NATIONAL FLOOD INSURANCE PROGRAM

Actuarial Rate Review

In Support of the May 1, 2006, Rate and Rule Changes

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Purpose of This Document

An annual review of the National Flood Insurance Program (NFIP) underwriting experience, with accompanying Program revisions, is an integral part of maintaining the Program's goal of a fiscally sound rating and coverage structure. The purpose of this document is to share the results of the latest actuarial review of the rating structure in the context of the history and goals of the Program.

Overview

Floods have been, and continue to be, the nation's most destructive natural hazard in terms of economic loss and life-threatening events. In response to this destructive natural hazard, Congress authorized numerous expensive flood protection works and disaster relief efforts. For many years, studies indicated that the Federal Government's reliance on these expensive flood protection works and disaster relief efforts urgently needed to be complemented by a national nonstructural floodplain management approach implemented at the State and local government level. Since the inception of the NFIP in 1968, the Federal Government has required communities to adopt a nonstructural floodplain management approach as the quid pro quo for providing Federal Government backed flood insurance at reasonable rates to ease the impact of flood damage on individuals and communities.

Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The NFIP provides the means by which flood insurance is made available through the cooperative efforts of the Federal Government and the private insurance industry. Subsequent studies have indicated that, although insurance does not and probably cannot respond to all the needs of disaster victims, insurance is the most efficient and equitable method of providing disaster assistance (e.g., GAO Report, PAD-80-39).

The NFIP is a coordinated, three-pronged approach developed to (1) identify those areas within local communities that are most at risk of flooding, (2) reduce the impact of flooding through a combination of mitigation and floodplain management, and (3) make flood insurance available to help individuals and small businesses recover following a flood. The NFIP can provide the flexibility for flood insurance to be based on workable methods of pooling risks, minimizing costs, distributing burdens equitably among those protected by flood insurance and the general public, and structuring rates to support mitigation and floodplain management efforts.

A Brief History of the NFIP

The National Flood Insurance Act of 1968 created the NFIP, which since 1979 has been part of the Federal Emergency Management Agency (FEMA). In 2003, FEMA became part of the newly created U.S. Department of Homeland Security (DHS). Within FEMA, the NFIP is administered by the Federal Insurance Administrator as part of the Mitigation Division.

The basic structure of the NFIP was established by the 1968 Act, and that structure continues today. The NFIP is a Federal program enabling property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management to reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the Federal Government. Flood insurance is made available within a community when it adopts and enforces a floodplain management ordinance to reduce the flood risk to new construction.

To encourage participation in the NFIP, the Flood Disaster Protection Act of 1973 expanded the use of premium subsidies[1] as an additional incentive to encourage widespread State, community, and property owner acceptance of program requirements including that Act's introduction of mandatory flood insurance purchase. For the next 7 years, the heavily subsidized premium charges remained in effect. During that period, nearly every community with a flood hazard joined the NFIP, and the insurance policy count increased dramatically, reaching 2 million by 1979. States also responded: governors appointed floodplain management coordinators to assist local communities' governments in working with the Federal Government on Program matters. These actions created the first nationwide response to address the flood peril.

In 1981, with the NFIP firmly established, FEMA initiated a multiyear series of coverage changes and large rate increases for all subsidized policies, which placed the Program on a fiscally sound basis. In establishing a fiscally sound program, which was achieved in 1986, FEMA stressed that, as opposed to the traditional insurance definition of fiscal solvency, the NFIP's intent was to generate premium at least sufficient to cover expenses and losses relative to what is called the "historical average loss year."[2]

The National Flood Insurance Reform Act of 1994 reinforced the objective of using insurance as the preferred mechanism for disaster assistance by expanding mandatory flood insurance purchase requirements and by prohibiting further flood disaster assistance for any property where flood insurance, after having been mandated as a condition for receiving

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[1] While the 1973 Act expanded the authority to grant premium subsidies, the NFIP continued to charge full-risk premiums to all new construction in Special Flood Hazard Areas, as well as all construction outside Special Flood Hazard Areas. In this way, through its premium structure, the NFIP has always supported sound floodplain management and helped to reduce the nation's exposure to flood risk.

[2] This concept of targeting the average Program-wide premium levels to the "historical average loss year" is explained in more detail in the section entitled "Target Premium Level and the Historical Average Loss Year" on page 5.

disaster assistance, is not maintained. These measures were added in recognition of the fact that loan or grant programs, to the extent that they parallel the insurance mechanism, can undermine the ability of the insurance program to operate efficiently and equitably.

In June 2004, Congress passed and the President signed the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act (FIRA) of 2004. Title I of the Act provides additional tools for addressing the impact of repetitive loss properties on the National Flood Insurance Fund. It introduced a pilot project through Fiscal Year 2009 that (1) defines severe repetitive loss properties, (2) authorizes additional funds for mitigation projects, and (3) mandates a 50% increase in premiums for property owners who decline a mitigation offer, along with an appeal process. Title I also modified the Flood Mitigation Assistance (FMA) Program by doubling the annual authorized funding level to $40 million and directing FMA to give priority to those properties that are in the best interest of the National Flood Insurance Fund, In addition, Title I of FIRA 2004 introduced a new Individual Priority Property Program that authorizes up to $10 million annually for FEMA to address those previously flooded properties that the State and local community do not have the capacity to manage themselves. Title I also expanded Increased Cost of Compliance (ICC) coverage so that, even when there has not been a recent flood loss, it can be applied to the non-Federal cost-share requirement of FEMA-funded mitigation projects for individual buildings.

To address concerns raised in the aftermath of Hurricane Isabel, Title II of FIRA 2004 seeks to increase policyholders' knowledge of the Standard Flood Insurance Policy's provisions and of consumer rights under the NFIP.

Financial Structure of the NFIP

Premium Structure

The objective of the NFIP's premium structure is to promote the Program's financial soundness, support floodplain management, and encourage the widespread purchase of flood insurance. The premium structure of the NFIP consists of two distinct approaches, the application of which depends on whether buildings have been constructed after the issuance of a Flood Insurance Rate Map (FIRM)[3] delineating a community's flood risk, or before the issuance of the FIRM.

New buildings (Post-FIRM) are charged full-risk premiums that contemplate the full range of loss potential including catastrophic levels. If the building is constructed in compliance with local floodplain management ordinances (e.g., at or above the Base

[3] A Flood Insurance Rate Map, or FIRM, is an official map of a community on which FEMA has delineated both the Special Flood Hazard Areas and the risk premium zones that are applicable to the community. "Post-FIRM" pertains to a building for which construction or substantial improvement occurred after December 31, 1974, or on or after the effective date of an initial FIRM, whichever is later. "Pre-FIRM" (see next page) pertains to a building for which construction or substantial improvement occurred on or before December 31, 1974, or before the effective date of an initial FIRM.

Flood Elevation in a Special Flood Hazard Area), the flood risk has been reduced to a level where the full-risk premiums should be reasonable. Buildings constructed below the Base Flood Elevation are also charged full-risk premiums, but these premiums can be quite high. In this way, the premium structure of the NFIP helps to reinforce wise building decisions by individuals.

Full-risk premiums are also charged to all buildings that are outside the Special Flood Hazard Area, where the flood risk is low to moderate and premiums are relatively modest.

By statute, highly discounted premiums—otherwise known as subsidized premiums—have been made available for Pre-FIRM buildings in the Special Flood Hazard Area. For many such buildings, the full-risk premiums would be extremely high. Providing certain statutory amounts of insurance at less than full-risk rates was justified as public policy for the following reasons:

(1) Lower premiums for existing construction made it easier to convince communities to join the NFIP. It was very important in the early years of the NFIP to increase community participation so that sound floodplain management was implemented and the nation's exposure to flood would thereby be slowly but significantly reduced.

(2) It was anticipated that very high premiums would cause great resistance to insurance purchase. However, with reasonable premiums, property owners purchasing insurance at less than full-risk rates would still be funding at least part of their recovery from flood damage. This was considered preferable to the previous arrangement of disaster relief that came solely from taxpayer funding.

(3) In the public policy discussions leading to the authorization of the NFIP, it was determined to be undesirable to potentially force, through high flood insurance premiums, the abandonment of otherwise economically viable buildings.

The average full-risk premium for these older buildings is currently estimated to be about five times greater than the average full-risk premium for compliant buildings. Even though these older, noncompliant buildings receive highly discounted premiums (estimated to be between 35% and 40% of the full-risk premium), subsidized premiums are still significantly higher than what actuarially rated policyholders pay for buildings constructed in compliance. This means that, if the Pre-FIRM subsidized portion of the business were charged full-risk premiums, affected policyholders would have to pay, on average, about two and a half times their current premium. Such a change would cause the aggregate premium for the entire NFIP to increase on the order of 50% to 75%.

It should be mentioned that not all older construction was built unwisely. Older buildings that can be documented, through an Elevation Certificate completed by a licensed surveyor, to be at or above the Base Flood Elevation, can use the less expensive actuarial premium rates. Currently, about half of the older Pre-FIRM buildings insured by the NFIP have documented their compliance with new construction standards and pay the appropriate actuarial rates.

Target Premium Level and the Historical Average Loss Year

Because the NFIP, as explained above, charges highly discounted premiums for many older buildings, it is currently impractical for the NFIP to be actuarially sound in the aggregate. The question then becomes, what should be the overall targeted premium level for the Program? That, essentially, is a question of deciding the level of discount to be provided subsidized policyholders. This became especially relevant in the late 1970s and early 1980s, when subsidized premiums were much more heavily discounted than today. Following what was mostly a period of relatively modest loss years, NFIP borrowing grew to a level far in excess of annual premium receipts. As a result, a series of appropriations was provided to pay down the borrowing. At the same time, the NFIP established the goal for subsidized policyholder premiums to be at the level where, in combination with those policyholders paying full-risk premiums, the Program would generate sufficient revenue to pay for the historical average loss year. The absence of a catastrophic loss year (prior to Hurricane Katrina in 2005) meant that the Program's historical average was less than could be expected over the long term.

The establishment of this target level of premium income for the Program as a whole accommodates the combined effect of the portion of NFIP business paying less-than-full-risk premiums (a subsidy that is provided by statute) and the portion of the business paying full-risk premiums that contemplate in their rates the full range of loss potential including catastrophic levels. The distribution of business written in 2006 is anticipated to be 26% at subsidized rates[4] and 74% at full-risk premium rates.

The historical average loss year has been useful in determining a benchmark for the amount of subsidy provided to Pre-FIRM policyholders. However, that will no longer be true in the future. Next year, when the loss experience from Hurricane Katrina is factored in, the historical average loss year will then be very close to the expected long-term average. So, as a part of next year's rate review, either a new benchmark will need to be developed, or the historical average loss year calculation will need to be modified so that Katrina is given proper weight that reflects how frequently such an event is expected to recur.

Borrowing Authority

The Program has not been capitalized and pays losses and operating expenses out of policyholder premiums. The result is that during less-than-average-loss years the Program generates surplus, while during higher loss years accumulated surplus is used to help pay the insured flood losses that exceed that year's net premium revenue. For periods when losses exceed the accumulated surplus, the NFIP has borrowing authority with the U.S. Treasury that can be drawn upon in order to pay those losses. Initially, the NFIP was granted a $1 billion borrowing authority, but in 1996 legislation was passed (and subsequently extended) providing an increase in borrowing authority from $1 billion to $1.5 billion in

[4] This estimate of 26% is composed of 24% Pre-FIRM and 2% other categories. For a more complete discussion of the various subsidized rates categories, see the "Ratemaking" section on pages 8-13.

order to provide a greater cushion against potential losses. More recently, following the catastrophic hurricanes of 2005, the borrowing authority was increased three more times, so that it now stands at $20.775 billion. It is expected that Congress will need to raise this further in order to pay for all the claims arising from those hurricanes. It is unlikely, given the current annual revenue of the NFIP, that the National Flood Insurance Fund will be able to meet the future interest payments on the borrowing from Hurricane Katrina. Interest on the borrowing is expected to be about $1 billion annually.

FEMA currently estimates that the total loss and loss adjustment expenses for Hurricanes Katrina, Rita, and Wilma will exceed $20 billion. The NFIP will have to borrow nearly all that amount in order to pay those claims.

Prior to Hurricane Katrina, the Fund had been in a debt position four times since the mid-1980s. Following the Midwest Flood of 1993, the Program used $11 million of borrowing, which was quickly repaid. The Program borrowed again as a result of the heavy flood losses during 1995 and 1996 that were at twice the historical average. That borrowing peaked at $922 million during fiscal year 1998, but was completely repaid by June 2001. However, Tropical Storm Allison (June 2001)—the first $1 billion storm in the history of the NFIP—required the Program to borrow $650 million. That amount was repaid as of October 31, 2002. Between then and the 2004 hurricane season, the balance of the Fund grew to just over $1.1 billion. However, that entire amount, along with $300 million of borrowing, was used to pay for claims from Hurricanes Charley, Frances, Ivan, and Jeanne, which occurred during August and September 2004. When Hurricane Katrina made landfall in August 2005, the Fund had outstanding borrowing of $225 million and $189 million of cash on hand.

NFIP Funding and Overall Program Goals

Funding of the Program from policyholder income or potentially from other sources must be addressed in the context of the long-term governmental goals for the NFIP, including its substitution for disaster relief and its encouragement of floodplain management. Because of the highly variable nature of flood losses, the possibility of borrowing funds would be present even if all NFIP policyholders paid full-risk premiums. But, with 26% of policyholders paying significantly less than full-risk premiums, the NFIP's ability to generate surplus or to repay borrowed funds is impeded. Subsidized insurance for older construction, built to lower standards in regard to the flood risk and for which full-risk premiums could be unreasonably high, was the quid pro quo for local community adoption of ordinances controlling new construction in the floodplain. It is also a means by which owners of older construction can prefund at least part of their disaster recovery. The NFIP's standards for new construction are now saving an estimated $1.2 billion annually in flood damage avoided. Additionally, it should be recognized that, in fiscal years 1986 through 2004, the NFIP paid out, from policyholder funding, about $12.1 billion in insurance claims, which otherwise would have greatly increased taxpayer-funded disaster relief.

The Program's financial status must be addressed in a context that is broader than the focus of this rate review. While low loss experience can provide opportunities to rebuild surplus

from policyholder premiums, other measures and public policy issues must also be explored. For example, the passage of the Flood Insurance Reform Act of 2004 provides several tools for mitigating repetitive loss properties. These properties are primarily Pre-FIRM, and the premiums they are currently charged are some of the most heavily discounted relative to their full-risk premiums. Once the provisions of FIRA 2004 are implemented and the number of repetitive loss properties is reduced, one benefit will be a reduction in the NFIP's level of subsidy.

Other public policy objectives that have a bearing on the Program's financial status must be accommodated by the NFIP. It is sound public policy to maximize the number of people who have flood insurance, so as to lessen the reliance on disaster assistance. Policy growth has increased more recently as a result of increased public awareness from the last two hurricane seasons, combined with the introduction of the NFIP's "FloodSmart" marketing and advertising program in 2004. But even with this higher growth rate, the Program continues to experience a high nonrenewal or lapse rate. To increase this growth rate further, the FloodSmart campaign now focuses on retaining existing policyholders and attracting back those individuals who previously have had flood insurance, while continuing to market to new customers.

Average amounts of insurance continue to increase, which increases the potential dollar amounts borrowed. And apart from the Pre-FIRM subsidy, it is public policy to encourage the purchase of flood insurance in areas that are known to be experiencing temporary conditions of heightened flood risk, although the 30-day waiting period reduces some of the effects of this adverse selection.

Recent Rate and Rule Changes

The impact of rate changes effective May 2006 are shown in the following table, along with changes made 1 year earlier. There were no major Program changes in either of the last 2 years.

Impact of May 2006 Rate Changes				
	Distribution of Business	Average Annual Premium with May 2006 Rates	Increase Over Current Rates	Prior Year Increase
Actuarial Rates				
A Zones	43.1%	$344	2.2%	2.2%
V Zones	0.7%	$1,718	5.7%	0.0%
X Zones				
Standard Policies	10.6%	$466	5.6%	6.2%
Preferred Risk Policies	19.5%	$271	0.0%	0.0%
Total Actuarial Rates	73.8%	$356	2.6%	2.3%
Subsidized Rates				
Pre-FIRM	24.2%	$793	6.2%	0.1%
Post-FIRM[5]	2.0%	$593	6.9%	5.0%
Total Subsidized Rates	26.2%	$778	6.2%	0.3%
Total Program	100.0%	$466	4.1%	1.4%

Ratemaking

Generally accepted actuarial principles require at a minimum that a rating system provide protection against the economic uncertainty associated with chance occurrences by exchanging that uncertainty for a predetermined price. This price for insuring the uncertain event must:

- Protect the insurance system's financial soundness;
- Be fair, by allocating costs in proportion to risk; and
- Permit economic incentives to operate and thus encourage widespread availability of coverage.

For the purpose of setting prices, the grouping of risks with similar characteristics is a fundamental precept of a financially sound and equitable system. Because each property at risk is different, a rating system that attempts to identify and reflect in prices every risk characteristic is usually unworkable and costly. The basic features that must be present in sound risk groupings in order to meet the above criteria are that the system should:

[5] There are three categories of Post-FIRM business that also receive discounted premiums. These are explained on page 10.

- Reflect cost and experience differences on the basis of relevant risk characteristics;
- Be applied objectively and consistently;
- Be practical, cost-effective, and responsive to change;
- Minimize anti-selection; and
- Be acceptable to the public.

Also, in the case of flood insurance authorized under Public Law 90-448 (National Flood Insurance Act), the system of insurance and pricing must further the purposes of the Act, which include, among other things, to "(1) encourage State and local governments to make appropriate land use adjustments to constrict the development of land which is exposed to flood damage and minimize damage caused by flood losses, [and] (2) guide the development of proposed future construction, where practicable [emphasis added], away from locations which are threatened by flood hazards." In order to give practical meaning to these objectives, the standard of a 1% annual chance of flood is now used by virtually all Federal, State, and local agencies and participating communities in the administration of floodplain management programs. The risk of experiencing a flood of this magnitude or larger is one chance in four during a typical 30-year mortgage period. In terms of flood insurance, this standard yields reasonably priced insurance protection to the property owner.

The use of a lesser standard approximating pre-1969 building practices would expose future risks to a better than 50% chance of being flood damaged during a 30-year mortgage period and result in insurance rates three to four times those reflecting the "1% annual chance of flood" standard. It was just this consideration of unaffordable full-risk (actuarial) premium rates that prompted Congress to "grandfather" existing construction at subsidized rates.

The National Flood Insurance Act of 1968 separated the flood insurance ratemaking process into two distinct categories, namely, chargeable premium (subsidized) rates and estimated-risk premium (actuarial) rates.

Subsidized Rates

Subsidized rates are countrywide rates by broad occupancy type classifications, which produce a premium income less than the expected expense and loss payments for the flood insurance policies issued on that basis. The difference between the full-risk premiums for these policyholders and the subsidized premiums they actually pay is revenue foregone by the National Flood Insurance Fund.

Pre-FIRM Subsidized Rates

FEMA has promulgated subsidized rates for use in two cases. The first case is for the Emergency Program (added to the NFIP in 1970). Subsidized rates are also used in the Regular Program on construction or substantial improvement started on or before either

December 31, 1974[6], or the effective date of the initial FIRM, whichever is later. Exhibit E details the relationship between the amount of subsidized premium to be collected and the amount of premium required to fund the historical average loss year. The Pre-FIRM properties that pay less than full-risk premium are estimated to pay between 35% and 40% of the full-risk premium needed to fund the long-term expectation for losses.

Special Post-FIRM Classes That Are Subsidized

There are three other cases where classes of business are being subsidized either statutorily or by agreement with Congressional oversight committees.

The first of these is the class of risks located in Zone A99 areas that would be subject to the 1% annual chance flood but for which structural measures that will protect to that level are at least 50% completed. By statute, rates are charged as if full protection were in place.

A second case, added by statute in 1998, is the class of risks located in Zone AR areas. These are areas for which structural measures have been decertified as no longer providing protection to the "1% annual chance of flood" standard. If the areas meet certain criteria pertaining to a scheduled restoration of protection levels, then rates for new and existing construction are capped at the Pre-FIRM subsidized level. After careful consideration of several public policy issues, FEMA set the initial rates for AR Zones at levels equivalent to X Zone Standard rates. Such rates are substantially lower than the cap allowed by statute.

The third case is the class of risks comprised of Post-FIRM construction in the V Zones built between 1975 and 1981. These buildings were constructed to NFIP standards that accounted for stillwater flood elevations but not the associated wave heights, which were not determinable by the engineering state-of-the-art of the time. In October 1981, the NFIP was able to make use of the latest engineering developments and began to require new construction to be built to more stringent standards and to charge rates that took into account the risks posed by the waves associated with the Base Flood[7]. Because the previously compliant construction would be subject to very high rates if held to the same new standards, discussions with Congressional oversight committee members led to the decision to "grandfather" the 1975-81 construction with less than the full-risk premium rates indicated by the latest knowledge of the risk. Those policies total only 0.2% of all NFIP policies in force.

Actuarial Rates

Actuarial rates are promulgated by FEMA for use under the Regular Program (the phase of the National Flood Insurance Program that a community may enter after the initial publication of the FIRM). The actuarial rates are applied in the rating of Post-FIRM

[6] This additional "grandfathering" was added to the NFIP in 1973.

[7] The Base Flood is the flood associated with the Base Flood Elevation (BFE). In other words, there is a 1% chance in any given year that a flood will occur that equals or exceeds the Base Flood.

construction and second layer limits of insurance on all construction (e.g., in the case of 1- to 4-family residences including Pre-FIRM, amounts of insurance in excess of $35,000).

These rates are based on consideration of the risk involved and accepted actuarial principles. An overview of the actuarial rate calculations utilized in developing the indicated rates can be found in the Appendix. The formula described there follows in principle the "hydrologic method of estimating flood damage risk" first outlined in the 1966 U.S. Department of Housing and Urban Development (HUD) report *Insurance and Other Programs for Financial Assistance to Flood Victims.* This method is still the basis for FEMA's various Mitigation Grant programs and is used by the U.S. Army Corps of Engineers in evaluating their projects. It is important to note that the 1966 HUD report described the hydrologic method of ratemaking as a method that "uses available data on the occurrence of floods and damage, but is considerably more sophisticated than merely averaging losses over a period of time."

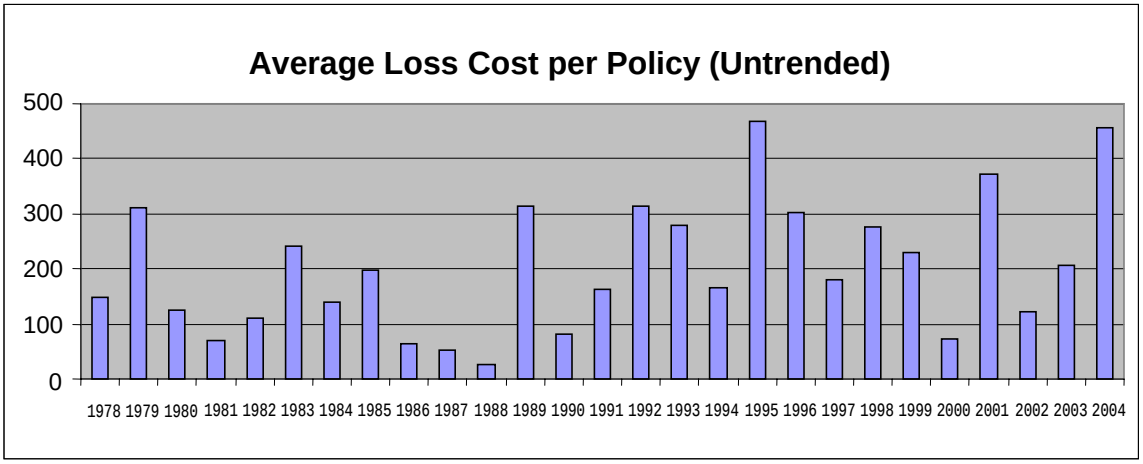
The NFIP's use of the hydrologic model to estimate loss exposure in flood-prone areas also incorporates other relevant factors, such as the building's location, construction, and height relative to expected flood levels.

There are a few risk zones (Zones B, C, D, AO, AH, X, unnumbered A, and unnumbered V) where costs to obtain the hydrologic and topographic information needed to develop flood magnitude and frequency relationships would be extremely high in relation to the floodplain management benefits. Average rates based on actuarial and engineering judgments and underwriting experience have been promulgated for these zones.

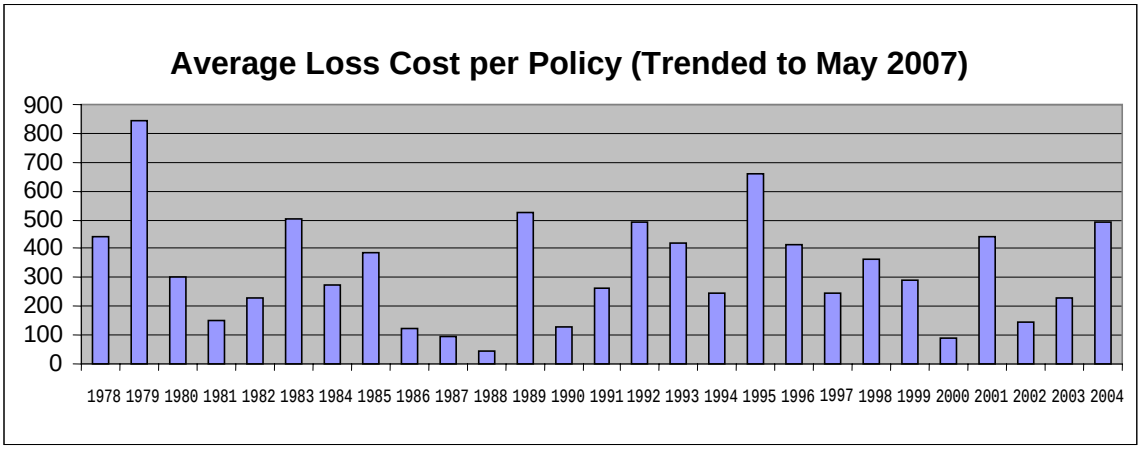
Rate Levels in Light of the Extreme Variabilty in Annual Flood Losses

High-severity, low-frequency events such as floods, hurricanes, and earthquakes do not lend themselves to traditional actuarial pricing techniques. Results vary dramatically from year to year (see graphs on next page), and average results have little predictive value even when gathered over a long period of time. For example, the NFIP will pay more in flood losses from the single event of Hurricane Katrina than it had previously paid in aggregate since its inception in 1968.

In recognition of the fact that historical flood loss experience is an improper basis for setting rates, the NFIP has always used modeling techniques to establish rate levels. This is similar to what is done by private insurers that provide coverage for other natural catastrophes. For those lines of insurance, the industry relies heavily on models of expected damage over many possible events in order to price their products.



Note: Based on preliminary estimates for Hurricane Katrina, average loss cost for 2005 will be about $6,000.



Note: Based on preliminary estimates for Hurricane Katrina, average trended loss cost for 2005 will exceed $6,000.

So while the hydrologic model, as adapted by the NFP to develop indicated rates[8], is the only valid estimate of insured flood damage over a very long period of time, it is not useful for estimating future loss results in the short term. In fact, the estimated amount of losses in any future 1-year period is so uncertain that it can be provided for only by having available large loss reserves and replenishing those reserves by accumulating funds during good years to offset the drain on the reserve during bad years. Since the

[8] The hydrologic model, as originally developed, estimated the expected annual total damage by flood. The NFIP's actuarial model adjusts that damage amount to reflect the portion of the damage covered by insurance after the application of deductibles and other factors. The NFIP actuarial model also loads operating expenses in order to arrive at indicated premium rates.

chargeable rates for so many policyholders are less than the actuarial rates by statute[9], the ability to accumulate loss reserves during the good years is impeded.

However, the achievement of the goal of collecting sufficient premium to cover at least the historical average loss year now allows for some accumulation of reserves during years when losses are less than the historical average. In view of the catastrophic loss potential, the current statutory method of providing borrowing authority to finance the long-term loss and loss adjustment provision of the flood insurance program makes a good deal of sense. Even though the Federal Government became the sole insurer in 1978, the funding mechanism has essentially remained the same.

In light of the extreme variability in annual losses, the vast majority of loss years will vary significantly either above or below the historical average. In fact, the rare but catastrophic loss year has such a large influence on the expected long-term average loss year that it is to be expected that most loss years will be below the long-term average. As a result of this behavior of flood losses, it is misleading to rely on observed experience to reach conclusions about either the long-term loss year or the threshold for catastrophic loss years. Instead, FEMA uses the hydrologic model in order to estimate those amounts.

Target Level Premium Analysis

In 1981, FEMA established the goal of becoming self-supporting for loss year levels at least equivalent to the historical average loss year. This was accomplished by 1986. In order to achieve that goal, the Program undertook a series of aggressive rate increases on the subsidized portion of the book. The end result was that subsidized policyholders were then paying premiums that were sufficient, when combined with the premium paid by actuarially priced policyholders, to provide the Program sufficient revenue to pay the losses associated with the historical average loss year.

In the years since 1986, additional rate increases have been made to bring the average Program premium to a level sufficient to pay for the historical average loss year and have additional funds available to build surplus. In last year's rate review, it was estimated that the rate change that was implemented on May 1, 2005, was sufficient to bring Program premiums to a level equal to 125% of the historical average loss year. And just before the first of the four hurricanes of 2004 made landfall, the Fund had a cash balance of about $1.1 billion. However, to pay for those four hurricanes, that cash balance was exhausted and, as of April 30, 2005, the Fund had borrowed $300 million. The heavy 2004 loss year also drove up the historical average loss year target so significantly that the Program premium level, after implementation of the proposed May 1, 2006, rate changes, will drop to about 115% of the historical average loss year.

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[9] By statute, all buildings in the Special Flood Hazard Area that were constructed before December 31, 1974, or the effective date of the initial FIRM, whichever is later, are to be charged less than actuarial rates. These policies are referred to as Pre-FIRM Subsidized.

Establishing the target as the historical average as opposed to the long-term expected annual losses is an important distinction. Because NFIP experience from 1978 through 2004 does not include any catastrophic loss years, the historical average is significantly less than that which can be expected over the long term where the influence of extremely large loss years would be felt. The importance of targeting the historical average should not be discounted, however. It is the level around which the great preponderance of loss years will concentrate and allows for the accumulation of reserves in years where losses are less than that level to help fund losses in years where they exceed that level.

The target level premium established by the historical average loss year allows FEMA to assess, as part of each year's rate review, how well the NFIP's self-supporting status is being maintained overall. This "historical average loss year" approach to setting rates accommodates the statutory mandate that premium charges for Pre-FIRM risks, if less than full-risk premiums, must be reasonable. It provides a mathematical basis for determining rates for Pre-FIRM risks, which in the past were determined solely on a political basis, and provides an important framework for making accurate estimates of fiscal soundness. In following through on this approach, the premium charges for the two major categories of business, actuarial and Pre-FIRM subsidized, are developed very differently.

Actuarially rated policies are charged premiums that consider the probabilities of the full range of possible losses, including catastrophic levels. Thus, these premiums are targeted at the true long-term average. Written premiums for actuarial policies will generally be greater than those that would be based on the historical average loss year. This is consistent with the expectation that the long-term average annual losses will be higher than the historical experience to date because of the influence of relatively infrequent but catastrophic loss years.

Subsidized policies are defined as a category of business that does not make an adequate contribution to the loss reserve pool. These risks are charged premiums that are based on political and statutory considerations that override actuarial considerations. The probabilities of expected and/or catastrophic losses are not contemplated in the rates, which are established for Pre-FIRM construction as rate caps (limitations on chargeable rates) by occupancy type and flood risk zone. FEMA estimates that the premiums for policyholders in this category are between 35% and 40% of what would be charged if the premiums were developed like those charged to the actuarially rated policies.

Use of the premium requirements indicated by the historical average loss year as a target level provides a means by which the NFIP can objectively assess its self-supporting status. Typically, during the rate review, it is first determined whether the actuarial rates need to be adjusted. The effects of any such adjustments on maintaining the overall target level are then projected. Adjustments to policy coverage or premiums for Pre-FIRM risks will likely be proposed to make up any overall shortfall so that, once again, the combination of actuarial and subsidized business can generate written premium at least to the level of the NFIP's self-supporting target. This methodology was particularly pertinent during the years leading up to achieving the self-supporting target and the first few years afterward. It is important to note that the historical average is not a static target. If all factors influencing

NFIP experience remained constant but for the addition annually of another year to the experience period, the historical average could be expected to rise as it approaches the true long-term average. Other influences that have specific importance in projecting the target level are related to inflation and the expected types of policies to be written, particularly in regard to those paying full-risk premiums versus those that will be subsidized.

As explained above, and throughout this paper, the issue of the proper level of subsidy for older Pre-FIRM structures has been successfully addressed through the application of the concept of the historical average loss year. However, there is also a companion issue of which policyholders should be eligible to receive subsidized premiums (that is, heavily discounted premiums that do not reflect the true long-term flood exposure of a structure). In determining who should receive subsidized premiums, FEMA has always worked with its Congressional oversight committees. Through the years, FEMA has made several proposals to reduce the amount of subsidy, by restricting who is eligible, introducing coverage limitations, and reducing the level of subsidy through a series of aggressive annual rate changes. Prior to Hurricane Katrina, FEMA discussed these proposals with Congressional committee staff and the Office of Management and Budget. The level of subsidy provided in the Program has been the subject of much Congressional debate, and the 1994 NFIP reform legislation directed FEMA to study the economic effects of charging actuarially based premium rates for Pre-FIRM buildings. Price-WaterhouseCoopers was contracted to conduct this study, and FEMA released the results during fiscal year 2000. Several provisions of the Flood Insurance Reform Act of 2004 seek to reduce the adverse impact of repetitive loss properties on the National Flood Insurance Fund, which, when implemented, will help reduce the average overall subsidy level. The Act doubles the authorized funding for the Flood Mitigation Assistance (FMA) Program and directs that priority for mitigation assistance shall be given to such properties that are in the best interest of the National Flood Insurance Fund.

Rate Review Results

Costs based on the 1978 through 2004 underwriting experience and expected NFIP activities were projected to the 2006-2007 cost levels. Exhibit E shows the premiums required by these projections, the expected average written premiums, and the relationship of the written premium to the historical indicated premiums for flood insurance coverage excluding the premiums for Increased Cost of Compliance coverage. The written premium based on all rate and rule changes through May 2006 is expected to be 115% of the level needed to fund the historical average loss year.

The rate and rule changes for May 1, 2006, implementation would result in an overall premium increase of 4.1% and include the following major points:

- An increase in the rates of Standard B, C, and X Zones of 5.6%.
- No changes to the rates of Preferred Risk Policies (PRPs) in B, C, and X Zones.
- Increases in the rates of V Zones of 5.7% (Post-81), 9.1% (Post-FIRM 75-81), and 8.8% (Pre-FIRM).

- An increase in the rates of AE Zones of 2.5%, A Zones of 5.2%, AR Zones of 6.9%, and A99 Zones of 6.4%.
- Various increases in the rates for the Mortgage Portfolio Protection Program (MPPP) policies.

Exhibit A, Page 1, provides, by risk zone category, the average increases in premium projected as a result of the May 2006 rate and rule recommendations.

Federal Policy Fee

The expense of flood insurance studies, floodplain management, and FEMA administrative costs is charged to policyholders through the Federal Policy Fee. Under the Residential Condominium Building Association Policy (RCBAP), the fee varies according to the number of units in the building. Preferred Risk Policies are charged $11 while other non-RCBAP policies are charged a fee of $30. We are not proposing any changes to the Federal Policy Fee. On the basis of recent historical trends, the Federal Policy Fee is expected to produce about $112 million in revenue in 2006-2007.

FEMA believes that most of the salary, study, and floodplain management costs are Federal in nature and benefit taxpayers as a whole through programs that reduce future flood losses and resultant Federal expenditures. However, Congress legislated, with the Budget Reconciliation Act of 1990, that the full funding of these expenses[10] would be borne by flood insurance policyholders through a Federal Policy Fee. To keep this charge as low as possible, the legislation specifically states that the fee is not subject to agent commissions, company expense allowances, or State or local premium taxes. Therefore, although in this rate review the Federal Policy Fee is included in exhibits and analyses of rate level indications, for accounting and Write Your Own (WYO) company reporting purposes, the fee is not considered to be premium.

The 2004 Flood Insurance Reform Act doubled the Flood Mitigation Assistance (FMA) Program authorization to $40 million per year. Part of the Federal Policy Fee is used to fund this program. For fiscal year 2006, Congress appropriated $28 million for FMA. This initial increase in funding will be achieved without any increase in the Federal Policy Fee.

Impact of Community Rating System

Policyholders in communities that participate in the Community Rating System (CRS) are eligible for premium discounts based on the creditable activities undertaken by their

[10] One current exception to the full funding of these expenses through the Federal Policy Fee is mapping. The Risk Assessment Branch of FEMA's Mitigation Division is currently in the midst of a multiyear Map Modernization initiative that is being funded primarily by taxpayer funds. However, those taxpayer funds are being supplemented by Federal Policy Fee revenue. Once the Map Modernization initiative is completed, it is anticipated that the Federal Policy Fee will revert to being the primary source for funding map studies and revisions.

communities. The impact is considered in the target premium level projections and in their comparison with expected written premium.

The success of CRS—both in terms of number of communities and policyholders and in terms of activities undertaken and losses avoided—has continued to grow. Currently, nearly two-thirds of all NFIP policyholders are in participating CRS communities, with discounts ranging from 5% to 40%.

As a result of CRS communities' improving their risk classes by adopting additional creditable activities, Special Flood Hazard Area policyholders in the participating CRS communities should receive an average premium discount of 13% in 2006.

B, C, and X Zones Experience[11]

The NFIP has two types of policies in the X Zone: the Preferred Risk Policy (PRP) and the standard X Zone policy.

Preferred Risk Policies (PRPs)

PRPs are available to buildings that are outside of the Special Flood Hazard Area and have not flooded more than once. To ensure that these conditions are met, the following two underwriting requirements were implemented in 1998:

- The insured property must be in the X Zone at the time of the policy inception and at each subsequent renewal; hence, no "grandfathering" is allowed.
- The insured property's flood history must meet additional requirements regarding paid insured losses and Federal Disaster Relief payments.

Since those underwriting rules were implemented, the PRP experience has substantially improved, except for 2001, when Tropical Storm Allison stalled over Harris County, Texas. While Allison also produced flooding in Louisiana, Mississippi, and Pennsylvania, most of the PRP losses were attributable to incorrectly mapped X Zones in Houston and the surrounding area. Flood maps have since been updated to more accurately reflect the true flood hazard in those areas. PRP experience slightly worsened during 2004 but that is to be expected from a loss year that is moderately greater than the estimated long-term average.

In addition, significant changes were introduced to the PRP in May 2004—changes such as expanding eligibility to include Non-Residential and Other Residential policyholders and introducing a contents-only version of the PRP. In addition, the amount of contents coverage provided to existing PRP policyholders was increased to 40% of their selected building coverage.

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[11] "B, C, and X Zones" is abbreviated to "X Zone" throughout this section and elsewhere in the document. As mentioned in the Appendix, since 1985 all new FIRMs have shown a reduced number of zones, with one of those being an X Zone. The X Zone encompasses areas formerly shown as Zones B or C.

No additional changes, in either coverage or premiums, are being introduced for May 2006.

X Zone Standard Policies (Non-PRP Policyholders)

For standard X Zone policies, rates are adjusted so the premium level relates to the historical indicated premium level at least in the same way as for actuarially rated AE Zone policies. This has resulted in X Zone premium increases for most years that are greater than other zones. In May 2005, X Zone premiums increased 6.2%, and are increasing again in May 2006 by 5.6%. This produces a relationship of X Zone premium to historical indicated premium of 125%, compared to a similar relationship for AE Zone policies of 127%.

V Zone Experience

The increased risk of flooding brought about by erosion has been an area of concern for the NFIP. The 1994 NFIP reform legislation directed a study of a series of possible policy changes to address erosion hazards within Federal programs. The Heinz Center for Science, Economics, and the Environment was contracted to perform this analysis, and the study was released in June 2000. The study results demonstrated that the risk of flooding in those areas of V Zones that are susceptible to erosion will dramatically increase (a two- to three-fold increase in the risk in various areas of the country) during the next 30 to 60 years. The NFIP's ratemaking methodology for V Zones has not directly addressed this increased flood risk brought about by erosion. FEMA is currently investigating ways to do so in the flood maps and the flood rates. The Flood Insurance Rate Maps could be refined to delineate erosion zones. However, that will depend upon funding, development of mapping standards, and political acceptance of higher premiums targeted at those subject to the increased flood risk due to erosion.

In order to at least partially address the increasing hazard of flooding as a result of ongoing erosion, the NFIP began a multiyear plan, beginning in May 2001, to increase rates for all V Zone policies. In May 2006, V Zone rate increases range from 5.7% to 9.1%.

Deductibles

In May 2003, higher deductibles were introduced for Non-Residential policyholders and for RCBAP policyholders. As part of the May 1, 2004, rate changes, slight revisions to some of the relativities for those higher deductibles were implemented. Deductible credits have remained unchanged for 2005 and 2006.

Increased Cost of Compliance (ICC) Coverage

The 1994 National Flood Insurance Reform Act mandated a new coverage to compensate policyholders when they are required to bring their insured buildings into compliance with local floodplain ordinances as a result of being substantially damaged by a flood. The Act required this new coverage to be actuarially sound, but placed a $75 limit on

what any policyholder could be charged. Pursuant to these directives, FEMA introduced Increased Cost of Compliance (ICC) coverage in 1996, which provided payment of up to $15,000 per eligible building. That amount was subsequently increased, first to $20,000 in 2000, and then to $30,000 in 2003. These increases in coverage were based on analyses of the expected claim frequency under this coverage.

The Flood Insurance Reform Act of 2004 introduced additional refinements to ICC coverage. The most significant is allowing ICC coverage to apply, even when there has not been a recent flood loss, to the non-Federal cost-share requirement of FEMA-funded mitigation projects for individual buildings. The rule-making necessary to implement these changes is still in development.

Mortgage Portfolio Protection Program (MPPP)

The Mortgage Portfolio Protection Program (MPPP) was introduced in 1991 as an additional tool to assist the mortgage lending and servicing industries in bringing their mortgage portfolios into compliance with the flood insurance requirements of the Flood Disaster Protection Act of 1973, as amended. Since the lender or servicer issuing the MPPP policy usually does not have adequate underwriting data for the building being insured, a policy written through the MPPP requires less underwriting data. For this reason, FEMA has targeted MPPP rates at levels that will compensate us for the greater uncertainty in these risks. Effective May 1, 2003, MPPP rates were increased for the first time in several years. In a continuing effort to keep these rates in line with those charged to our non-MPPP policyholders, we are increasing MPPP rates approximately 5% for May 1, 2006.

Exhibits

The exhibits on the following pages include the information below.

A. Effects of Rate Revisions on Written Premium

B. Insurance Underwriting Experience (five exhibits, B1 through B5)

C. Calendar/Accident Years 1978-2004 Experience for the Larger Risk Zones

D. Analysis of the Components of Premium and Federal Policy Fee

E. Projected Annual Premium Requirements Based on 1978-2004 Loss Experience vs. Projected Written Premium

Exhibit A
Page 1

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM
Effects of Rate Revision on Average Annual Written Premium (plus FPF) per Policyholder*
Based on Projected Distribution of Business and Projected Amounts of Insurance

	Distribution of Business	Average Annual Premium with May 2006 Rates	Increase over Annual Premium with Current Rates
REGULAR PROGRAM - ACTUARIAL RATES			
AE	31.5%	354.99	2.5%
A	1.8%	581.89	5.2%
AO,AH	0.6%	575.63	0.0%
AOB,AHB	9.1%	243.17	0.0%
ZONES AE,A,AO,AH,AOB,AHB	43.1%	344.16	2.2%
POST-81 V,VE	0.7%	1,718.14	5.7%
B,C,X ACTUARIAL	30.0%	339.32	2.6%
(Standard)	10.6%	465.64	5.6%
PRP	19.5%	270.85	0.0%
SUB-TOTAL ACTUARIAL	73.8%	355.95	2.6%
REGULAR PROGRAM - SUBSIDIZED RATES			
PRE-FIRM SUBSIDIZED**	24.2%	793.17	6.2%
(Pre-FIRM V, VE)	0.9%	1,221.67	8.8%
75-81 POST V,VE	0.2%	885.09	9.1%
A99 POST	1.5%	555.49	6.4%
AR	0.2%	588.91	6.9%
EMERGENCY	0.0%	335.29	0.0%
SUB-TOTAL SUBSIDIZED	26.2%	777.60	6.2%
TOTAL	100.0%	466.29	4.1%

* Computations are based on separately counting and pricing units insured under a Residential Condominium Building Association Policy (RCBAP) separately.

** The category, PRE-FIRM SUBSIDIZED, includes Pre-FIRM V,VE which was broken out in order to show the premium increase for that subset of policies.

Exhibit A. Effects of Rate Revisions on Written Premium, Page 1

Exhibit A
Page 2

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM
History of Rate Changes by Risk Group for the Latest 5 Years

	Distribution of Business	Percentage Rate Change Effective: May-06	May-05	May-04	May-03	May-02
REGULAR PROGRAM - ACTUARIAL RATES						
AE ACTUARIAL	31.5%	2.5%	2.5%	2.8%	3.6%	3.1%
A ACTUARIAL	1.8%	5.2%	4.4%	3.0%	1.8%	4.1%
AO,AH ACTUARIAL	0.6%	0.0%	0.0%	0.0%	0.2%	1.9%
AOB,AHB	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%
ZONES AE,A,AO,AH,AOB,AHB	43.1%	2.2%	2.2%	2.3%	2.9%	2.6%
POST-81 V,VE ACTUARIAL	0.7%	5.7%	0.0%	7.5%	9.0%	9.1%
B,C,X ACTUARIAL	30.0%	2.6%	2.7%	0.0%	4.0%	2.9%
(Standard)	10.6%	5.6%	6.2%	0.0%	2.9%	5.2%
(PRP)	19.5%	0.0%	0.0%	0.0%	5.1%	0.0%
SUB-TOTAL ACTUARIAL	73.8%	2.6%	2.3%	~~1.6%~~ 0.1%*	3.6%	2.9%
REGULAR PROGRAM - SUBSIDIZED RATES						
PRE-FIRM SUBSIDIZED	24.2%	6.2%	0.1%	5.1%	1.8%	2.0%
(Pre-FIRM V, VE)	0.9%	8.8%	0.0%	5.6%	4.9%	6.3%
75-81 POST V,VE	0.2%	9.1%	0.0%	7.7%	9.2%	8.8%
A99 PRE + POST	1.5%	6.4%	5.8%	0.0%	2.8%	5.3%
AR	0.2%	6.9%	6.2%	0.0%	2.9%	5.6%
EMERGENCY	0.0%	0.0%	0.0%	0.0%	-5.7%	0.0%
SUB-TOTAL SUBSIDIZED	26.2%	6.2%	0.3%	4.9%	1.9%	2.3%
TOTAL	100.0%	4.1%	2.9%	~~3.0%~~ 2.2%*	2.9%	2.6%

* Although not shown as a separate category on this exhibit, a new Non-Residential Preferred Risk Policy (PRP) was introduced in May 2004 that allows current Standard X Zone policyholders who qualify to realize significant premium decreases (up to 34%) on renewal. This reduces the overall rate change for 2004 to 2.2% and reduces the subtotal for actuarially rated policies to 0.1%.

Exhibit A (cont'd.). Effects of Rate Revisions on Written Premium, Page 2

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FEDERAL EMERGENCY MANAGEMENT AGENCY

NATIONAL FLOOD INSURANCE PROGRAM
UNDERWRITING EXPERIENCE BY CALENDAR/ACCIDENT YEAR

EXHIBIT B1

Year	Earned Exposures (Millions)	Average Amount of Insurance per Policy	Earned Premium ($ Millions)	Loss & Allocated Loss Adjustment Expenses ($ Millions)	Average Premium	Average Operating Expense incl. Agts Comm.	Average Loss & ALAE Cost per Policy	Underwriting Profit/ (Deficit) per Policy
2004	4.51	$155,816	$1,816.6	$2,013.7	$403.16	$152.93	$446.91	($196.67)
2003	4.42	$147,617	$1,697.5	$773.9	$384.06	$141.71	$175.10	$67.25
2002	4.37	$140,771	$1,611.4	$445.1	$368.94	$132.74	$101.90	$134.30
2001	4.29	$132,928	$1,511.5	$1,321.3	$352.62	$133.50	$308.26	($89.14)
2000	4.25	$126,322	$1,416.4	$262.4	$333.33	$124.35	$61.75	$147.23
1999	4.17	$119,569	$1,319.4	$789.9	$316.39	$120.91	$189.41	$6.07
1998	4.09	$115,639	$1,224.8	$921.3	$299.74	$110.46	$225.47	($36.20)
1997	3.80	$108,397	$1,041.3	$540.8	$274.31	$99.49	$142.48	$32.34
1996	3.52	$102,309	$904.9	$858.3	$256.73	$97.75	$243.49	($84.52)
1995	3.20	$99,023	$819.4	$1,332.2	$256.14	$100.48	$416.40	($260.74)
1994	2.85	$96,712	$734.6	$423.5	$258.20	$93.32	$148.85	$16.04
1993	2.67	$94,301	$667.9	$678.4	$250.45	$92.64	$254.39	($96.58)
1992	2.54	$90,400	$626.9	$734.6	$246.90	$91.83	$289.34	($134.26)
1991	2.47	$87,527	$602.2	$367.9	$243.48	$84.65	$148.76	$10.08
1990	2.33	$85,005	$570.4	$174.2	$244.40	$82.40	$74.63	$87.37
1989	2.17	$83,044	$531.3	$677.6	$244.59	$87.40	$311.96	($154.77)
1988	2.10	$80,350	$491.3	$53.5	$234.44	$73.56	$25.55	$135.33
1987	2.07	$76,700	$462.1	$110.2	$222.74	$70.14	$53.09	$99.50
1986	2.03	$71,110	$403.4	$131.5	$198.25	$63.53	$64.60	$70.12
1985	1.92	$66,888	$364.8	$382.4	$189.95	$55.49	$199.08	($64.63)
1984	1.92	$61,862	$334.9	$265.8	$174.68	$48.10	$138.67	($12.08)
1983	1.92	$58,105	$313.0	$460.8	$163.24	$42.07	$240.31	($119.15)
1982	1.89	$55,168	$247.7	$209.4	$130.90	$38.76	$110.68	($18.55)
1981	1.97	$50,883	$181.0	$134.9	$92.00	$31.60	$68.57	($8.17)
1980	1.95	$45,101	$149.2	$244.0	$76.38	$29.51	$124.92	($78.05)
1979	1.62	$37,650	$125.5	$505.8	$77.26	$23.80	$311.40	($257.94)
1978	1.06	$33,150	$81.8	$155.6	$77.20	$26.85	$146.87	($96.52)

Exhibit B1. Key Underwriting Components by Year, 1978-2004

FEDERAL EMERGENCY MANAGEMENT AGENCY

NATIONAL FLOOD INSURANCE PROGRAM
UNDERWRITING EXPERIENCE BY CALENDAR/ACCIDENT YEAR

EXHIBIT B2
PAGE 1
Jan 31, 2006

	1995	1996	1997	1998	1999
1) Average Amount of Insurance per Policy	$99,023	$102,309	$108,397	$115,639	$119,569
2) Earned Premium (A)	$819,448,282	$904,921,109	$1,041,260,695	$1,224,760,631	$1,319,441,660
3) Losses Incurred (B)	$1,293,838,125	$826,848,336	$518,382,036	$872,459,745	$750,001,413
4) Allocated Loss Adjustment Expenses (B)	$38,318,946	$31,423,125	$22,466,923	$48,846,137	$39,889,360
5) Loss & Loss Adjustment Expense Ratio	1.626	0.948	0.519	0.752	0.599
6A) Insurance Agent Commission--Direct	$14,361,100	$14,030,494	$14,472,665	$15,328,404	$14,988,564
6B) Agent Commission Allowance--WYO	$108,556,142	$121,707,672	$141,716,439	$168,385,690	$182,927,685
7A) General Expense--Direct & Bureau	$30,123,000	$42,312,000	$39,331,000	$46,326,000	$74,198,000
7B) Operating Allowance (includes ULAE) --WYO	$168,433,054	$166,520,371	$182,146,268	$221,327,404	$232,130,299
8) Earned Exposure (C)	3,199,258	3,524,840	3,795,920	4,086,074	4,170,322
9) Average Premium	$256.14	$256.73	$274.31	$299.74	$316.39
10) Average Operating Other than Agent Commission & Loss Adjustment Expense (D)	$62.06	$59.25	$58.35	$65.50	$73.45
11) Average Insurance Agents' Commission	$38.42	$38.51	$41.15	$44.96	$47.46
12) Average Loss & Loss Adjuster Cost per Policy	$416.40	$243.49	$142.48	$225.47	$189.41
13) Operating Profit/(Deficit) per Policy	($260.74)	($84.52)	$32.34	($36.20)	$6.07

(A) Does not include Federal Policy Fee, nor are the expenses covered by that fee reflected in this exhibit. Also, Group Flood and MPPP premiums are excluded.

(B) Includes an allowance for open claims. In addition, Group Flood and MPPP losses are excluded.

(C) This exhibit now counts exposures by policy and by each unit covered by a Residential Condominium Building Association Policy (RCBAP), which replaced the Condominium Master Policy (CMP) in 1994.

(D) Operating cost is funded on an ongoing basis (starting in 1981) by the collection of a fixed amount (represented as an expense constant in the determination of premium formula) from each policyholder.

SOURCE: Financial and Statistical Reports prepared by CSC, through its Actuarial Information System.

Exhibit B2. Detailed Underwriting Experience by Year for the Latest 10 Years, Page 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

NATIONAL FLOOD INSURANCE PROGRAM
UNDERWRITING EXPERIENCE BY CALENDAR/ACCIDENT YEAR

EXHIBIT B2
PAGE 2
Jan 31, 2006

	2000	2001	2002	2003	2004
1) Average Amount of Insurance per Policy	$126,322	$132,928	$140,771	$147,617	$155,816
2) Earned Premium (A)	$1,416,380,461	$1,511,487,080	$1,611,438,106	$1,697,509,226	$1,816,576,965
3) Losses Incurred (B)	$248,361,437	$1,268,976,748	$422,645,091	$736,655,542	$1,935,281,930
4) Allocated Loss Adjustment Expenses (ALAE)	$14,036,664	$52,359,187	$22,414,361	$37,275,984	$78,390,597
5) Loss & ALAE Ratio	0.185	0.874	0.276	0.456	1.108
6A) Insurance Agent Commission--Direct	$14,409,800	$14,378,966	$14,101,186	$13,648,484	$13,318,166
6B) Agent Commission Allowance--WYO	$198,047,270	$212,344,096	$227,614,530	$240,977,900	$259,168,379
7A) General Expense--Direct & Bureau	$75,472,000	$59,575,000	$46,954,000	$60,912,000	$45,900,000
7B) Operating Allowance (includes ULAE) --WYO	$240,454,159.18	$285,928,863.44	$291,108,010.89	$310,812,718.53	$370,675,932.12
8) Earned Exposure (C)	4,249,238	4,286,469	4,367,746	4,419,861	4,505,791
9) Average Premium	$333.33	$352.62	$368.94	$384.06	$403.16
10) Average Operating Other than Agent Commission & Loss Adjustment Expense (D)	$74.35	$80.60	$77.40	$84.10	$92.45
11) Average Insurance Agents' Commission	$50.00	$52.89	$55.34	$57.61	$60.47
12) Average Loss & Loss Adjuster Cost per Policy	$61.75	$308.26	$101.90	$175.10	$446.91
13) Operating Profit/(Deficit) per Policy	$147.23	($89.14)	$134.30	$67.25	($196.67)

(A) Does not include Federal Policy Fee, nor are the expenses covered by that fee reflected in this exhibit. Also, Group Flood and MPPP premiums are excluded

(B) Includes an allowance for open claims. In addition, Group Flood and MPPP losses are excluded.

(C) This exhibit now counts exposures by policy and by each unit covered by a Residential Condominium Building Association Policy (RCBAP), which replaced the Condominium Master Policy (CMP) in 1994.

(D) Operating cost is funded on an ongoing basis (starting in 1981) by the collection of a fixed amount (represented as an expense constant in the determination of premium formula) from each policyholder.

SOURCE: Financial and Statistical Reports prepared by CSC, through its Actuarial Information System.

Exhibit B2 (cont'd.). Detailed Underwriting Experience by Year for the Latest 10 Years, Page 2

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FEDERAL EMERGENCY MANAGEMENT AGENCY

NATIONAL FLOOD INSURANCE PROGRAM
LOSS AND EXPENSE EXHIBIT

EXHIBIT B3
Jan 31, 2006

1969 - 1973 PART A VOLUNTARY PURCHASE
1974 - 1977 PART A MANDATORY PURCHASE REQUIREMENT
1978 - 2004 PART B MANDATORY PURCHASE REQUIREMENT

	1969-1973	1974-1977	1978-1985	1986-2004	1978-2004	1969-2004
FINANCIAL DATA						
1) Earned Exposure	416,885	2,517,054	14,252,026	61,841,142	76,093,168	79,027,107
2) Earned Premium	$25,048,538	$183,143,214	$1,797,881,733	18,453,351,810	$20,251,233,543	$20,459,425,295
3) Losses Incurred	$53,575,994	$236,787,191	$2,249,157,887	12,116,195,799	$14,365,353,686	$14,655,716,871
4) Allocated Loss Adjustment Expense	$4,654,789	$17,492,064	$109,638,797	494,050,481	$603,689,278	$625,836,131
5) Insurance Agent Commission	$6,818,478	$37,999,048	$283,074,261	$2,768,002,772	$3,051,077,032	$3,095,894,558
6) Direct & Bureau General Expense and WYO Operating Allowance	$10,634,294	$64,436,942	$256,639,638	$3,993,285,167	$4,249,924,805	$4,324,996,041
ANALYSIS OF COSTS						
7) Average Premium per Policy	$60.09	$72.76	$126.15	$298.40	$266.14	$258.89
8) Average Loss & Allocated Loss Adjuster Cost per Exposure Unit	$139.68	$101.02	$165.51	$203.91	$196.72	$193.37
9) Average Insurance Agents Commission	$16.36	$15.10	$19.86	$44.76	$40.10	$39.18
10) Average Operating Costs Other Than Agt. Commission & Alloc. Loss Adj. Expense	$25.51	$25.60	$18.01	$64.57	$55.85	$54.73
11) Operating Profit/(Deficit) per Policy	($121.46)	($68.96)	($77.23)	($14.85)	($26.53)	($28.38)
12) Loss Adjuster Expense as a Percentage of Loss	8.7%	7.4%	4.9%	4.1%	4.2%	4.3%
13) Agent Commission as a Percentage of Premium	27.2%	20.7%	15.7%	15.0%	15.1%	15.1%

Exhibit B3. Detailed Underwriting Experience Aggregated by Experience Period

Report: ARPCRPBA
Rundate: Jun 14, 2005

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM
ACTUARIAL INFORMATION SYSTEM

Exhibit B4
Page 1

LOSS AND EXPENSE EXPERIENCE
Accident Period 1978-2004

	VE,V1-V30 Post-FIRM Post 10/81	Unnumbered A Zone Post-FIRM	AE,A1-A30 Post-FIRM & Pre-FIRM Actuarial	B,C,X Standard	B,C,X PRP	AO & AH Post-FIRM	AOB & AHB	Actuarial Totals
1) Earned Exposures	363,027	1,299,557	19,114,114	15,458,071	6,266,793	344,066	3,811,863	46,657,491
2) Average Earned Premium	$917.51	$311.20	$210.62	$210.48	$218.86	$375.04	$177.32	$218.47
3) Number of Paid Losses	5,038	8,041	115,458	161,043	53,863	1,071	13,163	357,677
4) Average Loss Payment	$25,958.41	$15,470.15	$19,195.77	$15,976.66	$17,528.52	$19,521.64	$13,762.81	$17,307.84
5) Loss Ratio	0.39	0.30	0.54	0.78	0.68	0.16	0.26	0.61
6) Loss Frequency per 100 Policy Contracts	2.1	0.6	0.8	1.2	0.9	0.3	0.4	0.9
7) Average Loss Cost per Policy Holder	$360.24	$95.72	$115.95	$166.45	$150.66	$60.77	$47.53	$132.68
8) Other Expenses (Average per Policyholder)								
a) Servicing Facility/WYO Operating Allowance	$103.81	$58.26	$50.70	$50.69	$62.77	$63.06	$48.20	$52.83
b) Agent Commission	$137.63	$46.68	$31.59	$31.57	$32.83	$56.26	$26.60	$32.77
c) Loss Adjuster	$15.40	$4.48	$4.90	$6.50	$7.45	$2.65	$2.46	$5.63
d) Total	$256.84	$109.41	$87.20	$88.77	$103.05	$121.97	$77.26	$91.23
9) Operating Surplus/(Deficit)* per Policyholder on Paid Basis	$300.42	$106.06	$7.47	($44.73)	($34.85)	$192.31	$52.54	($5.44)
10) Total Operating Surplus/(Deficit)	$109,061,354	$137,835,173	$142,768,910	($691,433,180)	($218,394,804)	$66,168,228	$200,268,528	($253,725,790)

* The operating surplus is the policyholder contribution in periods of relatively better loss experience towards reserves used to fund high loss years.

Exhibit B4. Detailed Underwriting Experience by Zone and by Actuarial vs. Subsidized, 1978-2004, Page 1

Report: ARPCRPBA
Rundate: Jun 14, 2005

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Page 2

LOSS AND EXPENSE EXPERIENCE
Accident Period 1978-2004

	VE,V1-V30 Pre-FIRM	VE,V1-V30 Post-FIRM Pre 10/81	A Zone Pre-FIRM	AE,A1-A30 Pre-FIRM	AO & AH Pre-FIRM	Emergency Program	Subsidized Totals	Program Totals **
1) Earned Exposures	1,264,429	237,146	4,260,789	16,176,577	1,284,259	3,203,598	26,426,799	76,040,620
2) Average Earned Premium	$442.40	$378.13	$332.29	$393.91	$398.49	$112.30	$352.24	$266.14
3) Number of Paid Losses	27,368	3,652	78,089	340,726	6,438	104,847	561,120	951,549
4) Average Loss Payment	$18,029.81	$24,472.66	$14,409.69	$16,021.49	$12,979.86	$5,729.12	$13,992.08	$15,096.81
5) Loss Ratio	0.87	0.98	0.78	0.84	0.16	1.65	0.84	0.70
6) Loss Frequency per 100 Policy Contracts	2.5	2.3	1.9	2.3	0.5	3.3	2.2	1.4
7) Average Loss Cost per Policy Holder	$390.25	$376.87	$264.09	$337.46	$65.07	$187.50	$297.09	$188.92
8) Other Expenses (Average per Policyholder)								
a) Servicing Facility/WYO Operating Allowance	$68.12	$63.29	$59.84	$64.47	$64.82	$43.32	$61.34	$55.85
b) Agent Commission	$66.36	$56.72	$49.84	$59.09	$59.77	$16.84	$52.84	$39.92
c) Loss Adjuster	$14.54	$13.26	$10.95	$13.63	$3.27	$10.60	$12.37	$7.94
d) Total	$149.02	$133.27	$120.64	$137.19	$127.86	$70.76	$126.54	$103.71
9) Operating Surplus/(Deficit)* per Policyholder on Paid Basis	($96.87)	($132.01)	($52.43)	($80.74)	$205.56	($145.96)	($71.40)	($26.49)
10) Total Operating Surplus/(Deficit)	($122,483,902)	($31,305,088)	($223,412,084)	($1,306,085,244)	$263,993,597	($467,613,056)	($1,886,905,777)	($2,014,377,078)

* The operating surplus is the policyholder contribution in periods of relatively better loss experience towards reserves used to fund high loss years.

** In addition to Actuarial and Subsidized, the Program Totals include zones AA and A99.

Exhibit B4 (cont'd.). Detailed Underwriting Experience by Zone and by Actuarial vs. Subsidized, 1978-2004, Page 2

Report: ARPCRPBA
Rundate: Jun 14, 2005

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM
ACTUARIAL INFORMATION SYSTEM

Exhibit B5
Page 1

LOSS AND EXPENSE EXPERIENCE
Accident Period 1986-2004

	VE,V1-V30 Post-FIRM Post 10/81	Unnumbered A Zone Post-FIRM	AE,A1-A30 Post-FIRM & Pre-FIRM Actuarial	B,C,X Standard	B,C,X PRP	AO & AH Post-FIRM	AOB & AHB	Actuarial Totals
1) Earned Exposures	355,741	1,140,754	17,528,130	11,346,456	6,266,793	337,839	3,773,426	40,749,139
2) Average Earned Premium	$922.41	$327.16	$220.64	$249.71	$218.86	$377.78	$177.94	$234.92
3) Number of Paid Losses	4,825	7,101	102,618	100,989	53,863	1,057	13,089	283,542
4) Average Loss Payment	$26,844.82	$16,429.69	$20,537.53	$20,961.73	$17,528.52	$19,688.16	$13,796.03	$19,807.09
5) Loss Ratio	0.39	0.31	0.54	0.73	0.68	0.16	0.26	0.59
6) Loss Frequency per 100 Policy Contracts	2.0	0.6	0.8	1.1	0.9	0.3	0.4	0.8
7) Average Loss Cost per Policy Holder	$364.10	$102.27	$120.24	$186.57	$150.66	$61.60	$47.85	$137.82
8) Other Expenses (Average per Policyholder)								
a) Servicing Facility/WYO Operating Allowance	$114.84	$66.34	$57.66	$60.03	$62.77	$70.47	$54.18	$59.63
b) Agent Commission	$138.36	$49.07	$33.10	$37.46	$32.83	$56.67	$26.69	$35.24
c) Loss Adjuster	$15.51	$4.75	$5.08	$6.96	$7.45	$2.69	$2.49	$5.79
d) Total	$268.71	$120.16	$95.84	$104.45	$103.05	$129.82	$83.36	$100.66
9) Operating Surplus/(Deficit)* per Policyholder on Paid Basis	$289.59	$104.72	$4.56	($41.31)	($34.85)	$186.36	$46.73	($3.57)
10) Total Operating Surplus/(Deficit)	$103,020,039	$119,463,088	$79,942,709	($468,675,042)	($218,394,804)	$62,959,131	$176,318,783	($145,366,096)

* The operating surplus is the policyholder contribution in periods of relatively better loss experience towards reserves used to fund high loss years.

Exhibit B5. Detailed Underwriting Experience by Zone and by Actuarial vs. Subsidized, 1986-2004, Page 1

Report: ARPCRPBA
Rundate: Jun 14, 2005

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM
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Exhibit B5
Page 2

LOSS AND EXPENSE EXPERIENCE
Accident Period 1986-2004

	VE,V1-V30 Pre-FIRM	Post-FIRM Pre 10/81	A Zone Pre-FIRM	AE,A1-A30 Pre-FIRM	AO & AH Pre-FIRM	Emergency Program	Subsidized Totals	Program Totals**
1) Earned Exposures	870,035	184,229	3,406,142	13,200,892	1,174,009	202,109	19,037,416	61,790,183
2) Average Earned Premium	$551.04	$413.04	$376.76	$447.27	$420.55	$208.54	$434.89	$298.40
3) Number of Paid Losses	18,134	2,610	57,682	250,761	5,552	4,109	338,848	635,895
4) Average Loss Payment	$22,778.93	$30,403.10	$16,491.29	$18,963.42	$13,859.35	$10,398.63	$18,647.41	$19,053.77
5) Loss Ratio	0.85	1.03	0.73	0.79	0.15	1.00	0.76	0.65
6) Loss Frequency per 100 Policy Contracts	2.7	2.5	1.7	2.1	0.5	2.1	1.9	1.2
7) Average Loss Cost per Policy Holder	$474.78	$430.72	$279.28	$360.22	$65.54	$211.41	$331.91	$196.09
8) Other Expenses (Average per Policyholder)								
a) Servicing Facility/WYO Operating Allowance	$84.58	$73.34	$70.38	$76.13	$73.95	$56.68	$75.12	$64.57
b) Agent Commission	$82.66	$61.96	$56.51	$67.09	$63.08	$31.28	$65.23	$44.76
c) Loss Adjuster	$16.90	$14.39	$11.47	$14.31	$3.31	$8.66	$13.18	$8.00
d) Total	$184.14	$149.69	$138.36	$157.53	$140.34	$96.62	$153.53	$117.33
9) Operating Surplus/(Deficit)* per Policyholder on Paid Basis	($107.88)	($167.37)	($40.88)	($70.48)	$214.67	($99.49)	($50.55)	($15.02)
10) Total Operating Surplus/(Deficit)	($93,859,166)	($30,835,293)	($139,240,417)	($930,414,491)	$252,024,640	($20,107,444)	($962,432,171)	($927,817,057)

* The operating surplus is the policyholder contribution in periods of relatively better loss experience towards reserves used to fund high loss years.

** In addition to Actuarial and Subsidized, the Program Totals include zones AA and A99.

Exhibit B5 (cont'd.). Detailed Underwriting Experience by Zone and by Actuarial vs. Subsidized, 1986-2004, Page 2

NATIONAL FLOOD INSURANCE PROGRAM **EXHIBIT C**

Analysis of Pure Premium per Policyholder

Based on Claims and Policy Data for Accident Years 1978-2004

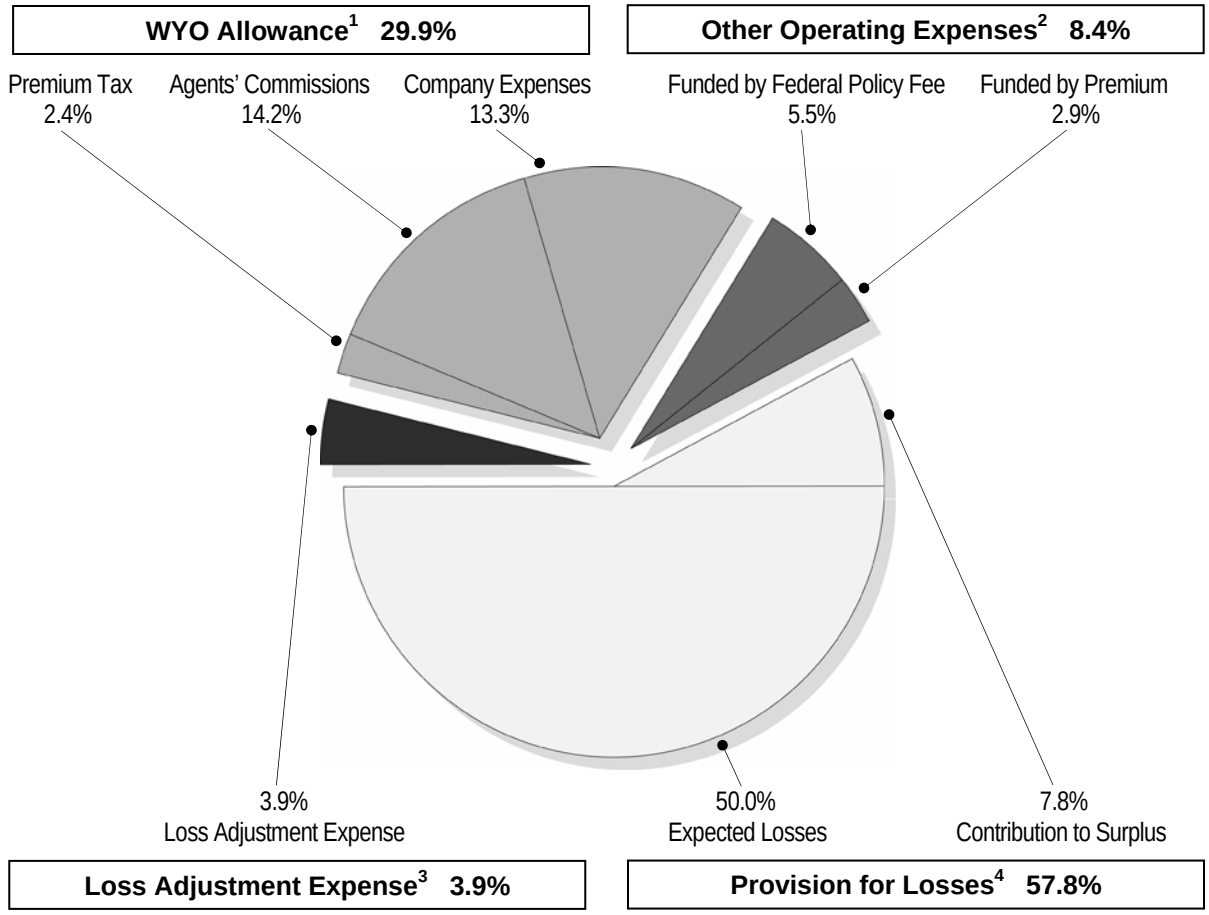
Consolidated Data (excluding ICC)

Program Type / Zone	(1) Earned Exposure (M)	(2) Earned Premium ($M)	(3) Losses Paid ($M)	(4) Allocated Loss Adjustment Expense ($M)	(5) Loss & Loss Adj Exp Inc'd on 5/1/2007 Cost Level ($M)	(6) Number of Paid Losses	(7) Pure Premium on 5/1/2007 Cost Level
Post-FIRM -- Subject to Actuarial Rate Schedules							
AE, A01-A30							
+ Elevated	8.96	1,575.0	907.7	38.6	1,207.2	45,129	134.78
0 Elevated	2.70	828.5	294.5	11.7	402.8	13,720	149.43
- Elevated	0.62	334.4	152.5	7.6	206.5	8,469	331.76
Subtotal	12.27	2,737.9	1,354.8	58.0	1,816.5	67,318	147.98
A	1.30	401.5	122.9	5.7	175.6	8,054	135.11
AO and AH	0.34	127.9	20.6	0.9	27.4	1,071	79.51
AOB and AHB	2.70	496.9	117.2	6.3	159.4	9,250	58.97
Post-'81 VE, V01-V30							
+ Elevated	0.27	200.3	100.1	4.3	131.3	3,973	491.55
0 Elevated	0.04	50.1	10.4	0.4	14.3	389	367.16
- Elevated	0.06	79.3	18.4	0.9	23.2	667	414.71
Subtotal	0.36	329.7	128.9	5.5	168.8	5,029	466.30
B, C, X							
Standard	4.23	1,057.0	621.8	21.9	873.8	24,856	206.69
Preferred Risk (PRP)	3.02	678.8	333.5	15.8	422.3	16,920	139.77
Subtotal	7.25	1,735.8	955.3	37.8	1,296.1	41,776	178.80
ALL ZONES COMBINED	***24.31***	***5,859.5***	***2,707.7***	***114.5***	***3,656.4***	***132,954***	***150.40***
Pre-FIRM -- Electing Actuarial Rate Schedules							
AOB and AHB	1.11	168.3	61.4	3.0	84.5	3,913	76.18
AE, A01-A30							
+ Elevated	5.28	803.8	554.4	23.3	800.1	32,801	151.58
0 Elevated	1.56	448.2	276.1	11.2	388.7	15,339	249.05
Subtotal	6.84	1,251.9	830.4	34.5	1,188.8	48,140	173.82
B, C, X							
Standard	11.23	2,183.5	1,915.0	77.2	3,155.0	136,187	280.93
Preferred Risk (PRP)	3.25	663.8	594.8	30.1	773.4	36,943	238.32
Subtotal	14.48	2,847.3	2,509.8	107.3	3,928.4	173,130	271.37
ALL ZONES COMBINED	***22.42***	***4,267.5***	***3,401.6***	***144.8***	***5,201.7***	***225,183***	***231.97***
Post-FIRM -- Electing Subsidized Rate Schedules							
A99	0.29	84.6	4.1	0.2	6.0	370	21.03
Pre-'81 VE, V01-V30							
+ Elevated	0.17	57.0	66.0	2.3	102.1	2,854	592.90
0 Elevated	0.04	13.7	13.0	0.4	18.1	361	409.63
- Elevated	0.02	17.7	9.0	0.4	13.7	417	702.64
Subtotal	0.24	88.5	88.0	3.1	133.9	3,632	567.65
ALL ZONES COMBINED	***0.54***	***181.1***	***92.5***	***3.3***	***140.5***	***4,039***	***259.34***
Pre-FIRM -- Electing Subsidized Rate Schedules							
A	5.39	1,554.9	1,301.3	54.5	2,116.0	99,668	392.46
AE, A01-A30	16.18	6,034.0	5,382.4	217.5	8,216.9	340,726	507.95
All Other A Zones	2.44	801.20	102.37	5.55	159.80	0.01	65.62
V, VE	1.26	547.0	486.5	18.1	782.9	27,368	619.18
Other (Pre- & Post-FIRM)	0.34	90.7	98.2	3.8	167.1	7,304	490.18
ALL ZONES COMBINED	***25.61***	***9,027.8***	***7,370.8***	***299.4***	***11,442.8***	***484,777***	***446.83***
TOTAL	**72.89**	**19,336.0**	**13,572.6**	**562.0**	**20,441.5**	**846,953**	**280.46**
Emergency	3.21	360.2	592.9	33.5	1,506.2	104,865	469.68
Group Flood Ins Policy (GFIP)	0.19	15.1	30.9	1.8	39.9	4,362	204.54
Mortgage Portfolio (MPPP)	0.06	40.4	5.0	0.3	6.6	358	115.11
GRAND TOTAL	**76.35**	**19,751.6**	**14,201.4**	**597.6**	**21,994.1**	**956,538**	**288.09**

Exhibit C. Calendar/Accident Years 1978-2004 Experience for the Larger Risk Zones

EXHIBIT D

Federal Emergency Management Agency
National Flood Insurance Program
Analysis of the Components of Premium and Federal Policy Fee



The chart above shows the prospective expenses and losses associated with the average premium resulting from the May 1, 2006, rate changes.

[1] **WYO Allowance** (29.9%) consists of three components. Premium Tax (2.4%) and Agents' Commissions (14.2%) are pass-through costs incurred by the WYO (Write Your Own) companies. The remaining amount (13.3%) is retained by the WYO companies to cover their expenses.

[2] **Other Operating Expenses** (8.4%) consists of the Federal Policy Fee (5.5%), which covers salaries, mapping, mitigation grants, etc., and Fixed Expenses (2.9%), which covers such items as contractor costs and the NFIP's FloodSmart marketing and advertising program.

[3] **Loss Adjustment Expense** (3.9%) includes compensation to adjusters and claims office overhead.

[4] **Provision for Losses** (57.8%) is the portion of premium available, after all expenses, to pay claims. If losses during the 12 months these rates will be in effect are equal to the historical average loss year (discussed on page 5), then losses will equal 50.0% of premium, with 7.8% of premium remaining as a contribution to surplus. That surplus will be used to pay claims during future heavy loss years.

Exhibit D. Analysis of the Components of Premium and Federal Policy Fee

EXHIBIT E

Average Annual Premium Required per Policyholder
for Historical Average Loss Year (w/o ICC)
vs.
Projected Premium Written with May 2006 Rates

Based on 2006/2007 Cost Levels

	Distribution of Business	Average Annual Premium Indicated by Historical Average Loss Levels and Projected Expenses	Projected Average Annual Written Premium* with May 2006 Rates (excluding ICC)	Projected Premium Expressed as Percentage of Historical Indicated Premium**
REGULAR PROGRAM - ACTUARIAL RATES				
AE ACTUARIAL	31.5%	291.97	350.99	120.2%
A ACTUARIAL	1.8%	274.70	575.90	209.6%
AO,AH ACTUARIAL	0.6%	204.36	570.64	279.2%
AOB,AHB	9.1%	185.63	238.82	128.7%
ZONES AE,A,AO,AH,AOB,AHB	43.1%	268.46	339.99	126.6%
POST-81 V,VE ACTUARIAL	0.7%	729.69	1,703.60	233.5%
B,C,X ACTUARIAL				
(Standard)	10.6%	370.00	462.03	124.9%
PRP	19.5%	308.60	269.85	87.4%
X-Zone Subtotal	30.0%	330.69	337.40	102.0%
SUB-TOTAL ACTUARIAL	73.8%	298.38	352.59	118.2%
REGULAR PROGRAM - SUBSIDIZED RATES				
PRE-FIRM SUBSIDIZED***	24.2%	684.99	732.46	106.9%
(Pre-FIRM V, VE)	0.9%	753.85	1,174.51	155.8%
75-81 POST V,VE	0.2%	697.97	869.29	124.5%
A99 PRE + POST	1.5%	141.68	550.26	388.4%
AR	0.2%	153.42	583.67	380.4%
EMERGENCY	0.0%	721.71	335.29	46.5%
SUB-TOTAL SUBSIDIZED	26.2%	646.86	721.02	111.5%
TOTAL	100.0%	389.58	449.01	115.3%

*All computations are based on counting and pricing condominium units insured under Residential Condominium Building Association Policies (RCBAP) separately. Projected Annual Written Premium has $30 Federal Policy Fee ($11 for PRP's) for individual policies, and prorates the schedule of charges for RCBAPs to the units covered. Historical Indicated Premium includes the equivalent of $26.02 Federal Policy Fee on all non-PRP policy/units and a $11.00 Federal Policy Fee on PRP's.

** Based on 1978 - 2004 experience. Does not include consideration for development of catastrophic loss reserve. NFIP simulation modeling indicates that, because the 1978 - 2004 period does not include the large scale catastrophic year, the losses experienced in this time period will prove to be lower than the long-term average including catastrophic years.

***The category PRE-FIRM SUBSIDIZED includes Pre-FIRM V,VE which was broken out to show that subset of policies.

Exhibit E. Projected Annual Premium Requirements Based on 1978-2004 Loss Experience vs. Projected Written Premium

APPENDIX

Actuarial Rate Formula

Actuarial Rate Formula

Actuarial rates are applied in the rating of Post-FIRM construction and additional layer limits of insurance on all construction. This Appendix provides an overview of the actuarial rate formula that is utilized in developing these rates.

The actuarial rates are based on consideration of the risk involved and accepted actuarial principles. The actuarial rate formula may be expressed as follows:

$$RATE = \left[\sum_{i=Min}^{Max} \left(PELV_i \times DELV_i \right) \right] \times \frac{LADJ \times DED \times UINS}{EXLOSS}$$

Where: *Min* = minimum elevation relative to lowest floor at which flood damage occurs.

Max = elevation relative to lowest floor at which flood damage approaches a maximum.

The variable *PELV* is the probability of a particular water surface elevation relative to the 100-year Base Flood Elevation (BFE). For example, in Zone A10, the probability of water's rising to or above an elevation 1 foot less than the 100-year flood elevation is 1.6%, and 1 foot or more above the 100-year flood elevation is 0.6%, whereas the probability of water's rising to or above BFE is 1%. There are many risk zones, and they are based on information gathered and calculations made by engineers and hydrologists. Various Federal agencies, such as the U.S. Army Corps of Engineers, and private engineering firms are performing detailed risk zone and elevation studies of all major flood-prone areas. The flood risk zones are determined from these detailed studies and *PELV* values are assigned to these zones. The results of these studies are published on a Flood Insurance Rate Map (FIRM) showing zones and, where appropriate, BFEs.

The assignment of *PELV* values must be accomplished in such a way as to keep the rating of policies as simple as possible and still distinguish expected average cost differences among the rate zones. There are 30 numbered A Zones for which different sets of *PELV* values may be assigned. However, there are three main technical reasons for combining risk zones for rating purposes[12]:

- Lowest Floor Elevations are measured to the nearest foot.
- Due to the difficulty in estimating the extremely rare flood, the base frequency curves are truncated at about the 350- to 500-year event.
- The BFEs are approximations based on the best available data about the major sources of flood.

[12] Some of the factors that increase flood hazard (e.g., local urban drainage problems and urbanization of other parts of the watershed) are virtually impossible to quantify if the Flood Insurance Study process is to remain cost effective.

As a practical approach, in 1982 five risk zone combinations were established reflecting 1.0 foot elevations, and a minimum elevation difference of 1.5 feet between the maximum flood level and the BFE was established for the risk zones that had the lowest flood hazard factors. Considering the relative variance in flood levels that can occur because of conditions that affect a particular building site during an actual flood, even more averaging for insurance rating is reasonable for buildings constructed with a Lowest Floor Elevation of –1.0 foot or above, relative to the BFE (the elevation of a flood with an exceedance probability of 1%). In 1983, the transition to a single rate schedule was approved. This approach has provided the NFIP with the means for simplifying FIRMs.

Since 1985, all new FIRMs have shown at most ten zones. These are A, AE, V, VE, AH, AO, AR, A99, X, and D. Zone AE includes all zones formerly designated as A1-A30, and Zone VE includes all those formerly designated as V1-V30. Zone X encompasses areas formerly shown as Zones B or C.

To assure consideration of the maximum flood level that might damage a building located in a Special Flood Hazard Area (even though elevated to the BFE or higher) and to recognize a minimum price associated with the risk transfer, the use of a minimum insurance rate has been continued. This is virtually mandated when adverse selection and the uncertainty of risk elevation are factors as important as they are in flood insurance. The minimum rate is $.16 per $100 of basic limits building coverage.

The need to establish minimum values also can be found in the manner that the Flood Insurance Study process treats hydrologic uncertainties. The accepted methods used in the studies tend to underestimate the calculated flood frequencies when there is little or no recorded flood data. Generally, recorded data relating to flooding events exceeding the 100-year event are sparse. The number of years of recorded flood data rarely exceeds a 30-year period. Even in those instances where longer records exist, changes in floodplain characteristics partly invalidate the usefulness of the data. It is generally accepted that the uncertainties involved in calculating the 500-year flood level are significant. Statistical analysis of these calculations has been published in the American Society of Engineers *Proceedings*. It has been projected that complete reliance on the traditional flood frequency tables in the calculation of insurance rates would produce only about one-half the insurance premium required to meet the insured risk.

The variable *DELV* is the ratio of the flood damage to the value of the insurable property and is obtained from depth percent damage tables. These tables are subject to experience checks by FEMA from a review of actual flood insurance claim files. The *DELV* values are calculated by weighting the actual insurance claims experience and the previously established depth percent damage values. The weighting is accomplished by using standard actuarial techniques (credibility).

The variable *LADJ* is the loss adjustment expense factor expressed as a percentage of losses (claim payments to policyholders). This provides funds for the payment of loss adjusters' fees and special claims investigation costs that are required to determine the appropriate insurance value of the flood damage and the amount due the policyholder under the terms

and conditions of the flood insurance policy. The value of *LADJ* is currently projected to be 4.56% under the adjuster fee schedule that was implemented during 2004.

The variable *DED* is the deductible offset. This variable is required to reflect the insurance policy condition that the first $500 of damage does not qualify for an indemnification payment. The factor *DED* is based on size of claim data produced from insurance claim files.

The variable *UINS* is the under-insurance factor and is included in the formula because flood insurance policyholders do not always insure to value. This requires that the impact of the *DELV* values in the formula be adjusted to account for the difference between property values and the amount of insurance purchased within basic and additional coverage limits for each category of risk. The value of *UINS* is determined by a review of insurance claims data.

The variable *EXLOSS* is the expected loss ratio and serves to load the actuarial rates for insurance agents' commissions and other acquisition expenses incurred in the selling of flood insurance policies and a small contingency loading. The contingency loading is 5% in nonvelocity zones and 10% in velocity zones.