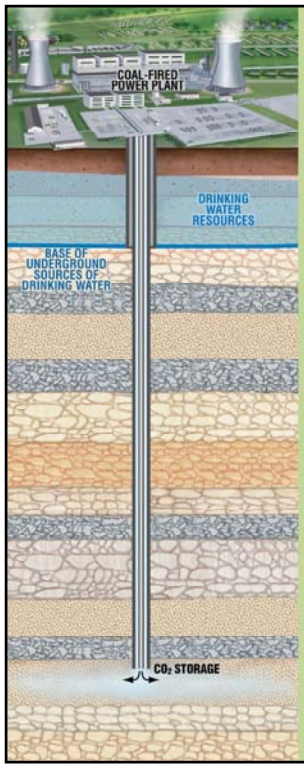
United States
Environmental Protection
Agency



Underground Injection Control Geologic Sequestration Rule Training Workshop: Financial Responsibility (FR)

(40 CFR 146.85)

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This part of the presentation begins with a brief history of financial responsibility, or FR, requirements and the UIC program in general, followed by the required FR activities and the goal of FR for GS, and concludes with qualifying FR instruments and the UIC Program Director's responsibility during the review of the FR demonstration.

FR and UIC Program

	Authority	Direction on Mechanisms
Class I	SDWA plus RCRA for Class I Haz Wells	Options and requirements described by rule in 40 CFR 144.63
Class II **Class III** **Class IV** **Class V** **Class VI**	SDWA	Follow general requirements in 40 CFR 144.52(a)(7) Class II options described in guidance (EPA 570/9-90-003) Class VI options are described in *both* rule (40 CFR 146.85) and guidance (EPA 816-D-10-010)

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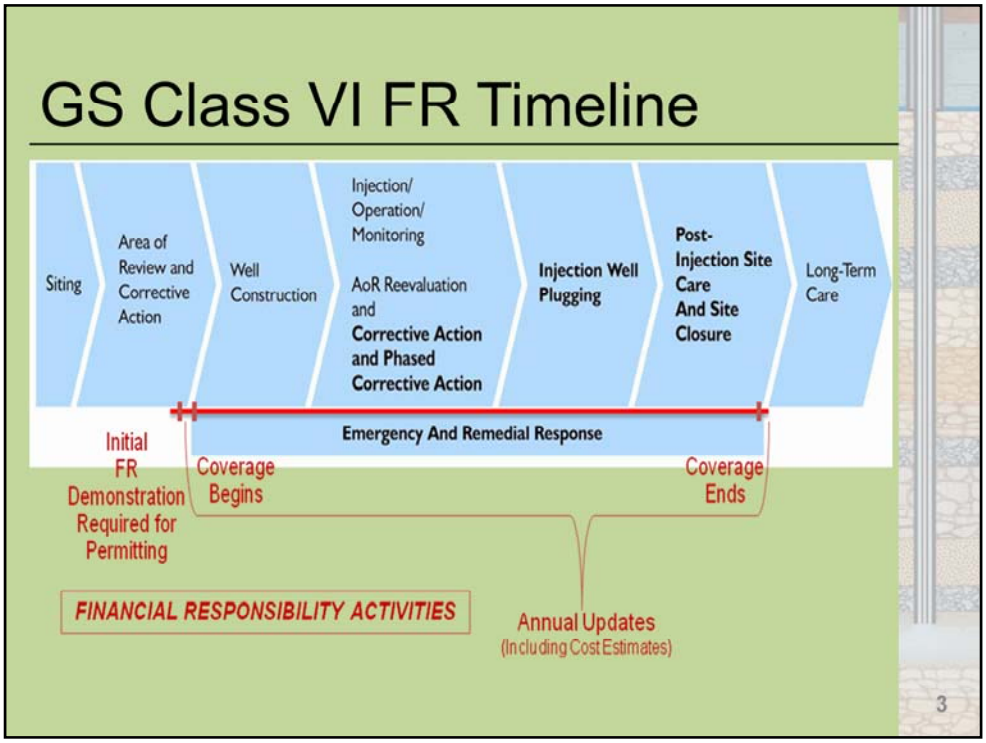
To understand the history of FR in the UIC Program and it's impact on Class VI GS wells, it is important to recognize that the authority of rules and guidance is different for Class I wells than for the all other UIC well classes. As hazardous waste injection wells, Class I wells are regulated under SDWA as well as the Resource Conservation and Recovery Act (RCRA). RCRA applies only to Class I hazardous injections.

Class I hazardous waste well requirements are described by rule. The requirements focus on the plugging and abandonment phase and provide a choice among several financial instruments. The wording of each financial instrument is specified in Class I rule requirements along with the specifics about the timing of payments and required payment amounts.

Class II follows the general requirements in 40 CFR 144.52(a)(7) with additional options described in guidance published by EPA in 1990, which provides recommendations on financial instruments designed to demonstrate that an owner or operator is likely to close, plug and abandon wells properly based on EPA financial tests. However, these recommendations are not binding.

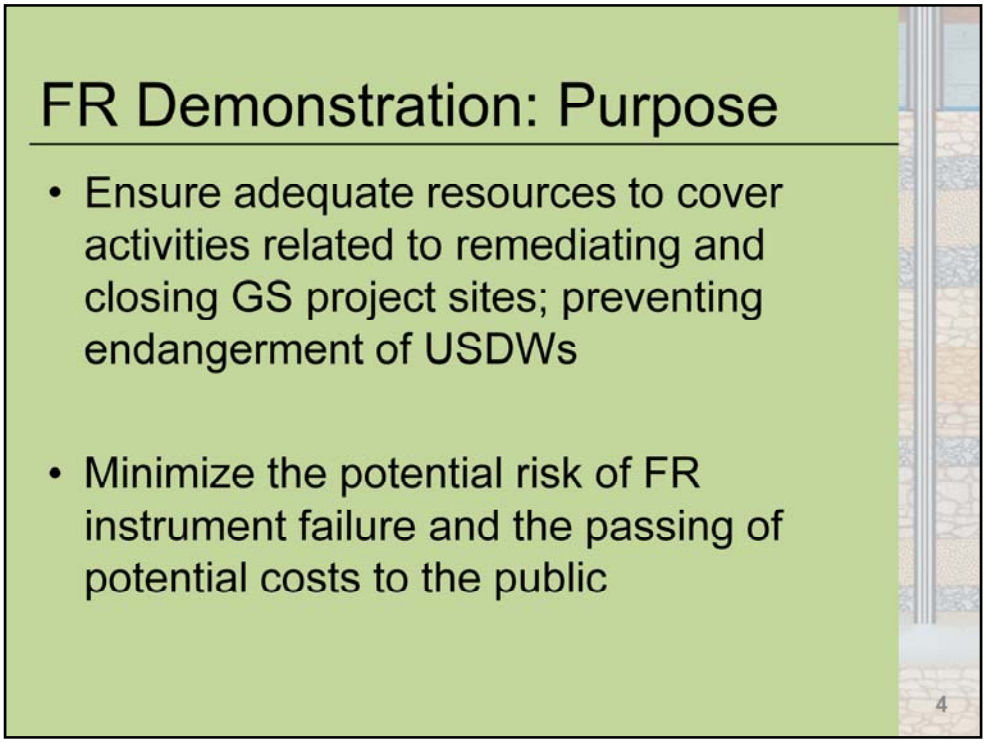
Class VI options are described in *both* the UIC GS Rule and the UIC Class VI Financial Responsibility guidance document available on the EPA website.



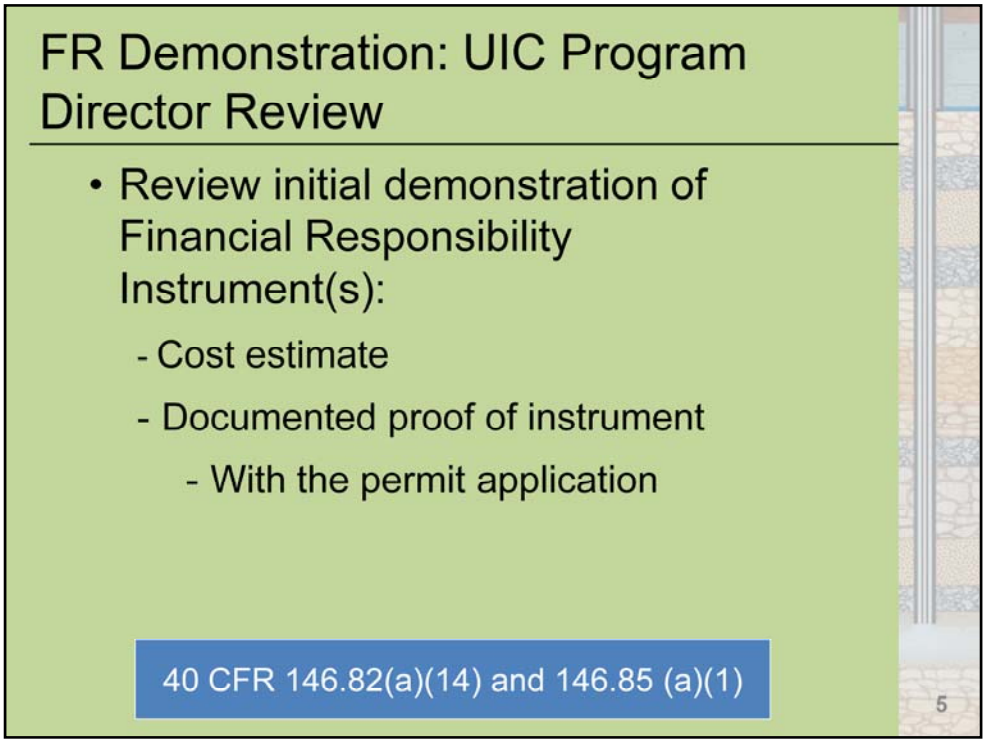
EPA requires financial responsibility demonstration for more phases or activities in a GS project than for any other class of injection wells regulated by the UIC Program. These additional requirements are due to the long-term nature and uncertainty of events associated with GS projects. Every owner or operator of a Class VI injection well must demonstrate and maintain financial responsibility until the UIC Program Director releases the owner/operator from financial obligations after appropriate site closure has been conducted and verified.

The purpose of this exhibit is to highlight activities for which FR is required during a GS project. Please note that the timeframes are not to scale.

Activities for which financial responsibility must be demonstrated are shown in **bold**. Note that Corrective Action in the initial Area of Review phase is not in bold; because financial responsibility demonstrations coincide with permitting, Area of Review and Corrective Action activities prior to permitting (i.e., prior to well construction) do not require FR demonstrations.

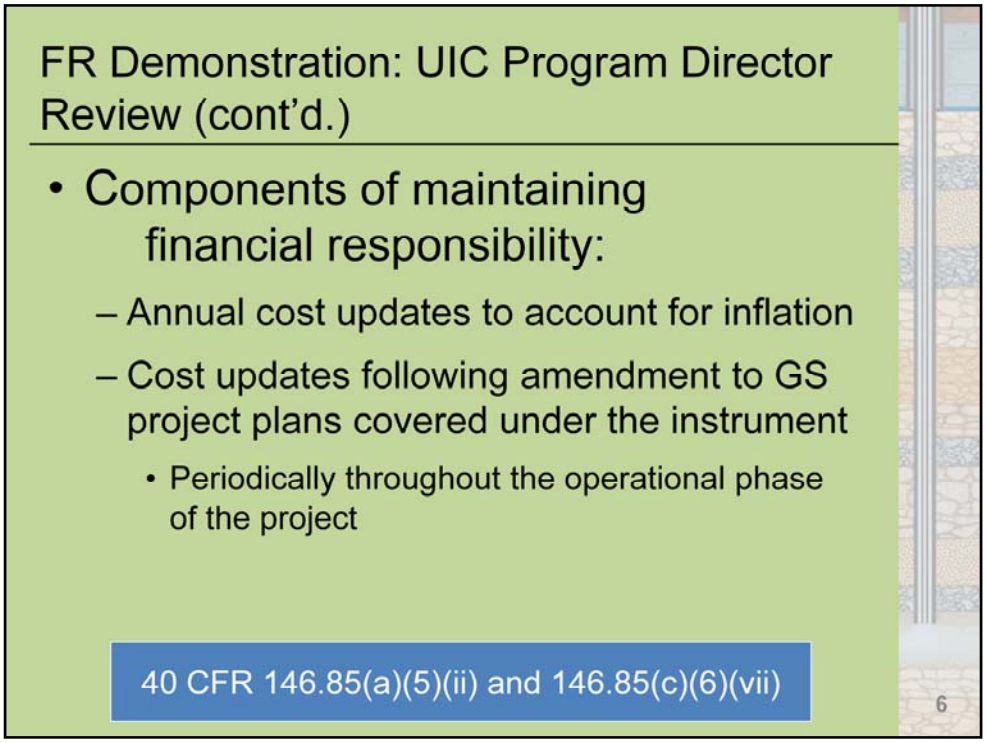


The UIC Class VI GS Rule financial responsibility requirements are designed to ensure that owners or operators have the resources to carry out activities related to closing and remediating GS sites if needed. These activities may take place **either during injection operations or after the well has been plugged** in order to protect USDWs. The Class VI FR requirements are also designed to ensure that the private costs of GS are not passed along to the public.



In the initial demonstration, with the Class VI permit application, owners or operators must submit a cost estimate and documented proof of an independent third-party instrument or of self-insurance (there are more details in the following slides). This initial demonstration may need to be updated over time as more information becomes available – either before injection commences, or during injection operations. AoR reevaluations and required project plan updates may also trigger adjustments to the Class VI injection well FR demonstration, and those adjustments must be reviewed and approved by the UIC Program Director.

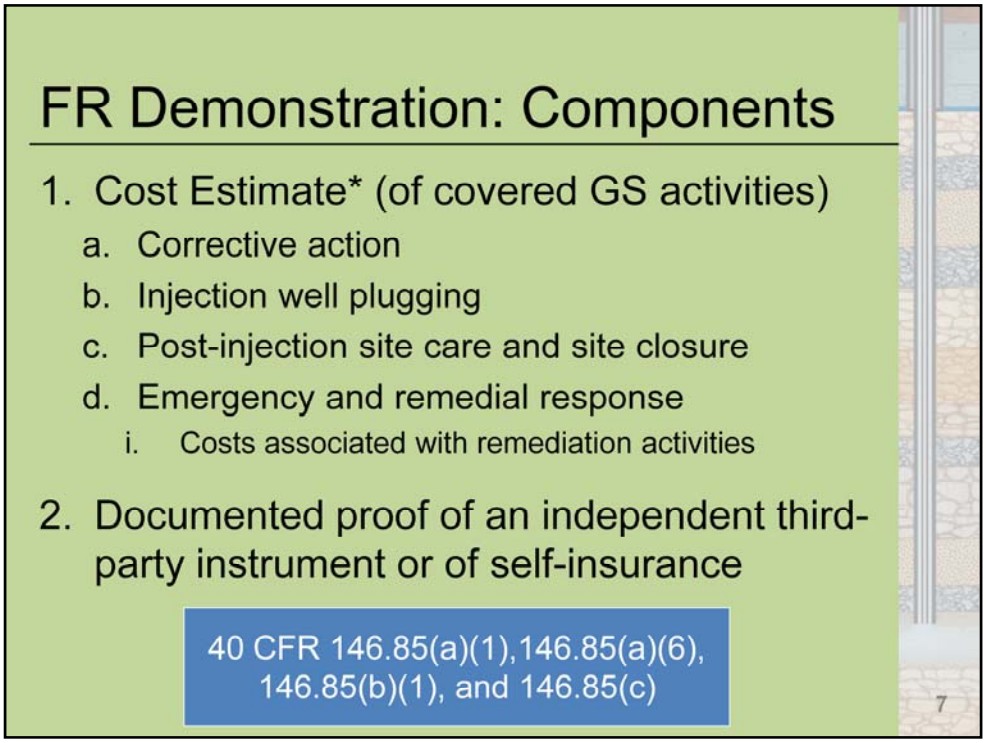
The UIC Program Director has the authority to approve the use of qualifying financial responsibility instruments, and also has the discretion to reject financial instruments determined to be insufficient. EPA recommends that a combination of financial instruments be used to demonstrate FR. Note that any instruments approved for use in the permit application review may be denied or require updating based on later Program Director reviews.



The Director will also have periodic review responsibilities after approving the initial demonstration. On at least an annual basis, the demonstration and cost estimates will be updated and verified to ensure that the project costs will fall within the coverage provided by the financial responsibility instrument(s).

Specific times that owners or operators are required to revisit their original cost estimate and revise their financial responsibility demonstration to reflect the most up-to-date information include:

- On an **annual basis** for inflation, within 60 days of the anniversary of the financial instrument's establishment, and
- Following any amendments to the required Class VI GS project plans: The AoR and Corrective Action plan, the Injection Well Plugging plan, the Post-Injection Site Care (PISC) and Site Closure plan, or the Emergency and Remedial Response plan.



There are two major components to the FR demonstration. The **first** component is the cost estimate. Cost estimates are based on the cost of hiring an independent third party, who is neither a parent nor a subsidiary of the owner or operator, to conduct the activities necessary and represent the total approved likely liability for GS.

The UIC Program Director can use discretion as to whether the cost estimation is required to come from an independent third party or can be estimated by the owner or operator.

Qualifying financial responsibility instrument(s) must be sufficient to cover the cost of:

a. Corrective action;
b. Injection well plugging;
c. Post-injection site care and site closure; and
d. Emergency and remedial response
e. The UIC Class VI GS Rule also requires that the financial responsibility instrument(s) be sufficient to address endangerment of USDWs; so the cost estimate must include any costs associated with potential remediation activities.

Note: EPA makes recommendations for estimating costs of any possible emergency and remedial response in the UIC Class VI Financial Responsibility Guidance.

The **second** component of the demonstration is proof of a third party instrument or self insurance. The next few slides cover additional information on the required documented proof.

FR Demonstration: Qualifying Instruments

Independent Third-party Instruments	Self-insurance
Trust fund	Financial test
Surety bond*	Corporate guarantee
Letter of credit*	
Insurance (third-party)	
Escrow account*	

*These instruments require a standby trust when EPA is the UIC Program Director.

40 CFR 146.85(a)(1)

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There are two broad categories of financial responsibility instruments: independent third-party instruments, and self-insurance. The qualifying instruments for demonstration include, but are not limited to, those listed on the slide. Owners or operators can use other qualifying instruments or a combination of qualifying instruments to demonstrate financial responsibility for a specific phase of the GS project at the UIC Program Director's discretion.

•**Independent third-party instrument(s)** are agreements that rely on an independent third-party institution's guarantee to hold funds, or to directly fund or perform the financial responsibility activities. Also, note that a standby trust is required for certain third-party instruments so that EPA can direct the use of the funds held in those instruments without being the beneficiary of the funds.

•**Self-insurance** is only available if the owner or operator meets specified criteria, including either a financial ratio or bond rating test. This financial responsibility demonstration generally allows the owner or operator to submit financial statements and other information to prove they are likely to remain in operation, based on indicators of the economic health of the organization, and they will be able to complete all required GS activities.

Recommended FR Instruments for GS Activities

Corrective Action	Injection Well Plugging	PISC and Site Closure	Emergency & Remedial Response
1. Trust Fund 2. Letter of Credit 3. Surety Bond 4. Escrow Account 5. Financial Test & Corporate Guarantee*	1. Trust Fund 2. Letter of Credit 3. Surety Bond 4. Insurance 5. Financial Test & Corporate Guarantee*	1. Trust Fund 2. Insurance 3. Financial Test & Corporate Guarantee*	1. Insurance 2. Letter of Credit** 3. Surety Bond** 4. Financial Test & Corporate Guarantee*

*Financial tests and corporate guarantees present the lowest direct costs to owners or operators, but the highest risk to the public.
**Letters of credit and surety bonds are likely most appropriate for emergency and remedial response during operation phases.

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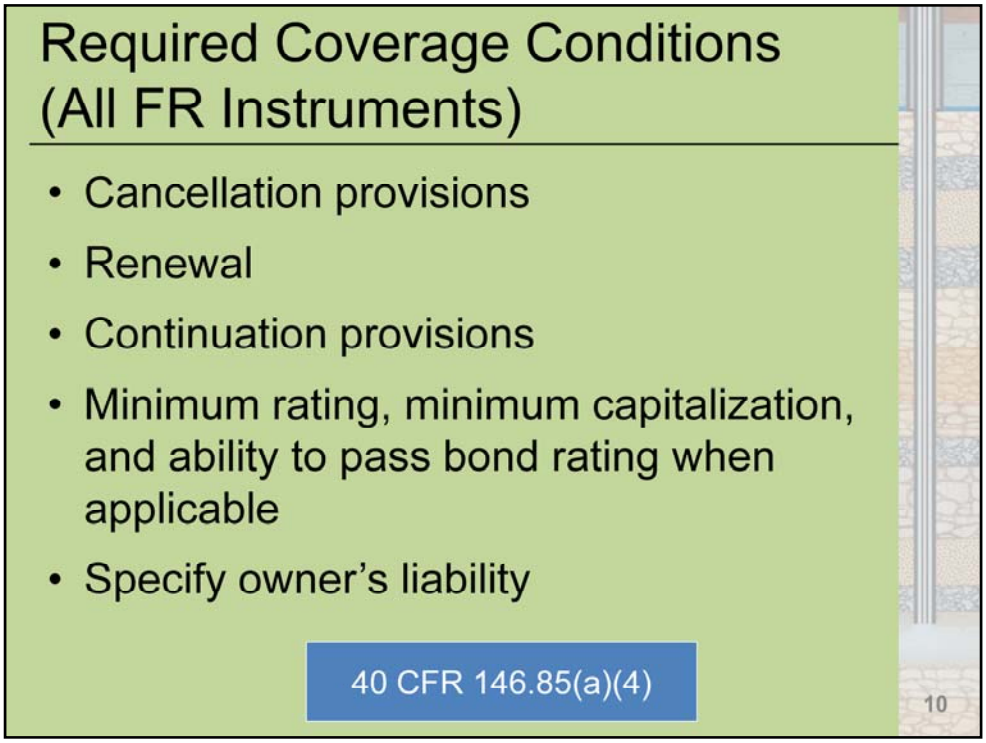
The appropriateness of various financial instruments depends on the characteristics of the instruments and the covered GS project activities. Some instruments are better suited for certain GS activities than others. Therefore, benefits of the instruments can be maximized by effectively matching them with specific GS project activities. The table on this slide identifies the instruments EPA recommends for GS activities requiring financial responsibility demonstrations based on the potential for instrument success or failure, and resource implications for owners or operators and Directors (listed in order of decreasing preference). For example:

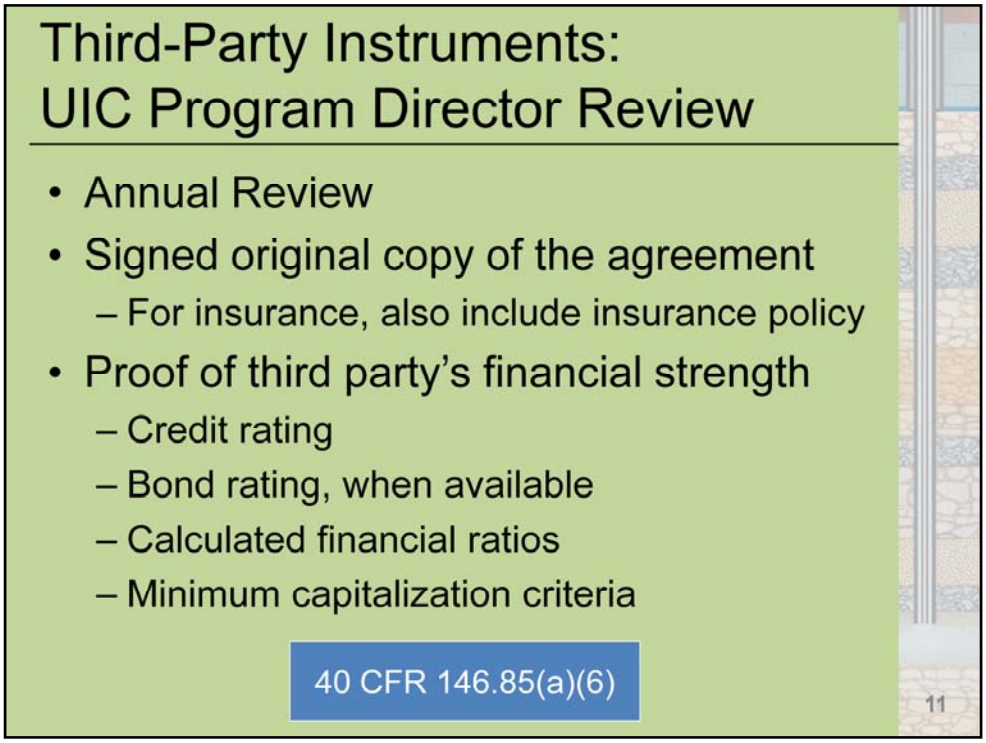
- **Trust Funds** are best suited for activities that are relatively certain in terms of occurrence and cost. A fully funded independent third-party trust represents the lowest risk to the public of paying for these activities.
- **Letters of Credit** are best suited for corrective action and injection well plugging demonstrations because they generally perform equally well for certain and uncertain environmental activities, as long as the credit limits are not exceeded.
- **Surety Bonds** generally perform equally well for certain and uncertain environmental activities—as long as the limits of the bond are not exceeded. Both performance and payment bonds are acceptable. More details are provided in the UIC Class VI FR Guidance
- **Insurance policies** are best suited for uncertain events such as emergency and remedial response demonstrations. However, certain policies may also be useful for certain events.
- **Escrow Accounts** are best suited for corrective action demonstrations because they generally have lower set-up costs than trust funds. Escrow accounts are likely to be best utilized for the shortest term activities, such as phased corrective action.
- **Financial Tests and Corporate Guarantees** are useful for all activities. Self-insurance is beneficial for owners or operators because it is likely to have the lowest overhead cost, but it represents the highest financial risk to the public. Therefore, the reason to allow financial responsibility demonstrations using self-insurance is to enable GS as a matter of public policy.

Under the Class VI regulations, escrow accounts are recommended by the UIC program for the first time [highlighted in red]. Because Class VI injection wells require a demonstration of financial assurance for more activities than general “plugging and abandonment” these regulations are also the first time that financial responsibility instruments have been recommended for particular injection activities. For a blanket bond, the Director can decide to assign specific percentages of the blanket bond to specific phases of activity; however, the bond must cover 100% of the required Class VI activities



In general, all qualifying financial responsibility instrument(s) must comprise conditions of coverage under: cancellation provisions, renewal, continuation provisions, and requirements for the provider to meet a minimum rating, minimum capitalization, and ability to pass the bond rating when applicable. The instruments must also specify when the provider becomes liable in case of cancellation if there is a failure to renew with a new qualifying financial instrument.

There are recommendations for a minimum financial rating for a third party insurer in both the UIC Class VI GS Rule language and in the UIC Program Class VI Financial Responsibility Guidance.



The Director is charged with assessing and confirming the completeness and accuracy of the owner's or operator's financial responsibility demonstration. Since financial conditions for independent third-party firms and GS owners or operators can change quickly, the GS Rule requires that the UIC Program Director perform an **annual review of the demonstration**.

It is recommended that the UIC Program Director should evaluate the financial instrument agreement for accuracy and completion. The language of the agreement should conform to the example forms provided in Appendix B of the UIC Class VI FR Guidance. If the Director identifies differences between the examples provided and submission, the Director should have the owner or operator explain the reasons for those differences.

EPA recommends that a signed original copy of the financial agreement be delivered to the Director. In the case of insurance, EPA recommends that, in addition to the certificate of insurance, the insurance policy itself should be submitted to the Director.

Owners or operators are required to submit proof of the third party's financial strength. **NOTE**: The UIC Class VI FR guidance makes recommendations of financial metrics that UIC Program Directors may use for the purpose of reviewing third-party financial strength. EPA recommends that the owner or operator submit the third party's credit rating, or when available, the most recent bond rating and calculated financial ratios. EPA recommends that the third party meet the minimum capitalization criteria for Debt-Equity, Assets-Liabilities, and Cash Return, on Liabilities.

Third-Party Instruments: UIC Program Director Review (cont)

Required Specifications

40 CFR 146.85(a)(6)

Specification	Instrument(s)
Sufficient funds for all activities	Each instrument, or the total value of combined instruments
Establish stand-by trust	Surety bonds, letters of credit, insurance
Approved pay-in period	Trust funds, escrow accounts
Proof of third-party relationship (independence)	Insurance

In addition to financial stability requirements, for each third party instrument some additional specifications are also required. For example:

•The face value of the instrument must be sufficient to cover the current cost estimate for all activities. In cases where more than one instrument is used, the total value of the combined instruments must be sufficient to cover estimated costs.

•The owner or operator must establish a standby trust to enable EPA to be party to the financial responsibility agreement without EPA being the beneficiary of any funds. This applies to surety bonds, letters of credit, and insurance.

•The Director must approve the use and length of pay-in-periods for the instrument. This applies to trust funds and escrow accounts.

•Regarding insurance, the owner or operator must demonstrate that the insurer issuing the policy is an independent third party.

Third-Party Instruments: UIC Program Director Review (cont)

- Recommended specifications vary by instrument
- Most deal with language of financial agreement and terms of the pay-in period

There are also numerous recommended specifications for each instrument type. Most of these recommendations relate to ensuring that the language of the financial agreement conforms to the language in the appendices to the UIC Class VI FR Guidance (to ensure proper coverage). The appendices include sample language so that the legal agreements for each type of instrument meet the recommended specifications.

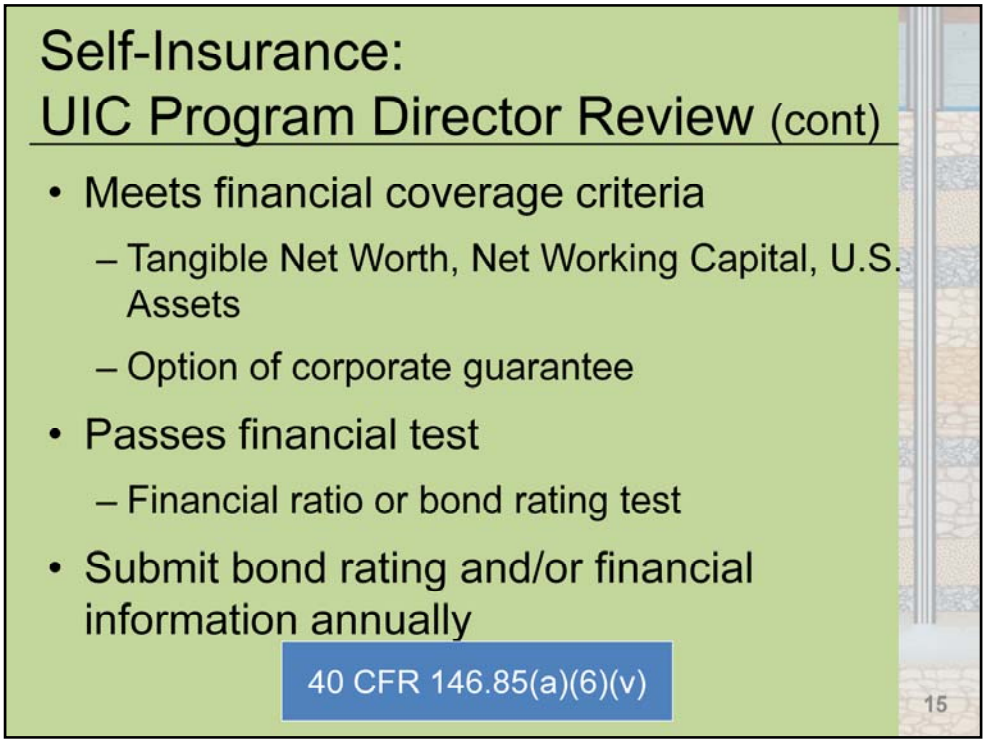
EPA recommends that, for submissions using self-insurance, the owner or operator's chief financial officer (CFO) send a letter to the UIC Program Director that shows the owner or operator, or the company offering the corporate guarantee, passes the financial test.

EPA also recommends that the owner or operator ensure that the information in this letter is accurate. This can be done by providing a full auditor's opinion from an independent certified public accounting firm that attests to the accuracy of the financial data used in the letter. An independent accountant must evaluate the self-insurance information and the full auditor's report.

Additional information that might be submitted for the Director's review includes:

- A copy of the 10-K report, which is submitted annually to the Securities and Exchange Commission (SEC), and
- A Federal Energy Regulatory Commission (FERC) Form 2 report.

These reports are based on full-scale audits, so EPA considers them functionally equivalent to an auditor's opinion. Although there are many types of auditors' analyses of financial data, the Director can accept only an auditor's full opinion as confirmation of the accuracy of financial information showing that a company passes this test and specifying any qualifications that the Director can use to determine the adequacy of the audit.



For a complete submission using self-insurance, there are several required specifications. The first is that the owner or operator **meet coverage criteria**.

The owner or operator must have:

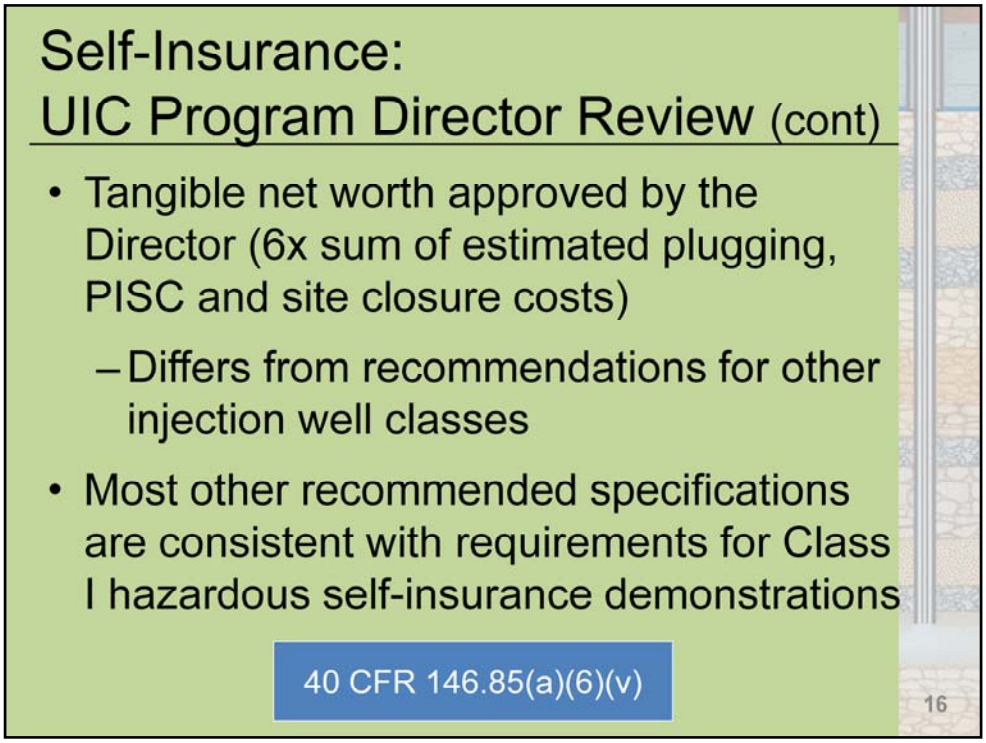
1. Tangible net worth for an amount approved by the Director;
2. Net working capital and tangible net worth each at least six times the sum of the current cost estimate for all financial responsibility activities; and,
3. Assets in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current cost estimate.

When an owner or operator cannot meet coverage criteria, the owner or operator may arrange a corporate guarantee by demonstrating that its corporate parent meets the financial test requirements on its behalf. The parent must also guarantee to fulfill the obligations for the owner or operator.

To pass a financial test, the owner or operator (or corporate parent) could either meet the specified financial ratios or the specified bond ratings (both are described in the FR Guidance). At the UIC Program Director's discretion, the owner or operator might be required to pass both tests. Financial tests are discussed in the UIC Class VI GS Rule and preamble language, and in the UIC Class VI Financial Responsibility Guidance. It is the responsibility of the owner/operator to demonstrate the required financial strength. If the rating of an instrument, third party insurer or other provider decreases, this may be cause for concern on the part of the owner/operator and the Director.

While this is not noted on the slide, it might be helpful to compare these requirements to earlier UIC Program rules and guidance: The financial coverage criteria (needed to qualify for financial ratio test or bond rating test) are consistent with Class I Hazardous regulations and Class II guidance. The bond rating test is also consistent with Class I Hazardous regulations and Class II guidance. The financial ratios test requires that ALL of the Class I Hazardous thresholds be met (instead of just two of three) plus two Class II guidance thresholds that were added, meaning that a total of 5 ratios must be met for Class VI.

Another requirement for self-insurance instruments is that the bond rating and/or financial information **must be submitted** annually for the UIC Program Director's review.



A third specification in the UIC Class VI GS Rule, that differs from FR requirements for other classes of injection wells, is that the owner or operator must have a tangible net worth of at least six times the sum of the current well plugging, PISC and site closure costs and the tangible net worth must be approved by the UIC Program Director. EPA recommends in guidance that this amount be at least $100 million for meeting the Class VI financial responsibility demonstration using self insurance.

Most of the other specifications for Class VI FR using self insurance are consistent with the requirements for Class I hazardous self-insurance demonstrations.

Instrument Risk and Oversight: UIC Program Director Review

Financial Instrument	Relative Financial Risk to the Government*	Oversight and Enforcement Effort Needed*
Trust Fund	Low	Medium Low
Letter of Credit	Low	Low
Surety Bond	Medium Low	Medium Low
Insurance	Medium	Medium
Financial Test and Corporate Guarantee	High	High
Escrow Account	Low	Medium Low

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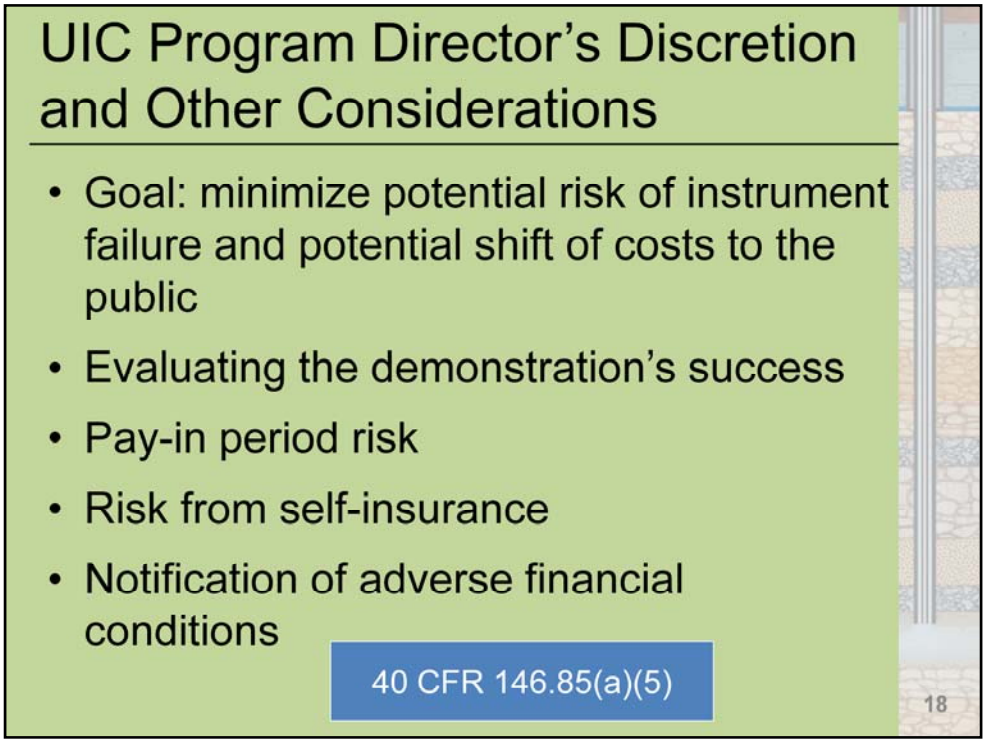
The purpose of the UIC Program Director's review of the financial responsibility demonstration is to evaluate the suitability of the specific financial responsibility instrument. One additional consideration for understanding and approving demonstrations includes:

- **Review and oversight time and risk**. The review of financial responsibility demonstration will take time, regardless of which instrument is used by the owner or operator. The UIC Program Director might want to consider the long-term regulatory risk and oversight role the selected instrument(s) imply, as shown in the table on this slide. If available, the owner or operator can submit any independent third-party evaluations of risk to the UIC Program Director, especially if insurance is used.

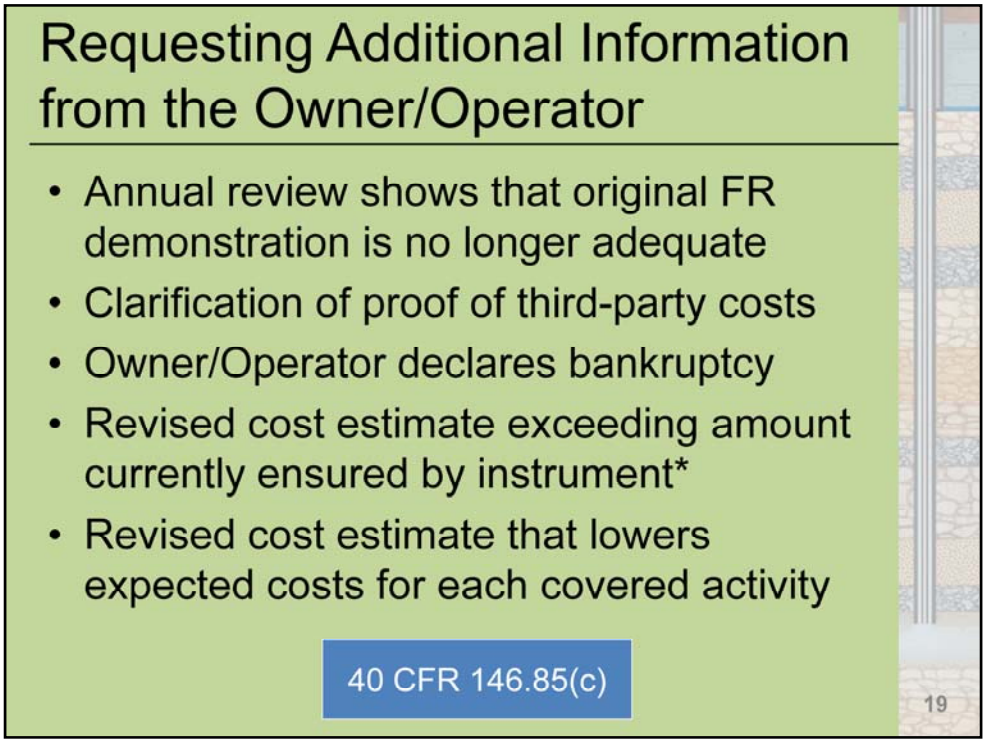


The UIC Program Director's goal in reviewing a financial responsibility demonstration is to minimize (1) the potential risk of instrument failure, (2) risks to USDWs, and (3) the potential costs to the public. A successful financial responsibility demonstration will establish instruments that guarantee that the owner or operator will be able to pay if coverage is needed and ensure that GS project remediation costs will not be passed to the public.

All aspects of the financial responsibility demonstration are subject to the UIC Program Director's discretion. The UIC Program Director may find that the financial responsibility demonstration is unsatisfactory, as long as the determination is not arbitrary or capricious. EPA expects the UIC Program Director to exercise discretion in negotiating a satisfactory financial responsibility demonstration or in denying a demonstration, especially with regards to the pay-in period and the required financial tests. Other considerations, particularly those where the Director may exercise discretion include

- Risk during the pay-in period
- Risk from self-insurance and/or
- Notification of adverse financial conditions

Note: the length of the pay-in period is also at the Director's discretion. The Director must approve the use and length of the pay-in period for trust funds or escrow accounts. Oversight of the pay-in period payments is needed.



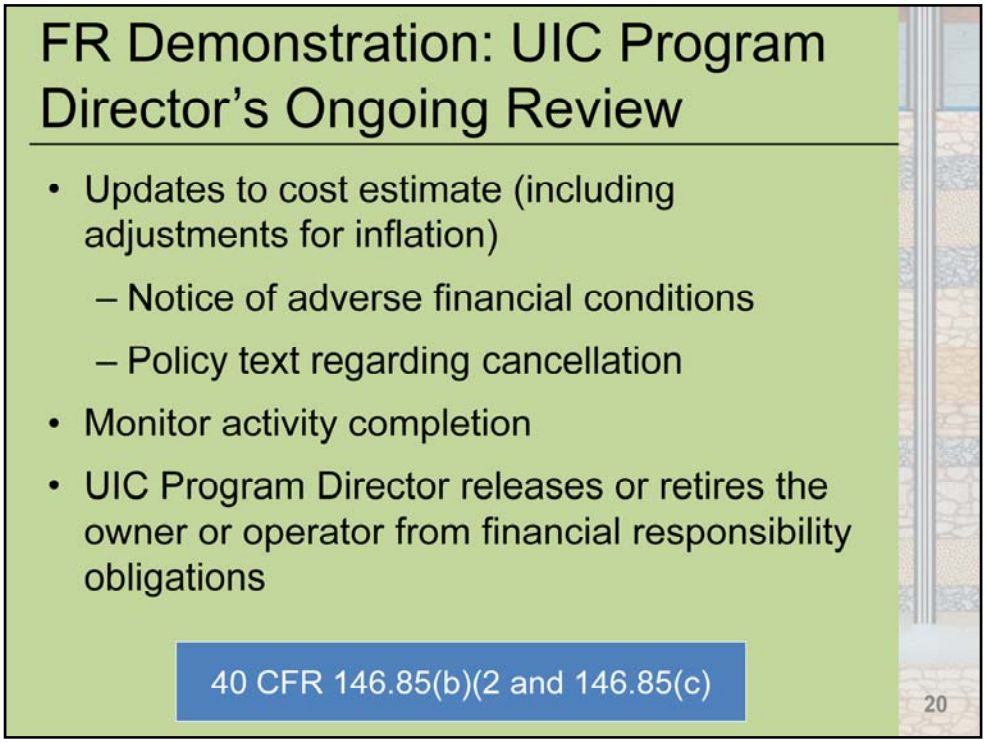
EPA recommends that additional information be requested when the UIC Program Director determines that an owner or operator has not provided sufficient information in its financial responsibility demonstration in order to meet the requirements of the UIC Class VI GS Rule.

Instances in which the UIC Program Director might request additional information from the owner or operator include, but are not limited to, the following

- When, during the annual evaluation of the qualifying financial responsibility instrument, the UIC Program Director determines that the original demonstration is no longer adequate to cover the GS activities originally covered by the instrument;
- When clarification is needed in order to ensure that the cost estimate reflects all accurate third party costs;
- When the owner or operator declares bankruptcy;
- When a revised cost estimate is greater than the value of the financial instrument(s) currently in use; or
- When a revised cost estimate shows a decrease in the expected costs of the covered GS activity, and/or the owner or operator wishes to withdraw funds or decrease the policy coverage.

The revised cost estimate must also specify the cost estimate for all covered Class VI injection well phases/activities separately, since the costs of the activities will not all change by the same amounts or percentages.

Changes in FR demonstration can be made during this annual review, or when there are updates to the required Class VI injection well project plans. The permit must then reflect changes in FR demonstration as well as revised cost estimates. If the changes in FR requirements constitute a modification of the permit then it would go through public notification procedures, however, keep in mind that changes to the project plans would trigger public notification procedures, and be considered modifications to the permit in and of themselves.



As mentioned earlier, the Class VI financial instrument(s) used for demonstrating financial responsibility may require adjustments over time based on updates to the cost estimate, including accounting for annual inflation. The UIC Program Director must review the annual inflation updates to each Class VI injection well owner or operator's financial responsibility demonstration, as well as any updated cost estimates. Any delay in receiving these updates may serve as a warning to the UIC Program Director of potential financial distress on the part of the owner or operator. During the annual FR demonstration evaluation, EPA recommends that the UIC Program Director carefully reviews each agreement that the owner or operator enters into with an independent third-party financial assurance provider. When reviewing the policy text regarding cancellation of the instrument, EPA recommends that the Program Director confirm that cancellation is prohibited unless the owner or operator fails to meet conditions that the Director finds acceptable.

The UIC Program Director must also monitor the completion of GS activities covered under the FR instruments (and during annual review, the Program Director can also look for clauses that specify the timeframe required for payout on covered events).

Only the UIC Program Director can release or retire the owner or operator from their financial responsibility obligations. The owner or operator must submit information to be released from all FR requirements. EPA recommends that the Program Director notify the owner or operator that he/she is no longer required to maintain financial assurance for the Class VI injection well, unless the Director has reason to believe that the Class VI GS activities have not been completed in accordance with the applicable Class VI regulations. There is a 50 year default timeframe for PISC in the GS Rule. The Director can approve an alternative timeframe. If an owner or operator has demonstrated financial responsibility for the entire life of the GS project, the UIC Program Director should make the notification of release from FR obligations within 60 days of receiving certifications from both the owner or operator, and an independent registered professional engineer, that the Class VI injection well site closure has been accomplished in accordance with the approved Post Injection Site Care and Site Closure Plan.

The UIC Program Director is required to verify that the site closure certified by a P.E.

Some Class VI Program Financial Responsibility Resources

- For more information on FR, refer to:
  - Draft UIC Program Class VI Financial Responsibility Guidance
    - UIC Class VI Research and Analysis in Support of UIC Class VI Program Financial Responsibility Requirements and Guidance
  - Draft UIC Program Class VI Primacy Application and Implementation Manual
  - EPA's Class VI Web site: http://water.epa.gov/type/groundwater/uic/class6/gsclass6wells.cfm

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Some Class VI Program financial responsibility resources include:

- The Draft UIC Class VI Financial Responsibility Guidance and supporting analysis available on the internet.
- The Draft Primacy Application and Implementation Manual available on the internet.
- EPA's Class VI website.