UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF AIR AND RADIATION

June 24, 2021

Mr. Sam Cobb
General Manager – Mahrt Operations
WestRock Coated Board, LLC – Mahrt Mill
P.O. Box 940
Phenix City, AL 36867

Re: Applicability of the Acid Rain Program to seven units at WestRock Coated Board LLC's Mahrt mill (Facility ID (ORISPL) 54802)

Dear Mr. Cobb:

This letter is a revised determination by the U.S. Environmental Protection Agency (EPA) under 40 CFR 72.6 concerning the applicability of the Acid Rain Program to seven units at the WestRock Coated Board, LLC (WestRock) Mahrt paperboard mill in Cottonton, Alabama. As further discussed below, EPA previously determined that the seven units are not affected units under the Acid Rain Program and established certain conditions that the mill was required to meet to maintain the validity of that determination. In this letter, in response to a June 16, 2021 request from WestRock and in reliance on newly provided information, EPA is again determining that the seven units are not affected units under the Acid Rain Program, but for six of the units EPA is revising the basis for the determination. EPA's revision of the basis for the determination is accompanied by a revision to the ongoing conditions that the mill must meet to maintain the validity of the determination.

Background

WestRock owns and operates the Mahrt mill. The mill's equipment includes seven units that combust fossil fuel (either alone or in combination with other fuels) to produce steam and electricity.[1] Six of the units – referred to here as units REC1, REC2, BB1, BB2, BB3, and PF1 – are boilers and furnaces producing steam that is used in part for electricity production through steam turbine-generators GEN1 and GEN2 and in part for other industrial purposes.[2] The seventh unit is a combustion turbine producing electricity through its associated gas turbine-generator GEN3 and producing steam for other industrial purposes through a heat recovery steam generator. Units REC1, BB1, and PF1, as well as generator GEN1, commenced operation in 1965-1966; unit BB2 commenced operation in 1981; units REC2 and BB3, as well as generator GEN2, commenced operation in early 1990; and the combustion turbine as well as its associated generator GEN3 commenced operation in 1998. The reported maximum design heat input capacities of the seven units range from 337 mmBtu/hr to 1162 mmBtu/hr, as set forth in Table 1 in the last section of this letter.

[1] The Acid Rain Program regulations at 40 CFR 72.2 define a "unit" as "a fossil fuel-fired combustion device."

[2] This letter refers to the individual units and generators at the Mahrt mill according to the identifiers used in WestRock's reports to the U.S. Energy Information Administration on Form EIA-860. Unit PF1 and the combustion turbine associated with generator GEN3 are also identified in databases maintained by EPA's Clean Air Markets Division as units Z008 and X022, respectively.

In July 1998, in anticipation of an agreement for future sales of electricity produced at the Mahrt mill, a WestRock predecessor (Mead) requested a determination from EPA that such sales would not cause any of the seven units to become affected units under the Acid Rain Program. In explaining why the request was made at that point in time, Mead stated that the mill had not previously sold any electricity.

EPA responded to Mead's 1998 request in two letters issued in early 1999.[3] With respect to the combustion turbine, EPA determined that the unit met the Acid Rain Program's definition of "cogeneration unit" and would qualify for an applicability exemption available to certain cogeneration units under 40 CFR 72.6(b)(4)(ii) as long as sales of electricity produced by generator GEN3 did not exceed 219,000 MWh either in the combustion turbine's first year of operation or as an annual average over any three-calendar-year period thereafter. With respect to the six boilers and furnaces serving generators GEN1 and GEN2, based on the information provided to the Agency at that time, EPA concluded that the units did not meet the definition of "cogeneration unit." However, EPA determined that as long as no electricity produced by generator GEN1 or GEN2 was sold, the six boilers and furnaces would qualify for a different Acid Rain Program applicability exemption available under 40 CFR 72.6(b)(3) for units that have never served a generator producing electricity for sale. Maintenance of the validity of EPA's determination was conditioned in part on the mill's compliance with a set of conditions designed to ensure that no electricity produced by generator GEN1 or GEN2 is sold. Among other things, these conditions require metering of electricity flows at specified buses on the mill's internal electricity distribution system and require the mill to agree to sell electricity only when generator GEN3 is operating. An additional condition for maintaining the validity of the determination is that the mill's total annual sales of electricity may not exceed 219,000 MWh, which ensures that annual sales of electricity produced by generator GEN3 cannot exceed that amount.

In a letter dated June 16, 2021, WestRock has formally requested that EPA revise the basis for the 1999 determination as to the six boilers and furnaces serving generators GEN 1 and GEN2.[4] According to WestRock, plans are being developed to reconfigure the mill's internal electricity distribution system, and under the preferred design for the reconfiguration it would not be possible to meter the mill's internal electricity flows in a way that could ensure that no electricity produced by generator GEN1 or GEN2 is sold. To eliminate EPA's previous reason for establishing such metering conditions, WestRock is requesting that EPA now determine that the six boilers and furnaces qualify for an Acid Rain Program applicability exemption as cogeneration units. WestRock is not requesting any change to the basis of the 1999 determination as to the combustion turbine associated with generator GEN3. WestRock also proposes to retain the existing condition capping the mill's total annual electricity sales at 219,000 MWh, which would ensure that none of the mill's individual units could annually supply for sale more than 219,000 MWh.

To support its request for reconsideration of EPA's previous conclusion that the six boilers and furnaces at the mill do not meet the Acid Rain Program's definition of "cogeneration unit," WestRock has provided information concerning the mill's steam configuration that was not known to EPA at the time of the 1999 determination. The information includes a steam diagram indicating that the mill has the capability to extract steam produced by the six units from the steam turbines associated with generators GEN 1 and GEN2 after the steam has been used to produce electricity, at which point the extracted steam can be used for other industrial purposes.[5] WestRock states

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[3] *See* EPA applicability determination for Mead Coated Board, Inc. (February 26, 1999) and revision (April 16, 1999), both available at https://www.epa.gov/airmarkets/acid-rain-program-1999-applicability-determinations.

[4] The June 2021 request incorporates by reference informal communications from WestRock staff to EPA between December 2020 and June 2021 and reiterates much of the substance of those communications.

[5] Although some of the information provided by WestRock describes four of the six units as serving generator GEN1 and two of the six units as serving generator GEN2, other information (including the steam diagram and WestRock's reports on Form EIA-860) indicates that each of the six units can serve either generator.

that the capability to obtain steam for other industrial purposes through extraction from the steam turbines is not the result of any changes to the mill's steam configuration made after the 1999 determination but has existed ever since the respective units and steam turbines were installed between 1965 and 1990. WestRock further states that extracting steam from the steam turbines is in fact the mill's preferred approach for obtaining process steam. The steam diagram is attached to this letter as Exhibit 1.

To facilitate EPA's evaluation of the compliance of the six boilers and furnaces with the additional requirements to qualify for an Acid Rain Program applicability exemption as cogeneration units, WestRock has also provided data on the mill's total annual electricity sales from 1985 through 2020. According to these data, the mill sold no electricity from 1985 through 1999 and sold far less than 219,000 MWh in each year from 2000 through 2020. A table with the electricity sales data is attached to this letter as Exhibit 2.

Analysis

A unit that serves a generator producing electricity for sale is generally an affected unit for purposes of the Acid Rain Program under 40 CFR 72.6(a) unless the unit qualifies for one of the exemptions set forth at 40 CFR 72.6(b). As relevant here, the regulations at 40 CFR 72.6(b)(4) establish an exemption – commonly referred to as the Acid Rain Program cogeneration exemption – for units that meet the Acid Rain Program's definition of "cogeneration unit" as well as certain additional requirements.

The Acid Rain Program regulations at 40 CFR 72.2 define a "cogeneration unit" as "a unit that has equipment to produce electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating, or cooling purposes, through sequential use of energy." Based on the information newly provided by WestRock to support its June 2021 request, EPA now finds that each of the seven units at the Mahrt mill meets this definition. In the case of the six boilers and furnaces, the heat produced by the combustion of fuel produces steam, at least some of the steam drives the steam turbines that in turn drive generators GEN1 and GEN2 to produce electricity, and at least some of this steam is extracted from the steam turbines after being used to produce electricity and is then used for other industrial purposes.[6] In the case of the combustion turbine, the gases produced by the combustion of fuel drive the gas turbine that in turn drives generator GEN3 to produce electricity, after which the gases pass through the heat recovery steam generator where the heat of the gases produces steam used for other industrial purposes. Thus, each of the seven units (in conjunction with other equipment) is capable of producing electricity and useful thermal energy through the sequential use of energy.

For the six boilers and furnaces, each of which commenced construction before November 15, 1990, the additional requirements to qualify for the Acid Rain Program cogeneration exemption are set forth at 40 CFR 72.6(b)(4)(i). Under this provision, each of the boilers and furnaces can initially qualify for the exemption if the unit was not constructed for the purpose of supplying for sale on an annual basis more than 219,000 MWh and more than one-third of the unit's potential electrical output capacity (PEOC),[7] and the unit can then maintain its qualification by not supplying for sale more than 219,000 MWh and more than one-third of the unit's PEOC as an annual average over any three-calendar-year period after November 15, 1990. In its June 2021 request, WestRock states that none of the six boilers or furnaces was constructed for the purpose of supplying for sale (on an annual basis) more than 219,000 MWh. Although contemporaneous documentation of the purposes for which the units were constructed has not been provided, WestRock's statement is well supported by the data provided on the mill's historical electricity sales. According to these data, the mill sold no electricity from 1985 through 1999 and

[6] The fact that some steam produced by the six boilers and furnaces may be used only for electricity production or only for other industrial purposes does not prevent the units from meeting the Acid Rain Program's definition of "cogeneration unit" as long as at least some steam produced by the units can be used for both electricity production and other industrial purposes in sequence.

[7] The sales limits related to a unit's PEOC are further discussed in the last section of this letter.

sold far less than 219,000 MWh in each year from 2000 through 2020, strongly supporting a presumption that none of the six individual units was constructed for the purpose of supplying for sale on an annual basis more than 219,000 MWh.[8] Further, the same data demonstrate that none of the six individual units could have sold more than 219,000 MWh as an annual average over any three-calendar-year period from 1991-1993 through 2018-2020. Each of the six boilers and furnaces therefore meets the applicable additional requirements both for initial qualification for the Acid Rain Program cogeneration exemption and for maintaining the unit's qualification through the 2021 control period.

For the combustion turbine, which commenced construction after November 15, 1990, the additional requirements to qualify for the Acid Rain Program cogeneration exemption are set forth at 40 CFR 72.6(b)(4)(ii). Under this provision, the combustion turbine can initially qualify for the exemption if it does not supply for sale in its first year of operation more than 219,000 MWh and more than one-third of the unit's PEOC, and the unit can then maintain its qualification by not supplying for sale more than 219,000 MWh and more than one-third of the unit's PEOC as an annual average over any three-calendar-year period after November 15, 1990. The historical electricity sales data discussed above demonstrate that the combustion turbine could not have supplied for sale more than 219,000 MWh either in its first year of operation or as an annual average over any three-calendar-year period from the unit's commencement of operation through 2018-2020. The combustion turbine therefore meets the applicable additional requirements both for initial qualification for the Acid Rain Program cogeneration exemption and for maintaining the unit's qualification through the 2021 control period.

EPA's Determination

Based on the analysis discussed above, EPA determines that units REC1, REC2, BB1, BB2, BB3, and PF1 and the combustion turbine associated with generator GEN3 at WestRock's Mahrt mill are not affected units under the Acid Rain Program through the 2021 control period because each unit has met all requirements under 40 CFR 72.6(b)(4) to initially qualify for the Acid Rain Program cogeneration exemption and to maintain its qualification through the 2021 control period. EPA's determination as to each of the units will remain valid for control periods after 2021 as long as the mill's total electricity sales do not exceed 219,000 MWh in any calendar year. The other conditions that the mill formerly was required to meet to maintain the validity of EPA's 1999 determination no longer apply.

After the first calendar year (if any) in which the mill's total electricity sales exceed 219,000 MWh, EPA's determination that each of the units qualifies for the Acid Rain Program cogeneration exemption will no longer be valid prospectively and one or more of the units may become affected units under the Acid Rain Program. To maintain each unit's qualification for the cogeneration exemption thereafter, WestRock (or its successor) will bear the burden of keeping records sufficient to apportion responsibility for the mill's total electricity sales each year among the mill's individual units, starting with the calendar year two years before the first calendar year in which the mill's total electricity sales exceed 219,000 MWh. Any unit that supplies for sale more than the greater of 219,000 MWh or the annual amount of electricity equivalent to one-third of the unit's PEOC as an annual average over any three-calendar-year period will lose its qualification for the cogeneration exemption and become an affected unit under the Acid Rain Program starting on January 1 following that three-calendar-year period. The maximum amount of electricity that each of the seven individual units can supply for sale as an annual average over each three-calendar-year period without causing that unit to lose its qualification for the cogeneration exemption is shown in Table 1 below.

[8] The 1985-2020 electricity sales data provided by WestRock cover all past years of operation for units REC2 and BB3, which commenced operation in 1990. With respect to units REC1, BB1, BB2, and PF1, which commenced operation before 1985, the regulations at 40 CFR 72.6(b)(4)(i) provide that if the purpose of construction for a unit is not known, EPA will presume that the unit's operation in 1985-1987 is consistent with that purpose.

Table 1: Maximum electricity each unit at the Mahrt mill can supply for sale as an annual average without losing the unit's qualification for the Acid Rain Program cogeneration exemption

Unit	Maximum design heat input capacity (mmBtu/hr)	Potential electrical output capacity† (MWe)	Annual electricity equivalent to one-third of PEOC†† (MWh)	Max. electricity unit can supply for sale as an annual average (MWh)
REC1	775	76	221,920	221,920
REC2	1162	113	329,960	329,960
BB1	337	33	96,360	219,000
BB2	550	54	157,680	219,000
BB3	915	89	259,880	259,880
PF1	428	42	122,640	219,000
Combustion turbine	568	55	160,600	219,000

† A unit's PEOC in MWe is computed as the unit's maximum design heat input capacity in Btu/hr divided by 3 (reflecting the assumed efficiency of electricity generation), further divided by 3413 Btu/kWh, and further divided by 1000 kW/MWe. *See* appendix D to 40 CFR part 72.

†† The annual amount of electricity in MWh that is equivalent to one-third of a unit's PEOC is computed as the unit's PEOC in MWe multiplied by 8760 hours and divided by 3.

EPA's determination in this letter concerning the applicability of the Acid Rain Program to the seven units at the Mahrt mill is conditioned and relies on the accuracy and completeness of the information provided by WestRock in the June 16, 2021 request as well as the additional information provided in the communications from WestRock to EPA between December 2020 and June 2021 and is appealable under 40 CFR part 78. If you have any questions regarding the applicability determination discussed in this letter, please contact Jason Kuhns at (202) 564-3236 or kuhns.jason@epa.gov. Thank you for your continued cooperation.

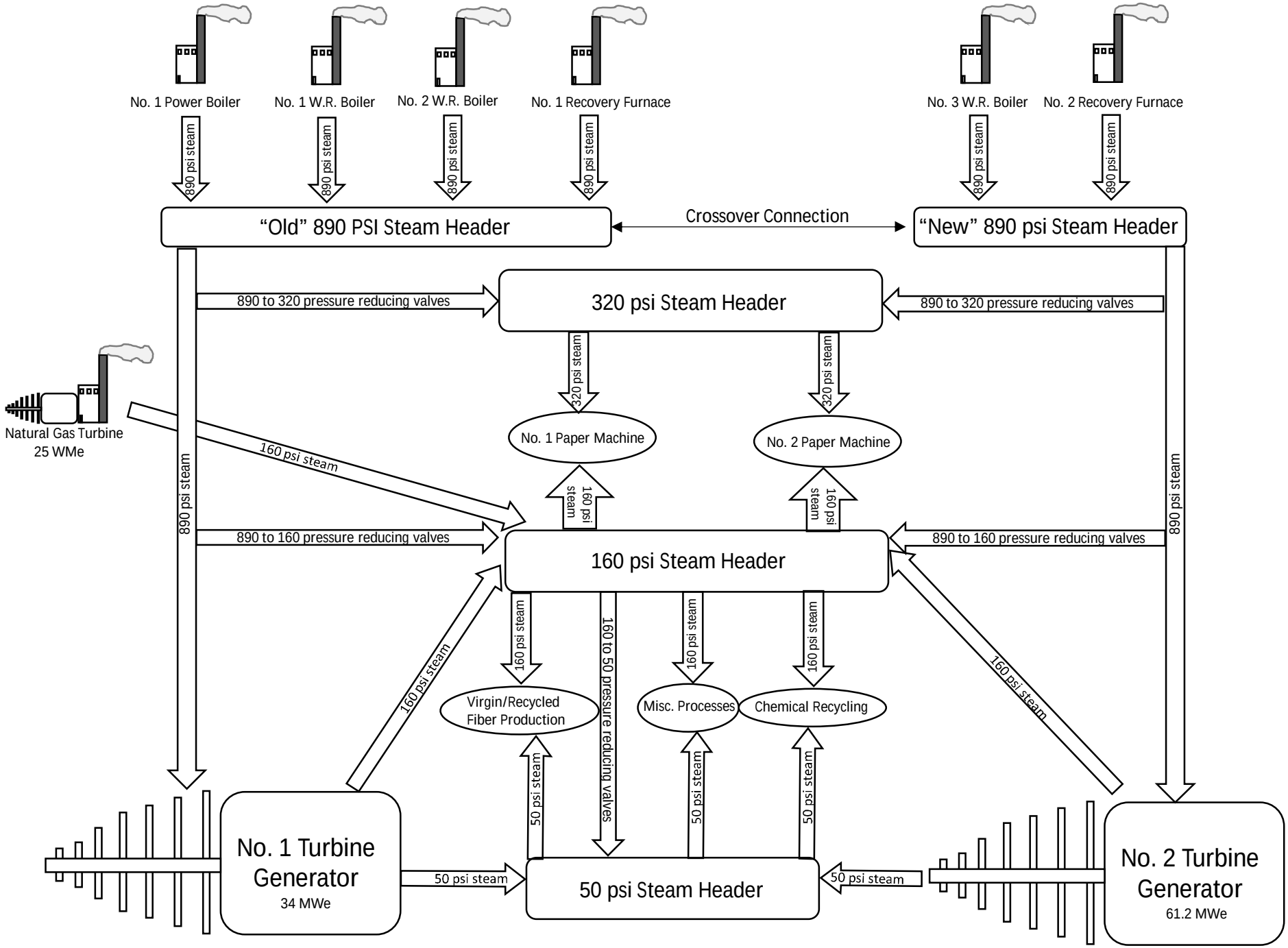
Sincerely,

Reid P. Harvey

Reid P. Harvey
Director, Clean Air Markets Division

cc: Caroline Freeman, Director, Air and Radiation Division, EPA Region 4
Ron Gore, Chief, Air Division, Alabama Department of Environmental Management

Exhibit 1 – Mahrt mill steam diagram
Exhibit 2 – Mahrt mill annual electricity sales, 1985-2020


No. 1 Power Boiler
No. 1 W.R. Boiler
No. 2 W.R. Boiler
No. 1 Recovery Furnace
No. 3 W.R. Boiler
No. 2 Recovery Furnace
890 psi steam
"Old" 890 PSI Steam Header
Crossover Connection
"New" 890 psi Steam Header
890 to 320 pressure reducing valves
320 psi Steam Header
320 psi steam
No. 1 Paper Machine
No. 2 Paper Machine
Natural Gas Turbine
25 WMe
160 psi steam
890 to 160 pressure reducing valves
160 psi Steam Header
Virgin/Recycled Fiber Production
Misc. Processes
Chemical Recycling
160 to 50 pressure reducing valves
50 psi steam
No. 1 Turbine Generator
34 MWe
50 psi Steam Header
No. 2 Turbine Generator
61.2 MWe

Annual Electricity Sales by WestRock Mahrt Mill, 1985-2020

Year	Annual Total MWh Sold
1985	0
1986	0
1987	0
1988	0
1989	0
1990	0
1991	0
1992	0
1993	0
1994	0
1995	0
1996	0
1997	0
1998	0
1999	0
2000	1,066
2001	15,103
2002	4,347
2003	1,221
2004	909
2005	316
2006	218
2007	116
2008	288
2009	25,295
2010	4,248
2011	9,671
2012	33,091
2013	20,580
2014	9,759
2015	2,328
2016	1,770
2017	5,562
2018	1,794
2019	6,211
2020	10,684