the transport, disassembly, recycling and final disposal of analog televisions discarded as a result of the Transition to Digital Television Transmission. The SCT's General Directorate for Material Resources (*Dirección General de Recursos Materiales*), with support from Semarnat, assessed the proposals from the following bidders: REIND Química, S. de R.L. de C.V., E-ESCRAP México, S.A.P.I. de C.V., and ECOLSUR, S.A. de C.V. Based on these assessments, the contract was awarded to bidder REIND Química, S. de R.L. de C.V. in order to fulfil the object of the public tender in terms of its five different parts. REIND Química, S. de R.L. de C.V. will operate in conjunction with TRANSNEC S. de R.L. de C.V., Centro Integral de Manejo Ambiental S.A. de C.V., Planta Incineradora de Residuos Bio-Infecciosos S. de R.L. de C.V., and Soluciones Ambientales Carriaga S.A. de C.V. What the recycling process for analog televisions will be or the final disposal thereof remains unknown.

As may be seen in the contract award decision, the approved costs per kilo are less than the maximum permissible amount and translate into the capacity to recover 0.135% of the analog televisions in Mexico or 0.224% of the country's analog-only televisions – see **chart 2** (Annex I.4.47). In either case, such quantities are insufficient to address the issue. Furthermore, the country's enormous problem in terms of the informal recycling of electronic waste was not considered.

41.- On 24 November, the final expected analog blackout was announced for 22 December, at which time 56 stations would cease analog television transmission in communities in the states of Chihuahua, Coahuila, Durango, Quintana Roo, San Luis Potosí, Sonora and Zacatecas (Annex I.4.43).

42.-**The contract award recommendation for public tender LA-009000987-T79-2015** was published on 24 November. (Annex I.4.54)

43.-On 2 December 2015, 8,253,173 digital television sets were distributed to beneficiaries of different Sedesol social programs (see http://sct.gob.mx/comunicaciones/transicion-a-la-television-digital-terrestre/). Consequently, 1,746,827 sets remain to be distributed out of the planned total of 10,000,000 established in the National Program for the Comprehensive Management of Television Sets Discarded due to the Transition to Digital Television Transmission.

VII. (sic) **VIOLATIONS:**

FIRST- **The policy on the transition to digital television in Mexico and the programs thereto – specifically, the Work Program for the Transition to Digital Television Transmission (DTT) and National Program for the Comprehensive Management of Television Sets Discarded due to the Transition to Digital Television Transmission – are characterized by the following: failure to appropriate sufficient public resources for the**

management of analog television sets; confusion re the responsibilities of different agencies; contradictory and inconsistent policies in different ministries; the overstepping of authority; noncompliance with the duly constituted legal framework; lack of compliance indicators and policy evaluation tools; noncompliance with environmental law and lack of capacity to conduct assessments; technical feasibility issues; and lack of recycling and waste disposal infrastructure for analog television sets. All of the foregoing generates uncertainty, compromises the human right to a healthy environment and violates the guiding principles of environmental policy. All of the foregoing is in violation of the Political Constitution of the United Mexican States, LGEEPA, the LGPGIR and the regulations thereto, the General Planning Act, the General Health Act and NOM-161-Semarnat -2011.

SECOND- The Political Constitution of the United Mexican States affirms that it is the responsibility of the State to ensure comprehensive and sustainable national development. This, moreover, is also the guiding principle of the General Social Development Act, as well as, in theory, the National Development Plan, in accordance with the Planning Act. However, the thrust of the digital TV transition policy in Mexico is in the opposite direction: **economic considerations are prioritized over the right to a healthy environment and the right to health**, which is in violation of the General Health Act, LGEEPA's guiding principles, the General Planning Act and the General Social Development Act.

THIRD- **In the transition policy to DTT in Mexico, there exists a lack of legal certainty in relation to the enforcement of regulatory standards:**

- Confusion arises from the lack of clarity and consistency in legislation, specifically regarding the classification of electronic waste from analog television sets in Official Mexican Standards. This confusion implies changes in the obligations, powers and conditions pertaining to the management of said wastes, thereby creating an unclear situation which does not provide Mexican society with security and legal certainty.
- Confusion exists regarding the legal implications of the change in terminology from **"PLAN DE MANEJO"** (Management plan) to **"PROGRAMA NACIONAL"** (National Program). The implication is that a change has been made from the authorizing and verifying of an instrument for management and control, pursuant to the LGPGIR, to the creation of PUBLIC POLICY.
- Mexico has yet to implement the specific action plans set forth in the **National Plan to Implement the Stockholm Convention on Persistent Organic Pollutants** (*Plan Nacional de Implementación del Convenio de Estocolmo sobre Contaminantes Orgánicos Persistentes*) (Annex I.4.45), which provide for, among other measures, strengthening the legal and institutional framework, research, monitoring and evaluation in relation to POPs, and communications, awareness and training efforts aimed at the public. Nor, in the transition to digital television, has Mexico taken account of Article 7 paragraph 3 of the Stockholm Convention, which stipulates the integration of national enforcement plans for persistent organic pollutants.

All of the foregoing is in violation of Article 7 of the Stockholm Convention, Official Mexican Standards NOM-161-Semarnat-2011 and NOM 052-Semarnat-2005, the LGPGIR and the General Planning Act.

FOURTH- **The DTT transition policy in Mexico undermines the effective enforcement of environmental law** in relation to:

- The principle of the common but differentiated responsibilities of the legally bound parties in relation to waste management, which concerns management of both the analog television sets going out of use due to the transition to digital TV and the future management of digital television sets distributed by the program. In strict compliance with the law, the federal government is a legally bound party in both cases.
- Environmental violations by the company awarded public tender T77. Said company failed to obtain an authorization as a recycler of CRTs, as per the requirement stipulated in T77's technical annex.
- Its non-compliance with the principle of preventing and minimizing waste generation.
- The ineffectiveness of the **National Program for the Comprehensive Management of Television Sets Discarded due to the Transition to Digital Television Transmission**, which is not commensurate with the magnitude of the issue.

The foregoing are violations of the LGPGIR.

FIFTH- **The implementation of the digital TV transition policy in Mexico violates the right to protection of public health and the right to a healthy environment** as it does not include a broad national communications program to warn the population of the harm to health and the environment from the improper management of analog television sets.

In light of the foregoing, the public authorities of the SCT, Semarnat, Sedesol, IFT and others, which have ordered and executed actions related to the transition to digital television transmission, have done so without considering environmental criteria that comply with, guarantee and protect the human right to a healthy environment in accordance with the provisions of our Constitution, specifically Articles 1 paragraph three, and 4, the provisions of the International Conventions described herein to which Mexico is a party, and the substantive and procedural national legislation cited above; moreover, in seeking to implement development and infrastructure projects without legal certainty for citizens, thereby leaving the Mexican population defenseless, they are ordering and undertaking actions that violate and are contrary to fundamental rights in the Mexican state, with high risks for human health, the health of the ecosystem and its

constituent elements, not only in Mexico but in neighbouring countries as well; and finally, the aforementioned actions disrupt the rule of law, thereby occasioning environmental liabilities from damages, in accordance with the Federal Environmental Liabilities Act, Articles 5 paragraph one, 10 paragraphs one and two, 12 paragraph one, 13 paragraphs one and two, 24 paragraph one, 25 paragraph one, 31 paragraph one, 52 paragraphs one and two, and 54 paragraphs one and two.

VIII. PROMOTION OF EFECTIVE ENFORCEMENT OF ENVIRONMENTAL LAW:

Every paragraph, article, section, table and chapter from the applicable international conventions and Mexican legislation cited herein has been included in Annex I.3.13 to facilitate the Secretariat's analysis, as well as the opening of a factual record pursuant to NAAEC Articles 14, 15 and 45, if appropriate.

IX. COMMUNICATIONS WITH THE COMPETENT AUTHORITIES (see all I.6 annexes)

X. ALLEGED HARM TO PERSONS OR ORGANIZATIONS

Based on the results of the annual survey of the Module to Study the Availability and Use of Information Technologies in Households (*Módulo sobre disponibilidad y uso de tecnologías de la información en los hogares*—MOUDITH), conducted in 2014 by the National Geography and Statistics Institute (*Instituto Nacional de Geografía y estadística*—INEGI), we estimate that in 2014 the total number of analog televisions in Mexico was 34,384,915, of which 20,675,168 were analog-only, i.e. sets that will become obsolete with the analog blackout. A detailed explanation of this estimate may be found in the document **Estimate of the lead oxide contained in analog televisions in Mexico** (Annex II.1.1). Based on the experience of other countries, those with analog-only televisions belong to the most economically vulnerable populations. It is they who will be directly affected by the blackout. Part of this population is receiving free digital televisions as beneficiaries of Sedesol programs. Approximately 10 million free digital sets will be distributed in the country.

Once the transition to digital television transmission has been completed, it's difficult to ascertain what owners of analog-only TV sets will decide to do with them: will they subscribe to a cable or satellite television service or will they purchase decoders in order to continue using their sets? Will they keep them or sell them to a scrap dealer or throw them in the garbage? It may be inferred, however, from the donation of digital televisions by Sedesol and from the costs of purchasing a decoder or of subscribing to a pay-TV service, that between 34.4 and 20.7 million analog TVs will probably be disposed of in coming years, whether in whole or in part (i.e., the parts with no commercial value). Although this will be a gradual process, there will be a very significant spike with the implementation of the analog blackout. We lack the data to make accurate estimates in this regard. According to the figures published by the Government of Mexico, approximately 40 million televisions will no longer be in use.

Our concerns about harm center on the public health implications arising from the improper management, disposal and disassembly of these devices.

Analog televisions contain two pollutants requiring attention:

1.- Plastic components with brominated flame retardants,

Brominated flame retardants (BFRs) are synthetic additives that are mainly used to flame proof electrical devices and home appliances. They are found, for example, in the plastic housing of television sets. The properties of some BFRs are typical of persistent organic pollutants – they are ubiquitous and, due to their lipophilic and persistent properties, they bioaccumulate in living organisms and biomagnify. Some polybrominated biphenyls (PBBs) have harmful health effects. As do hexabromocyclododecanes (HBCDs). These substances are listed in Annex A of the **Stockholm Convention** (Annex I.3.12), which Mexico signed on 23 May 2001 and ratified on 10 February 2003. They are also regulated under the Basel Convention (Annex I.3.1), which lists them as hazardous waste in Annex VII-3180. Cross-border movements of these substances are regulated when their concentrations in the products containing them exceed 50 mg/kg. The document **Guidance on best available techniques and best environmental practices for the recycling and waste disposal of articles containing polybrominated diphenyl ethers (PBDEs) listed under the Stockholm Convention on POPs** (Annex II.1.9) is a joint publication of the Stockholm Convention and UNEP, which provides guidelines on the post-consumption management of plastic waste containing these additives.

PBBs have been detected in biota, food, air, dust, soil, sediments, water and sewage sludge in North America, Europe, Asia and regions as remote as the Arctic. Moreover, in the last 30 years PBB levels in human tissues have increased approximately 100 fold. Evidently, the entire population is at risk of exposure to PBBs, from the workers who manufacture electrical devices to scrap recyclers, especially the latter due to the poor management of waste generated from electrical devices and home appliances (whether such waste is a consequence of the end-of-life thereof or not). In this regard, the plastic housing of television sets is of particular importance, as the latter represent the largest source of brominated flame retardants. On this subject, we have enclosed herein the **opinion letter of Doctor Leticia Yañez** (Annex II.1.10) of San Luis Potosí Autonomous University, along with her **Curriculum Vitae** (Annex II.1.11) and her Master's dissertation "**Evaluation of exposure to PBBs among children in Mexico**" (Annex II.1.3), which correlates the influence of BFRs on thyroid hormone levels. We also enclose the **San Antonio Statement on Brominated and Chlorinated Flame Retardants** (Annex II.1.14), a document elaborated by expert researchers in this field, as well as an article by chemical

pathologist and biologist Elvia Mercedes Cabañas Cortés, published in the journal **MedLab 2015, issue No.3, year 7** (Annex II.1.15)

The study by **Morf et al, "2005 BFR in Waste Electrical and Electronic Equipment,"** has also been enclosed herein (Annex II.1.2). This Swiss study determines the types and quantities of brominated flame retardants contained in the plastic components of television sets and other sampled electronic products. Also enclosed is a recently published study entitled **"Polybrominated diphenyl ethers listed as Stockholm Convention POPs, other brominated flame retardants and heavy metals in e-waste polymers in Nigeria"** (Annex II.1.12), which examines the BFR content in plastic parts from televisions and monitors in informal recycling sites and electronic waste landfills in Nigeria. This study concludes that the polymers containing BFRs must be disposed of separately and not recycled, especially in countries where the appropriate technology for doing so safely is limited. Unfortunately, we were unable to find similar studies for Mexico.

For all of the foregoing reasons, the management of plastic components from analog televisions containing polybrominated biphenyls (PBBs) and hexabromocyclododecane (HBCD) as additives requires specialized knowledge and regulatory standards. However, these are lacking in Mexico, except for Official Mexican Standard **NOM -165-Semarnat-2015** (Annex II.1.13), which establishes the list of substances subject to Pollutant Release and Transfer Register reporting (*Registro de Emisiones y Transferencia de Contaminantes*—RETC). Said list only includes one HBCD: hexabromo-1,1'-biphenyl (CAS number 36355-01-8). Nevertheless, although NOM 052 does not expressly mention flame retardants, if a manufacturer knows that its waste contains flame retardants, it must label this waste as hazardous since flame retardants are subject to the provisions of the Stockholm Convention as persistent organic pollutants.

2.- Glass from cathode ray tubes containing lead oxide.

The publication **LEAD ACTION NEWS** (Annex II.1.14) summarizes lead's effects on ecosystems, with particular emphasis on how lead is transported in them. Lead's chemical and physical properties, along with biogeochemical processes in ecosystems, influence how it moves and accumulates in the environment. As it moves through ecosystems it may attain an equilibrium. Furthermore, in certain chemical environments it becomes more soluble, bioavailable and toxic. The higher up an organism is in the food chain, the greater its sensitivity to lower concentrations of lead.

In light of the quantities that could potentially be released into the environment, we consider lead oxide to be the substance of greatest concern. We estimated the quantity of lead oxide in analog televisions in Mexico based on two studies on analog television components and the percentages of lead contained in the different parts of a cathode ray tube. According to the study by Timothy G. Townsend (1999) "**CHARACTERIZATION OF LEAD LEACHABILITY FROM CATHODE RAY TUBES USING THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE**" (Annex II.1.4) and the study by Dominik Zumbuehl (2006) "**MASS FLOW ASSESSMENT (MFA) AND ASSESSMENT OF RECYCLING STRATEGIES FOR CATHODE RAY TUBES (CRTS) FOR THE CAPE METROPOLITAN AREA (CMA), SOUTH AFRICA**" (Annex II.1.5) the average lead oxide content per television set would be 1.96 kilos. Given the total number of analog televisions in Mexico, we estimate that a total of 67,319 tons of lead oxide could be released into the environment in an uncontrolled manner. If we only consider the quantities of lead in analog-only televisions, the figure would be about 40,478 tons of lead oxide (Annex II.1.1).

According to **EXPOSURE TO LEAD A MAJOR PUBLIC HEALTH CONCERN** (Annex II.1.6), a World Health Organization (WHO) publication, exposure to lead is responsible for 0.6% of illnesses in the world. This percentage is higher in developing countries. Lead affects multiple physiological systems, including the neurological, hematologic and lymphatic, gastrointestinal, cardiovascular and renal systems. Even relatively low levels of exposure can cause serious neurological damage, which in some cases is irreversible. Lead's characteristics and toxicology are detailed in the **Guía manejo MONOXIDO DE PLOMO** (Lead Oxide Management Guide) of the **Colombian Safety Council** (*Consejo-Colombiano-Seguridad*) (Annex II.1.7). In its section 8.4, **UNEP's LEAD REVIEW** (Annex II.1.8) details the various ways lead can leach out of sanitary landfills. The costs in terms of human health are discussed in section 3.4.

XI. REMEDIES AVAILABLE TO PRIVATE PARTIES WHICH WERE PURSUED.

Private parties have not pursued legal remedies in Mexico to lodge complaints concerning this issue due to the monetary costs and procedural burdens that such actions entail.

To date, private parties have concentrated on making information requests through the INFOMEX portal, communicating directly with the media, as detailed in section I, paragraph 6, holding press conferences, giving **interviews to print media** (Annexes II.3.1 AL II.3.6) and participating in **radio and television programs.** (Annexes II.3.7 and II.3.8).

XII. INFORMATION DRAWN FROM MASS MEDIA REPORTS

The information contained in this submission is not drawn from mass media reports. Indeed, it is we, the Submitters, who sought out the media to provide them with information from the following sources: INEGI data, the WHO, official documents published in *Diario Oficial de la Federación*, public tenders published on the CompraNet website, documents requested from IFAI and various scientific publications.