



Allowance System

Proposed Acid Rain Rule

The U.S. Environmental Protection Agency (EPA) has proposed four rules containing the core acid rain requirements: the Permits Rule (40 CFR Part 72), the Allowance System Rule (40 CFR Part 73), the Continuous Emission Monitoring Rule (40 CFR Part 75), and the Excess Emissions Rule (40 CFR Part 77). EPA will also propose additional rules at a future date. These rules will include requirements for facilities that elect to opt in to the Acid Rain Program (40 CFR Part 74) and for the nitrogen oxide (NO_x) control program (40 CFR Part 76). This fact sheet summarizes the key components of EPA's proposed Allowance System Rule (40 CFR Part 73).

Under Title IV of the Clean Air Act Amendments of 1990, Congress authorized the U.S. Environmental Protection Agency (EPA) to establish an Acid Rain Program. The overall goal of this program is to significantly reduce sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions, the precursors of acid rain. To achieve this goal at the lowest cost, the program will employ both traditional and innovative, market-based approaches for controlling air pollution. In addition, the program will encourage energy conservation and promote pollution prevention.

The legislation sets as its primary goal the reduction of annual SO₂ emissions by 10 million tons below 1980 levels. To achieve these SO₂ reductions, the law requires a two-phase tightening of the restrictions placed on fossil fuel-fired power plants.

Phase I begins in 1995 and affects 110 mostly coal-burning electric utility plants located in 21 eastern and midwestern states. Phase II, which begins in the year 2000, tightens the annual emissions limits imposed on these large higher emitting plants and also sets restrictions

on smaller and cleaner plants fired by coal, oil, and gas.

All existing utility units with an output capacity of 25 megawatts or greater and all new utility units will be affected in Phase II. In addition, other sources of SO₂ (such as industrial facilities) may elect to participate in the Acid Rain SO₂ Program by opting in.

The program will employ both traditional and innovative, market-based approaches for controlling air pollution.

The Act also calls for a 2-million ton reduction in NO_x emissions by the year 2000. A significant portion of this reduction will be achieved by coal-fired utility boilers, which will be required to install low-NO_x burner technologies and meet new emissions requirements.

These requirements will also be implemented in two phases. For Phase I, EPA will establish emis-

sions limitations for two types of utility boilers (tangentially fired and dry bottom, wall-fired boilers). For Phase II, regulations for all other types of coal-fired boilers will be issued by 1997, and must be met beginning in the year 2000 by all units not subject to the Phase I NO_x limits. Regulations for tangentially fired and dry bottom, wall-fired boilers not covered in Phase I may be tightened at this time.

The innovative, market-based SO₂ allowance trading component of the Acid Rain Program allows utilities to adopt the most cost-effective strategy to reduce SO₂ emissions at units in their system. The Acid Rain Program operating permit spells out the specific program requirements and compliance options chosen by each source. Affected utilities also will be required to install systems that continuously monitor emissions of SO₂, NO_x, and other related pollutants in order to track progress, ensure compliance, and provide credibility to the trading program. In any year that compliance is not achieved, excess emissions penalties will apply, and sources will be

required to submit a plan to EPA that specifies how the excess SO₂ emissions will be offset.

Introduction

Allowance trading is the centerpiece of EPA's Acid Rain Program, and allowances are the currency with which compliance with the acid rain requirements is achieved. The Acid Rain Allowance System Rule sets forth the requirements for allocation, transfer, and tracking of allowances and establishes the procedures for obtaining additional allowances from three reserves administered by EPA. EPA's role in allowance trading is to ensure compliance, and the Allowance System Rule reflects that emphasis. Through the market-based allowance trading system, affected utilities, rather than a governing agency, decide the most cost-effective way to use available resources to comply with the acid rain requirements of the Clean Air Act. In addition, this system provides incentives for energy conservation and technology innovation that can both lower the cost of compliance and yield pollution prevention benefits.

What Are Allowances?

An allowance authorizes a unit within a utility or industrial source to emit one ton of SO₂ during or following a given year. At the end of each year, the unit must hold an amount of allowances at least equal to its annual emissions, i.e., a unit that emits 5,000 tons of SO₂ must hold at least 5,000 allowances.

How Are Allowances Allocated?

EPA will allocate allowances annually, beginning in 1995. In Phase I, EPA will allocate allowances to each unit based on a 2.5 lbs/mmBtu (million British thermal unit) emission rate, multiplied by the unit's "baseline," the average fossil fuel consumed during 1985 through 1987. These allowance allocations are listed in

Table A of the Clean Air Act. However, alternative or additional allowance allocations will be made for various units, including affected units in Illinois, Indiana, and Ohio, which will be allocated a pro rata share of 200,000 additional allowances each year from 1995 to 1999.

In Phase II, the limits imposed on Phase I plants will be tightened and emissions limits will also be imposed on smaller, cleaner units. Allowance allocation calculations will be made for various types of units, such as coal- and gas-fired units with low and high emissions rates or low fuel consumption. During Phase II, the Act places a cap on the number of allowances issued to units each year at 8.95 million. This effectively caps emissions and ensures that the mandated emissions reductions will be maintained over time.

In addition, bonus allowances will be allocated to units in high-growth states; certain municipally owned power plants; states with overall utility emissions rates at or below 0.8 lbs/mmBtu; units with actual 1985 rates below 2.5 lbs/mmBtu and capacity factors less than 60 percent; and units that converted to coal between 1980 and 1985 and that are located in states with more than a 30-million kilowatt installed electrical generating capacity.

How Else Can Allowances Be Obtained?

In addition to annual allocations, allowances are also available in three EPA reserves. In Phase I, units that apply for and are issued permits to emit at higher levels in 1995 and 1996 will be allocated extra allowances from the Phase I Reserve to cover their additional SO₂ emissions during that time. These units will be allocated allowances for using a "qualifying Phase I technology" (a technology that can be demonstrated to remove at least 90 percent of the unit's SO₂ emissions) or for reassigning their

reduction requirements among other units employing such a technology. A second reserve provides allowances as incentives for units achieving SO₂ emissions reductions through demand-side, energy conservation measures or renewable energy generation; the third reserve contains allowances set aside for special auctions and sales (see Figures 1 and 2).

Units that begin operating in 1996 and afterward will not be allocated allowances. Instead they will have to purchase allowances to cover their SO₂ emissions.

How Are Allowances Used?

The allowance is a fully marketable commodity. Once allocated, allowances may be bought, sold, traded, or banked for use in future years. Allowances may not be used prior to the calendar year for which they are allocated.

A unit with allowances that do not cover its emissions has a number of options. The unit may obtain additional allowances by:

- Transferring allowances from other units within its utility system.
- Buying allowances on the open market from another utility anywhere in the country that may have exceeded its control requirements, and, thus, has allowances to spare.
- Buying allowances from an industrial plant or unaffected utility unit that elects to opt in to the allowance system.
- Buying allowances through the EPA Auctions and Sales Programs (see Figure 2).

Alternatively, a unit may choose to reduce its emissions, thereby reducing the number of allowances needed. Emissions reduction options include employing energy conservation measures, increasing reliance on renewable energy, reducing utilization, employing pollution

Figure 1. EPA's Energy Conservation and Renewable Energy Reserve.

EPA will set aside a reserve of 300,000 allowances for utilities employing qualifying demand-side energy conservation measures at their customer's facilities or residences or for those relying on renewable energy generation technologies, such as biomass, solar, geothermal, or wind. This reserve will be established by reducing Phase II allocations by 30,000 allowances annually for 10 years, from 2000 to 2009.

The allowances from the Energy Conservation and Renewable Energy Reserve will be awarded annually in two categories: (1) for savings obtained through energy conservation measures and (2) for savings obtained through renewable energy generation. The number of allowances awarded per applicant will be equal to the tons of SO₂ emissions the utility is assumed to avoid by employing the new measures. (The formulas used to calculate this amount for both energy conservation and renewable energy are reflected in the statute and rule.)

To be eligible for receiving allowances from the reserve in either category, an applicant must:

- Sell electricity.
- Own or operate, wholly or in part, an affected unit.
- Pay for the qualifying energy conservation measures or renewable energy directly, or purchase it through another person.
- Adopt and implement a "least cost plan" for meeting future needs at the lowest system cost. This plan, which must be reviewed by the regulatory commission, must consider all options relating to activities or technologies affecting energy use by customers and options employed by the utility.
- Have an approved rate structure that mandates "net income neutrality," if applying for allowances for conservation measures. Net income neutrality means that the utility's rate structure is such that it makes as much money on energy saved as on energy sold. The rate tariff will be certified by the Department of Energy. This provision ensures that utilities are not harmed financially by conservation investments.

To apply for allowances from the reserve, a certifying official for the utility must complete the Application for Conservation and Renewable Energy Reserve Allowances. A certifying official may be an officer, partner, or proprietor who performs the principal business function for the utility. The application includes, among other things:

- A description of the energy conservation measures implemented and/or the renewable energy generation sources used.
- A verification of energy savings or renewable energy used based on state or federal protocols.
- A calculation of the allowances to be allocated.

Utilities may begin applying for allowances from the reserve on January 1, 1993, and may continue to apply until all 300,000 allowances have been allocated or until the year 2010, when the reserve will be terminated.

EPA will grant allowances on a first-come, first-served basis starting in 1995 for activities initiated after January 1, 1992. To ensure that the reserve will not be depleted solely in either the energy conservation or renewable energy category, EPA will review the distribution after 240,000 of the 300,000 allowances have been awarded or by February 1, 1998, whichever comes first. If it appears that fewer than 60,000 allowances will be distributed to either category, EPA will place a share of the remaining allowances into a subaccount for whichever category has not been sufficiently tapped.

control technologies, switching to lower sulfur fuel, or developing other alternate strategies. Units that reduce their emissions below the number of allowances they hold may trade allowances with other units in their system, sell them to other utilities for a profit on the open market or through EPA auctions, or bank them to cover emissions in future years. (A unit holding excess allowances for a given year, however, is never entitled to exceed National Ambient Air Quality Standard Limits.)

Who May Participate in Allowance Trading?

The primary participants in allowance trading are officials designated and authorized to represent the owners and operators of electric utility plants that emit SO₂. In addition, industrial plants and otherwise unaffected utility units that emit SO₂ may elect to opt in to the program to take advantage of the potential economic benefits of trading allowances on the open market. Allowances may be bought, sold, and traded by any

individual, corporation, or governing body, including brokers, municipalities, environmental groups, and private citizens. Other potential participants are utility power pools, or groups of units choosing to aggregate some or all of the allowances allocated to the individual units within the pool. Even though the allowance trading system is based on unit-by-unit compliance, allowance pools can be created and operated. The parties involved in the pool determine the details of these allowance pooling arrangements.

Figure 2. EPA's Auctions and Sales Programs.

To stimulate the market in allowance trading and establish a market price for allowances early on, EPA will set aside a Special Allowance Reserve for public auctions and sales. This reserve will consist of 2.8 percent of the total annual allowances that would otherwise be allocated to existing units. Allowances offered for auction or sale will be divided between spot allowances, which can be used in the year they are bought (except for allowances purchased in spot auctions before 1995, which cannot be used for compliance until 1995), and advance allowances, which cannot be used until 7 years after they are bought.

EPA will hold spot and advance auctions for allowances starting no later than March 31 of each year. To participate in the auction, bidders will send EPA sealed bids specifying the number of allowances they would like to buy and their stated price. There will be no minimum price. After all of the allowances in the EPA reserve have been auctioned off, private allowance holders may offer their allowances for sale. These private holders must have their allowances recorded by EPA prior to the auction. Private holders may specify a minimum price. The auction results will be published in the *Federal Register* and the *Commerce Business Daily*.

EPA will begin spot and advance sales no later than June 1 of each year and will continue until January 30 following that year, the last day on which allowances may be transferred. Spot sales will begin in 2000, and advance sales will begin in 1993, for use beginning in 2000. EPA will sell 25,000 allowances each year in advance sales from 1993 through 1999 and 50,000 allowances per year split among spot and advance sales beginning in 2000. The allowances will be sold on a first-come, first-served basis at \$1,500 per allowance, with the price adjusted annually for inflation using the Consumer Price Index (CPI).

Anyone can buy allowances in the direct sale, but independent power producers (IPPs) can obtain written guarantees from EPA stating that they will have first priority. These guarantees, which will be awarded on a first-come, first-served basis, secure the option for qualified IPPs to purchase a yearly amount of allowances for the life of a new unit. This provision enables IPPs to ensure lenders that they will have access to the allowances they need to build new units. To continue to hold a guarantee, however, an IPP must certify a continuing need. EPA may also terminate the guarantee if certain requirements are not fulfilled.

What Is the System for Keeping Track of Allowances?

EPA's role in allowance trading will be to record allowance transfers that will be used for compliance and to ensure at the end of the year that a unit's emissions do not exceed the number of allowances it holds. To accomplish this, EPA will establish an Allowance Tracking System (ATS) account for each affected unit and for any corporation, group, or individual holding allowances. Parties must notify EPA to have transfers recorded in these ATS accounts, but it is not necessary to record all transfers with EPA until such time as the allowances are to be used to meet a unit's SO₂ emissions limitation requirement. For example, a broker buying an allowance for transfer to another party does not need to record this transaction with EPA. The ATS accounts will, however, be the official records for allowance holdings and transfers used for compliance purposes. To facilitate tracking and recording, EPA will assign every account a unique identification num-

ber and each allowance a unique serial number.

EPA will establish accounts for existing units affected under both Phase I and Phase II by January 30, 1993. Each unit account will consist of a compliance subaccount for allowances that may be used for compliance in the current year and separate future year subaccounts for allowances to be used in years to come. Each subaccount, current and future, would initially contain the number of allowances that the Clean Air Act authorizes EPA to allocate to the unit for each year. Future subaccounts will be kept for each of the 30 calendar years after 1995, when Phase I begins, or for 30 years following the current year, whichever is later.

After accounts have been established for affected units, any person or group, including brokers and investors, wishing to purchase allowances may open an ATS account. To open a non-unit ATS account, the interested parties must submit the proper form (discussed below) to EPA. Non-unit accounts also include subaccounts for the

current year and for 30 years into the future.

What Information Is Contained in ATS Accounts?

Each ATS account will include:

- The name, address, phone number, and fax number of the authorized account representative.
- The serial numbers of all allowances in the compliance subaccounts and future subaccounts.
- For unit accounts, the current total tonnage of reporting emissions for the year to date.

In addition, a list of all allowance transfers to or from the account may be included. Any information in the ATS accounts is available to the public. Initially, the information will be available in written form, but EPA plans to develop a system of electronic access to reduce paperwork and to facilitate easy access to the material.

Who Notifies EPA of Allowance Transactions?

All correspondence with EPA concerning the transfer of allowances among and between accounts must be performed by authorized account representatives. For a unit account, the designated representative, who represents the owners and operators of that unit, performs that function. (Requirements and responsibilities of designated representatives are covered in the Permits Rule).

For a non-unit account, the authorized account representative is the individual who signs and submits the New Account/New Authorized Account Representative Form to EPA to open the account. The certificate of representation that accompanies this form must list all owners of the account and include a statement certifying that the representative was selected by an agreement among all of the owners and has the necessary authority to carry out his or her responsibilities.

The use of an authorized account representative for both unit and non-unit accounts ensures that EPA will receive information and instructions concerning transfers from a reliable person for each account. This will allow transfers to be completed efficiently and without the need for secondary confirmation.

How Are Allowance Transfers Submitted?

The authorized account representative submits to EPA a request to record the exchange of allowances from one account to another. There is no time limit for notifying EPA of the transfer; however, until EPA records the allowances, they are not available for use toward meeting the end-of-year emissions requirements.

The request to record an allowance transaction is made on an SO₂ Allowance Transfer Form.

Transfer information required on the form includes:

- The identification numbers of the transferor's and the transferee's accounts.
- The serial number of each allowance to be transferred.
- Signatures of the authorized account representatives of both the transferor's and transferee's accounts.
- Where the transferee does not have an account in the Allowance Tracking System, information necessary (including the proper form) for establishing a new account.
- Where the transferor is a unit account, certification that the unit will meet its annual emissions requirement without the allowances being transferred.

If EPA determines the transfer request to be valid, the allowance transaction will be recorded within 5 business days of receipt of the transfer form. Within 5 business days of recording the transfer or rejecting it as invalid, EPA will notify the transferor and transferee either that the transfer has been completed or that it has been determined to be invalid.

How Will Compliance Be Determined?

At the end of the year, units must hold allowances equal to the amount of SO₂ emitted during that year. By January 30, units must finalize allowance transactions and submit them to EPA for recordation to cover their emissions for the previous year. The amount of emissions will be determined by monitoring equipment that must be installed by all units participating in allowance trading (see the Continuous Emission Monitoring Rule).

After the January 30 deadline, EPA will deduct allowances from each unit's compliance subaccount in an amount equal to its SO₂ emissions for that year. If the unit's

emissions did not exceed its allowances, the remaining allowances will be carried forward, or "banked," into the next year's subaccount. If a unit's emissions did exceed its allowances, the unit must pay a penalty and submit a plan to EPA detailing how these excess emissions will be offset the following year (see the Excess Emissions Rule). Unless otherwise provided in the offset plan, EPA will deduct allowances from the account in an amount equal to the excess emissions.

Since allowances that have been traded or purchased by a unit may have differing accounting values, EPA will give units the option of choosing which allowances will be deducted by submitting an SO₂ Allowance Deduction Form. If the unit does not submit this form by the January 30 deadline, EPA will deduct allowances on a first-in, first-out basis.

Figure 3 presents important dates for those participating in the allowance system. Figure 4 is the rulemaking schedule for developing the allowance system.

For More Information

For more information, write to:

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Figure 3. Compliance Schedule.

Action	Date
Allowance Tracking System accounts established for affected units in both Phase I and Phase II	No later than January 30, 1993
Allowance trading and submittal of transfers to EPA for recordation begins	January 1, 1993
Allocation of allowances from Conservation and Renewable Energy Reserve begins	No earlier than January 1, 1993
Applicants for IPP guarantees for direct sales must apply for financing to construct new units	No later than date of first 1993 auction
EPA Spot and Advance Auctions begin	No later than March 31, 1993
EPA Advance Sales begin	No later than June 1, 1993
EPA Auction Allowances are first usable	CY1995
EPA Sales Allowances are first usable	CY2000
EPA Spot Sales begin	No later than June 1, 2000
EPA may terminate direct sales	No earlier than February 1, 2002
EPA may terminate auctions	No earlier than January 1, 2005
Conservation and Renewable Energy Reserve terminates	No later than January 2, 2010

Figure 4. Allowance System Rule.

Subpart	Proposed Rule (Date Published)	Final Rule (Target Date for Publication)
A: Background	December 1991	May 1992
B: Allocation	March 1992	December 1992
C: Tracking	December 1991	May 1992
D: Transfers	December 1991	May 1992
E: Auction and Sales	May 1991	December 1991
F: Conservation and Renewable Energy Reserve	December 1991	May 1992
G: Small Diesel Refineries	March 1992	December 1992