



**Periodic Review / Retain Regulation  
Agency Background Document**

Agency name	State Air Pollution Control Board
<b>Virginia Administrative Code (VAC) citation</b>	9 VAC 5 - 40: Article 5, Emission Standards for Synthesized Pharmaceutical Products Manufacturing Operations Article 6, Emission Standards for Rubber Tire Manufacturing Operations Article 7, Emission Standards for Incinerators Article 9, Emission Standards for Coke Ovens Article 10, Emission Standards for Asphalt Concrete Plants Article 11, Emission Standards for Petroleum Refinery Operations Article 12, Emission Standards for Chemical Fertilizer Manufacturing Operations Article 13, Emission Standards for Pulp and Paper Mills Article 14, Emission Standards For Sand and Gravel Processing Operations and Stone Quarrying and Processing Operations Article 16, Emission Standards For Portland Cement Plants Article 17, Emission Standards for Woodworking Operations Article 18, Emission Standards For Primary And Secondary Metal Operations Article 19, Emission Standards for Lightweight Aggregate Process Operations Article 20, Emission Standards For Feed Manufacturing Operations Article 21, Emissions Standards For Sulfuric Acid Production Units Article 22, Emission Standards For Sulfur Recovery Operations Article 23, Emission Standards For Nitric Acid Production Units Article 24, Emission Standards for Solvent Metal Cleaning Operations Article 25, Emission Standards for Volatile Organic Compound Storage and Transfer Operations Article 26, Emission Standards for Large Appliance Coating Application Systems Article 27, Emission Standards for Magnet Wire Coating Application Systems Article 29, Emission Standards for Can Coating Application Systems Article 30, Emission Standards for Metal Coil Coating Application Systems

	Article 31, Emission Standards for Paper and Fabric Coating Application Systems Article 32, Emission Standards for Vinyl Coating Application Systems Article 33, Emission Standards for Metal Furniture Coating Application Systems Article 34, Emission Standards for Miscellaneous Metal Parts and Products Coating Application Systems Article 35, Emission Standards for Flatwood Paneling Coating Application Systems Article 36, Emission Standards for Flexographic, Packaging Rotogravure and Publication Rotogravure Printing Lines Article 37, Emission Standards for Petroleum Liquid Storage and Transfer Operations Article 39, Emission Standards for Asphalt Paving Operations
<b>Regulation title</b>	Existing Stationary Sources
<b>Document preparation date</b>	August 23, 2011

This form is used when the agency has done a periodic review of a regulation and plans to retain the regulation without change. This information is required pursuant to Executive Orders 14 (2010) and 58 (1999).

**Legal basis**

*Please identify the state and/or federal legal authority for the regulation, including (1) the most relevant law and/or regulation, and (2) promulgating entity, i.e., agency, board, or person.*

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Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare.

Promulgating Entity

The promulgating entity for the regulations is the State Air Pollution Control Board.

Federal Requirements - For All Articles

Section 110(a) of the Clean Air Act (CAA) mandates that each state adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each primary and secondary air quality standard within each air quality control region in the state. The plan shall include provisions to accomplish, among other tasks, the following:

1. Establish enforceable emission limitations and other control measures as necessary to comply with the provisions of the CAA, including economic incentives such as fees, marketable permits, and auctions of emissions rights;
2. Establish schedules for compliance;
3. Prohibit emissions which would contribute to nonattainment of the standards or interference with maintenance of the standards by any state; and

4. Require sources of air pollution to install, maintain, and replace monitoring equipment as necessary and to report periodically on emissions-related data.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of state implementation plans. These requirements mandate that any such plan shall include several provisions, including those summarized below.

Subpart G (Control Strategy) specifies the description of control measures and schedules for implementation, the description of emissions reductions estimates sufficient to attain and maintain the standards, time periods for demonstrations of the control strategy's adequacy, an emissions inventory, an air quality data summary, data availability, special requirements for lead emissions, stack height provisions, and intermittent control systems.

Subpart K (Source Surveillance) specifies procedures for emissions reports and record-keeping, procedures for testing, inspection, enforcement, and complaints, transportation control measures, and procedures for continuous emissions monitoring.

Subpart L (Legal Authority) specifies that the state implementation plan must show that the state has legal authority to implement the plans, including the authority to:

1. Adopt emission standards and limitations and any other measures necessary for the attainment and maintenance of the national ambient air quality standards;
2. Enforce applicable laws, regulations, and standards, and seek injunctive relief;
3. Abate pollutant emissions on an emergency basis to prevent substantial endangerment to the health of persons;
4. Prevent construction, modification, or operation of a facility, building, structure, or installation, or combination thereof, which directly or indirectly results or may result in emissions of any air pollutant at any location which will prevent the attainment or maintenance of a national standard;
5. Obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require record-keeping and to make inspections and conduct tests of air pollution sources;
6. Require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the state on the nature and amounts of emissions from such stationary sources; and
7. Make emissions data available to the public as reported and as correlated with any applicable emission standards or limitations.

Section 51.231 under Subpart L requires the identification of legal authority: (i) the provisions of law or regulation which the state determines provide the authorities required under this section must be specifically identified, and copies of such laws or regulations must be submitted with the plan; and (ii) the plan must show that the legal authorities specified in this subpart are available to the state at the time of submission of the plan.

Subpart N (Compliance Schedules) specifies legally enforceable compliance schedules, final compliance schedule dates, and conditions for extensions beyond one year.

**Additionally for Articles 5, 6, 11, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39**

Part D of the Clean Air Act specifies state implementation plan requirements for nonattainment areas, with Subpart 1 covering nonattainment areas in general and Subpart 2 covering additional provisions for ozone nonattainment areas.

Section 171 of the Clean Air Act defines "reasonable further progress," "nonattainment area," "lowest achievable emission rate," and "modification."

Section 172(a) authorizes EPA to classify nonattainment areas for the purpose of assigning attainment dates. Section 172(b) authorizes EPA to establish schedules for the submission of plans designed to achieve attainment by the specified dates. Section 172(c) specifies the provisions to be included in each attainment plan, as follows:

1. The implementation of all reasonably available control measures as expeditiously as practicable and shall provide for the attainment of the national ambient air quality standards;
2. The requirement of reasonable further progress;
3. A comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutants in the nonattainment area;
4. An identification and quantification of allowable emissions from the construction and modification of new and modified major stationary sources in the nonattainment area;
5. The requirement for permits for the construction and operations of new and modified major stationary sources in the nonattainment area;
6. The inclusion of enforceable emission limitations and such other control measures (including economic incentives such as fees, marketable permits, and auctions of emission rights) as well as schedules for compliance;
7. If applicable, the proposal of equivalent modeling, emission inventory, or planning procedures; and
8. The inclusion of specific contingency measures to be undertaken if the nonattainment area fails to make reasonable further progress or to attain the national ambient air quality standards by the attainment date.

Section 172(d) requires that attainment plans be revised if EPA finds inadequacies. Section 172(e) authorizes the issuance of requirements for nonattainment areas in the event of a relaxation of any national ambient air quality standard. Such requirements shall provide for controls which are not less stringent than the controls applicable to these same areas before such relaxation.

Under Part D, Subpart 2, §182(a)(2)(A) requires that the existing regulatory program requiring reasonably available control technology (RACT) for stationary sources of volatile organic compounds (VOCs) in marginal nonattainment areas be corrected by May 15, 1991, to meet the minimum requirements in existence prior to the enactment of the 1990 amendments. RACT is the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. EPA has published control technology guidelines (CTGs) for various types of sources, thereby defining the minimum acceptable control measure or RACT for a particular source type.

Section 182(b) requires stationary sources in moderate nonattainment areas to comply with the requirements for sources in marginal nonattainment areas. The additional, more comprehensive control measures in §182(b)(2)(A) require that each category of VOC sources employ RACT if the source is covered by a CTG document issued between enactment of the 1990 amendments and the attainment date for the nonattainment area. Section 182(b)(2)(B) requires that existing stationary sources emitting VOCs for which a CTG existed prior to adoption of the 1990 amendments also employ RACT.

Section 182(c) requires stationary sources in serious nonattainment areas to comply with the requirements for sources in both marginal and moderate nonattainment areas.

EPA has issued detailed guidance that sets out its preliminary views on the implementation of the air quality planning requirements applicable to nonattainment areas. This guidance is titled the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" (see 57 FR 13498 and 57 FR 18070).

#### State Requirements

Code of Virginia § 10.1-1300 defines pollution as "the presence in the outdoor atmosphere of one or more substances which are or may be harmful or injurious to human health, welfare or safety, to animal or plant life, or to property, or which unreasonably interfere with the enjoyment by the people of life or property." Excess emissions from operations covered by the Articles reviewed are harmful to human health and can significantly interfere with the people's enjoyment of life and property.

Code of Virginia § 10.1-1307 A provides that the board may, among other activities, develop a comprehensive program for the study, abatement, and control of all sources of air pollution in the Commonwealth.

Code of Virginia § 10.1-1308 provides that the board shall have the power to promulgate regulations abating, controlling, and prohibiting air pollution throughout or in any part of the Commonwealth in accordance with the provisions of the Administrative Process Act.

## Alternatives

*Please describe all viable alternatives for achieving the purpose of the existing regulation that have been considered as part of the periodic review process. Include an explanation of why such alternatives were rejected and why this regulation is the least burdensome alternative available for achieving the purpose of the regulation.*

Alternatives for achieving the purpose of the regulations have been considered by the Department. The Department has determined that the retention of the regulations (the first alternative) is appropriate, as it is the least burdensome and least intrusive alternative that fully meets statutory requirements and the purpose of the regulations. The alternatives considered by the Department, along with the reasoning by which the Department has rejected any of the alternatives considered, are discussed below.

1. Retain the regulations without amendment. This option is being selected because the current regulations provide the least onerous means of complying with the minimum requirements of the legal mandates.
2. Make alternative regulatory changes to those required by the provisions of the legally binding state and federal mandates, and associated regulations and policies. This option was not selected because it could result in the imposition of requirements that place unreasonable hardships on the regulated community without justifiable benefits to public health and welfare.
3. Repeal or amend the regulations. This option was not selected because the regulations are effective in meeting their goals and already satisfy those mandates.

## Public comment

*Please summarize all comments received during the public comment period following the publication of the Notice of Periodic Review, and provide the agency response. Please indicate if an informal advisory group was formed for purposes of assisting in the periodic review.*

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No comment was received on these regulations.

## Effectiveness

*Please indicate whether the regulation meets the criteria set out in Executive Order 14 (2010), e.g., is necessary for the protection of public health, safety, and welfare, and is clearly written and easily understandable.*

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### **For all Articles:**

The regulation is necessary for the protection of public health and welfare, as it is needed to meet the primary goals of the federal Clean Air Act: the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS) and the prevention of significant deterioration (PSD) of air quality in areas cleaner than the NAAQS.

The NAAQS, developed and promulgated by the U.S. Environmental Protection Agency (EPA), establish the maximum limits of pollutants that are permitted in the outside ambient air in order to protect public health and welfare. EPA requires that each state submit a plan (called a State Implementation Plan or SIP), including any laws and regulations necessary to enforce the plan, that shows how the air pollution concentrations will be reduced to levels at or below these standards (attainment). Once the pollution levels are within the standards, the SIP must also demonstrate how the state will maintain the air pollution concentrations at the reduced levels (maintenance).

A SIP is the key to the state's air quality programs. The Clean Air Act is specific concerning the elements required for an acceptable SIP. If a state does not prepare such a plan, or EPA does not approve a submitted plan, then EPA itself is empowered to take the necessary actions to attain and maintain the air quality standards--that is, it would have to promulgate and implement an air quality plan for that state. EPA is also, by law, required to impose sanctions in cases where there is no approved plan or the plan is not being implemented, the sanctions consisting of loss of federal funds for highways and other projects and/or more restrictive requirements for new industry. Generally, the plan is revised, as needed, based upon changes in the federal Clean Air Act and its requirements.

The basic approach to developing a SIP is to examine air quality across the state, delineate areas where air quality needs improvement, determine the degree of improvement necessary, inventory the sources contributing to the problem, develop a control strategy to reduce emissions from contributing sources enough to bring about attainment of the air quality standards, implement the strategy, and take the steps necessary to ensure that the air quality standards are not violated in the future.

The heart of the SIP is the control strategy. The control strategy describes the emission reduction measures to be used by the state to attain and maintain the air quality standards. There are three basic types of measures: stationary source control measures, mobile source control measures, and transportation source control measures. Stationary source control measures are directed at limiting emissions primarily from commercial/industrial facilities and operations and include the following: emission limits, control technology requirements, preconstruction permit programs for new industry and expansions, and source-specific control requirements. Stationary source control measures also include area source control measures which are

directed at small businesses and consumer activities. Mobile source control measures are directed at tailpipe and other emissions primarily from motor vehicles and include the following: Federal Motor Vehicle Emission Standards, fuel volatility limits, reformulated gasoline, emissions control system anti-tampering programs, and inspection and maintenance programs. Transportation source control measures limit the location and use of motor vehicles and include the following: carpools, special bus lanes, rapid transit systems, commuter park and ride lots, bicycle lanes, signal system improvements, and many others.

Federal guidance on states' approaches to the inclusion of control measures in the SIP has varied considerably over the years, ranging from very general in the early years of the Clean Air Act to very specific in more recent years. Many regulatory requirements were adopted in the 1970s when no detailed guidance existed. The legally binding federal mandate for these regulations is general, not specific, consisting of the Clean Air Act's broad-based directive to states to attain and maintain the air quality standards. However, in recent years, the Clean Air Act, along with EPA regulations and policy, has become much more specific, thereby removing much of the states' discretion to craft their own air quality control programs.

Generally, a SIP is revised, as needed, based upon changes in air quality or statutory requirements. For the most part the SIP has worked, and the standards have been attained for most pollutants in most areas. Therefore, these specific SIP provisions, including implementation of this regulation, are necessary for the protection of public health and welfare.

**Additionally for Articles 5, 6, 11, 23, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39**

Attainment of NAAQS for one pollutant – ozone – has proven problematic. While ozone is needed at the earth's outer atmospheric layer to shield out harmful rays from the sun, excess concentrations at the surface have an adverse effect on human health and welfare. Ozone is formed by a chemical reaction between volatile organic compounds (VOCs), nitrogen oxides (NO<sub>x</sub>), and sunlight. When VOC and NO<sub>x</sub> emissions from mobile sources and stationary sources are reduced, ozone is reduced.

Congress enacted the 1977 Amendments to the Clean Air Act in order to address unsuccessful SIPs and areas that had not attained the NAAQS (that is, nonattainment areas). Although SIP revisions submitted pursuant to the requirements of the 1977 amendments did achieve some progress in eliminating nonattainment areas, some areas remained.

In 1990 Congress once again enacted comprehensive amendments to the Act to address SIP requirements for nonattainment areas. The new Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. Nonattainment areas are classified as marginal, moderate, serious, severe and extreme. Marginal areas are subject to the least stringent requirements and each subsequent classification (or class) is subject to successively more stringent control measures. Areas in a higher classification of nonattainment must meet the mandates of the lower classifications plus the more stringent requirements of their class. In addition to the general SIP-related sanctions, nonattainment areas have their own unique sanctions. If a particular area fails to attain the federal standard by the legislatively mandated attainment date, EPA is required to reassign it to the next higher classification level (denoting a worse air quality problem), thus subjecting the area to more stringent air pollution control requirements. The Clean Air Act includes specific provisions requiring these sanctions to be issued by EPA if so warranted.

The new Act required EPA, based on the air quality data from each state, to propose geographic boundaries and pollution classification levels for all nonattainment areas to each state's governor. If states disagreed with EPA's proposals, they had the opportunity to propose different boundaries; however, EPA had the authority to make the final decision.

The process provided in the new Act yielded three nonattainment areas for Virginia. The classifications for Virginia's nonattainment areas were marginal for the Hampton Roads Nonattainment Area, moderate for the Richmond Nonattainment Area, and serious for the Northern Virginia Nonattainment Area. Since that time, air quality has improved. Although Northern Virginia remains as a nonattainment area, Richmond and

Hampton Roads have achieved the one-hour ozone standard and are now considered maintenance areas; that is specific strategies that were implemented for the corresponding nonattainment areas must continue, however, no additional new requirements are necessary provided the areas do not measure ozone concentrations in levels high enough to reclassify them into nonattainment.

Once the nonattainment areas were defined, each state was then obligated to submit a SIP demonstrating how it will attain the air quality standards in each nonattainment area. First, the new Act requires that certain specific control measures and other requirements be adopted and included in the SIP; a list of those requirements that necessitated the adoption of state regulations is provided below. In addition, the state had to demonstrate that it would achieve a VOC emission reduction of 15%. Finally, the SIP had to include an attainment demonstration by photochemical modeling (including annual emission reductions of 3% from 1996 to 1999) in addition to the 15% emission reduction demonstration. In cases where the specific control measures shown below were inadequate to achieve the emission reductions or attain the air quality standard, the state was obligated to adopt other control measures as necessary to achieve this end.

For all areas in Virginia:

1. Correct existing VOC regulatory program (controls on certain sources identified in EPA control technology guidelines)
2. Requirement for annual statements of emissions from industries
3. Permit program for new industry and expansions (with variable major source definition, variable offset ratio for addition of new pollution, and special requirements for expansions to existing industry in serious areas)
4. Procedures to determine if systems level highway plans and other federally financed projects are in conformity with air quality plans

For all nonattainment areas classified as "moderate" and above:

1. Requirement for controls for all major (100 tons per year) VOC sources
2. Requirement for vapor recovery controls for emissions from filling vehicles with gasoline (stage II)
3. Requirement for controls for all major (100 tons per year) NO<sub>x</sub> sources
4. Case by case control technology determinations for all major VOC and NO<sub>x</sub> sources not covered by a EPA control technology guideline

Therefore, these specific SIP provisions, including implementation of this regulation, are necessary for the protection of public health and welfare.

In summary, the regulations have been effective in protecting public health and welfare with the least possible cost and intrusiveness to the citizens and businesses of the Commonwealth, ensuring that owners comply with air pollution emission limits and control technology requirements in order to control emissions being emitted into the ambient air, and prohibiting emissions that would contribute to nonattainment of the national air quality standards or interference with maintenance of those standards.

The emissions being controlled for each article are as follows:

Volatile organic compounds: Articles 5, 6, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37 and 39

Particulate matter: Articles 7, 10, 12, 13, 14, 17 and 20

Particulate matter and sulfur dioxide: Articles 9, 16, 18, and 19

Particulate matter, sulfur dioxide, hydrogen sulfide and volatile organic compound: Article 11

Sulfur dioxide and sulfuric acid: Article 21



Sulfur dioxide: Article 22  
Nitrogen oxide: Article 23

The Department has determined that the regulations are clearly written and easily understandable by the individuals and entities affected. They are written so as to permit only one reasonable interpretation, to adequately identify the affected entity, and, insofar as possible, are written in non-technical language.

## Result

*Please state that the agency is recommending that the regulation should stay in effect without change.*

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These regulations satisfy the provisions of the law and legally binding state and federal requirements, and are effective in meeting their goals; therefore, the regulations are being retained without amendment.

## Small business impact

*In order to minimize the economic impact of regulations on small business, please include, pursuant to § 2.2-4007.1 E and F, a discussion of the agency's consideration of: (1) the continued need for the regulation; (2) the complexity of the regulation; (3) the extent to which the regulation overlaps, duplicates, or conflicts with federal or state law or regulation; and (4) the length of time since the regulation has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the regulation. Also, include a discussion of the agency's determination whether the regulation should be amended or repealed, consistent with the stated objectives of applicable law, to minimize the economic impact of regulations on small businesses.*

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The regulations continue to be needed. They provide sources with the most cost-effective means of fulfilling ongoing state and federal requirements that protect air quality.

The regulations' level of complexity is appropriate to ensure that the regulated entities are able to meet their legal mandates as efficiently and cost-effectively as possible.

The regulations do not overlap, duplicate, or conflict with any state law or other state regulation.

The specific articles were last reviewed as follows:

Article 5, Emission Standards for Synthesized Pharmaceutical Products Manufacturing Operations - 2002

Article 6, Emission Standards for Rubber Tire Manufacturing Operations - 2001

Article 7, Emission Standards for Incinerators - 2001

Article 9, Emission Standards for Coke Ovens - 2001

Article 10, Emission Standards for Asphalt Concrete Plants - 1995

Article 11, Emission Standards for Petroleum Refinery Operations - 2001

Article 12, Emission Standards for Chemical Fertilizer Manufacturing Operations - 2001

Article 13, Emission Standards for Pulp and Paper Mills - 2005

Article 14, Emission Standards For Sand and Gravel Processing Operations and Stone Quarrying and Processing Operations - 2001  
Article 16, Emission Standards For Portland Cement Plants - 2001  
Article 17, Emission Standards for Woodworking Operations - 2001  
Article 18, Emission Standards For Primary And Secondary Metal Operations - 2001  
Article 19, Emission Standards for Lightweight Aggregate Process Operations - 2001  
Article 20, Emission Standards For Feed Manufacturing Operations - 2001  
Article 21, Emissions Standards For Sulfuric Acid Production Units - 2001  
Article 22, Emission Standards For Sulfur Recovery Operations - 2001  
Article 23, Emission Standards For Nitric Acid Production Units - 2000  
Article 24, Emission Standards for Solvent Metal Cleaning Operations - 2004  
Article 25, Emission Standards for Volatile Organic Compound Storage and Transfer Operations - 2000  
Article 26, Emission Standards for Large Appliance Coating Application Systems - 2000  
Article 27, Emission Standards for Magnet Wire Coating Application Systems - 2000  
Article 29, Emission Standards for Can Coating Application Systems - 2000  
Article 30, Emission Standards for Metal Coil Coating Application Systems - 2000  
Article 31, Emission Standards for Paper and Fabric Coating Application Systems - 2000  
Article 32, Emission Standards for Vinyl Coating Application Systems - 2000  
Article 33, Emission Standards for Metal Furniture Coating Application Systems - 2000  
Article 34, Emission Standards for Miscellaneous Metal Parts and Products Coating Application Systems - 2000  
Article 35, Emission Standards for Flatwood Paneling Coating Application Systems - 2000  
Article 36, Emission Standards for Flexographic, Packaging Rotogravure and Publication Rotogravure Printing Lines - 2000  
Article 37, Emission Standards for Petroleum Liquid Storage and Transfer Operations - 2006  
Article 39, Emission Standards for Asphalt Paving Operations - 2000

In that time, it has generally become less expensive to characterize, measure, and mitigate the regulated pollutants that contribute to poor air quality. The regulations continue to provide the most efficient and cost-effective means to determine the level and impact of excess emissions and to control those excess emissions.

The Department, through examination of the regulations and relevant public comments, has determined that the regulatory requirements currently minimize the economic impact of emission control regulations on small businesses and thereby minimize the impact on existing and potential Virginia employers and their ability to maintain and increase the number of jobs in the Commonwealth.

### Family impact

*Please provide an analysis of the regulation's impact on the institution of the family and family stability.*

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It is not anticipated that the regulations will have a direct impact on the institution of the family and family stability.