24810

REPORT BY THE

Comptroller General

OF THE UNITED STATES

National Flood Insurance Program --Major Changes Needed If It Is To Operate Without A Federal Subsidy

This report examines (1) how the Federal Emergency Management Agency's Federal Insurance Administration establishes rates for the National Flood Insurance Program, (2) whether it is possible to eliminate the Federal subsidy and make the program self-sustaining, and (3) if the flood insurance revolving fund is an appropriate mechanism for financing the program.

GAO is recommending that the Agency improve its ratesetting process to collect adequate premium income and that the Congress review how flood insurance is financed because of the reduced congressional control inherent in using a revolving fund. Eliminating the subsidy could negatively affect participation in the program. Therefore, GAO believes the Congress needs to consider carefully elimination of the subsidy.

GAO/RCED-83-53

JANUARY 3, 1983

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-207018

The Honorable John H. Chafee
Chairman, Subcommittee on Consumer
Affairs
Committee on Banking, Housing, and
Urban Affairs
United States Senate

The Honorable Arlen Specter
United States Senate

This report describes the National Flood Insurance Program's ratesetting process. It also examines the alternatives and ramifications involved in eliminating the Federal subsidy. Finally, it discusses the usefulness and purpose of the Federal Flood Insurance Fund as opposed to direct appropriations in financing the program's activities. These are the remaining concerns expressed in your request of September 24, 1981. Your other concerns were addressed in our August 16, 1982, report to you entitled "National Flood Insurance:--Marginal Impact on Flood Plain Development--Administrative Improvements Needed" (GAO/CED-82-105). We did not obtain official agency comments; however, we did discuss the matters covered in the report with program officials, and their views are included in the report where appropriate.

As arranged with your offices, unless you publicly announce the contents of this report earlier, no further distribution will be made until 7 days from the date of the report. At that time we will send copies of this report to the Director, Office of Management and Budget; the Director, Federal Emergency Management Agency; interested congressional committees, subcommittees, and individual Members of Congress; and other interested parties. Copies will be available to others on request.

Milton J. Socolar
for Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT

NATIONAL FLOOD INSURANCE PROGRAM--MAJOR CHANGES NEEDED IF IT IS TO OPERATE WITHOUT A FEDERAL SUBSIDY

D I G E S T

The National Flood Insurance Program has not collected enough premium income to cover the cost of providing the insurance to about 1.9 million policyholders living in flood-prone areas. While partly the result of a subsidy given to policyholders whose homes or businesses were built prior to the availability of Federal flood insurance, the deficit is also the result of methodological and data weaknesses in the Federal Emergency Management Agency's approach for setting insurance rates.

To compensate for the inadequate premium income, the Agency's Federal Insurance Administration between 1970 and 1980 borrowed a total of $854 million from the Treasury. Because the Agency was not required to regularly request an appropriation to repay the borrowings, the Congress did not have an adequate opportunity to oversee the program and identify why the losses were occurring.

GAO made its findings in response to a request from the Chairman, Subcommittee on Consumer Affairs, Senate Committee on Banking, Housing, and Urban Affairs, and Senator Arlen Specter. They asked GAO to examine (1) how the Federal Emergency Management Agency's Federal Insurance Administration establishes rates for the National Flood Insurance Program, (2) whether it is possible to eliminate the Federal subsidy and make the program self-sustaining, and (3) if the flood insurance revolving fund is an appropriate mechanism to finance the program.

RATESETTING PROCESS PRODUCED INADEQUATE PREMIUM INCOME

Flood insurance policyholders, except where the Agency provides an intentional subsidy, are required to pay insurance rates which are set in accordance with accepted actuarial principles. These principles stipulate that a sound rate provides enough premium income to (1) cover losses and applicable costs of providing insurance and (2) develop a reserve to cover extraordinary losses.

The Agency has relied on a combination of models and judgment to set such rates. Methodological and data weaknesses in its approach have produced an overly complex rate structure that has not generated sufficient income to cover the costs of providing insurance or to allow for building up a reserve. Since 1978 the program's deficit has ranged from about $20 to almost $200 per policy. (See p. 8.)

The Agency has recognized this situation and recently announced a goal of making the insurance program operate in accordance with accepted actuarial principles by fiscal year 1988. As part of the Agency's effort to reach this goal, GAO is recommending that the Director of the Agency

--develop and implement a plan to correct the methodological and data weaknesses in its rate-setting approach,

--establish a reserve for extraordinary losses, and

--reduce the complexity of its rate structure. (See p. 22.)

ALTERNATIVES EXIST FOR ELIMINATING THE FEDERAL SUBSIDY

Subsidized rates for owners of existing buildings have been part of the flood insurance program since its inception. The program's prior Administrators established these rates to encourage as many people as possible to buy flood insurance and, in turn, to accomplish the program's objective of reducing Federal funds expended on assistance after a disaster, such as a flood, has occurred. The Federal Government subsidy was expected to be eliminated as existing buildings were gradually replaced with new ones paying unsubsidized rates. This process was expected to take until at least the year 2010.

Using the very general guidance contained in the National Flood Insurance Act of 1968, previous program Administrators set the subsidized rates on the basis of what they believed was affordable and would encourage wide participation. The rates were not set on the basis of any identifiable reduction from the rates the policyholders would have paid without a subsidy. As a result, the extent to which rates are actually being subsidized cannot easily be determined. (See p. 26.)

In addition to its goal of actuarial soundness, the Agency has also set a goal of making the program self-sustaining, that is, operate without a Federal subsidy, by fiscal year 1988. To achieve this goal, the Agency will have to change the program by, for example, increasing the subsidized rates, reducing the value of insurance coverage provided at a given rate, cross-subsidizing with a surcharge on nonsubsidized ratepayers, or a combination of these alternatives. These actions, however, could reduce participation in the program and increase reliance on disaster assistance contrary to the program's objectives. The current program Administrator has recognized this possibility and has stated that he will consider foregoing future rate increases and achieving the Agency's goal by 1988 should the price change cause a substantial reduction in program participation.

To assess the impact of any changes, GAO is recommending that the Director of the Agency develop subsidized rates that will allow the amount of subsidy to be readily determined, and establish a monitoring program to detect any adverse impacts rate changes might have on program objectives. (See p. 32.)

The Agency's current approach of attempting to eliminate the Federal subsidy by fiscal year 1988 is a significant departure from how the program was previously administered, where a more gradual elimination over several decades was anticipated. In view of this fundamental change, GAO believes the Congress needs to consider (1) telling the Agency whether it agrees with this shift in direction and (2) giving the Agency specific guidance on how the subsidy should be eliminated. (See p. 32.)

CONGRESS CAN INCREASE ITS CONTROL OVER HOW FLOOD INSURANCE IS FINANCED

To finance flood insurance the Congress established a revolving fund. Such funds are typically set up to finance Government programs where a buyer/seller relationship exists. When the Congress established the flood insurance revolving fund, it expected the program to be run as a joint Government-insurance industry operation and viewed the fund as necessary to provide flexibility and timeliness in paying claims. After a series of disagreements, in 1978 the Government terminated the insurance industry's involvement and took over the program.

Because premium income has not covered costs, the Agency financed the insurance program's losses by borrowing funds from the Treasury. Between 1970 and 1980 it borrowed about $854 million and by the start of fiscal year 1981 had almost exhausted its $1 billion in borrowing authority. Appropriations in fiscal year 1981 and 1982 have restored the Agency's borrowing authority to just under $1 billion. Although it borrowed money each year, the Agency was not required by its enabling legislation to regularly request appropriations to repay its borrowings. GAO believes that the lack of a regular requirement to request appropriations to repay borrowings has reduced the ability of the Congress to oversee the flood insurance program and to identify why the program was operating at a deficit. (See p. 39.)

GAO has often expressed concern over the Congress' weakening its control over program activities when it authorizes revolving funds. GAO believes the public interest is best served when the Congress exercises direct control through the appropriations process. At the same time GAO has recognized that there are legitimate reasons for establishing revolving funds and as a result has stated that revolving funds need to be examined periodically to determine whether they still meet the criteria which justified their creation. Because the basic conditions surrounding the flood insurance revolving fund have changed, GAO believes that the Congress needs to review how flood insurance is financed.

GAO believes a congressional decision on program financing needs to be closely tied to action the Congress takes on continuing the Federal subsidy. If the Congress chooses to support the Agency's effort to make the program self-sustaining in a relatively short time frame, GAO believes the revolving fund can be retained, but GAO recommends that the Congress amend the National Flood Insurance Act of 1968 to increase its oversight and control over how the Agency finances its losses.

If, on the other hand, the Congress wishes to have the Federal subsidy gradually eliminated over the next several decades, thereby making the need for continued Federal funding an integral part of the program, GAO believes the flood insurance program should be financed through direct appropriations. To accomplish this change and retain the Agency's flexibility to pay flood

claims, GAO recommends appropriate amendments to the National Flood Insurance Act of 1968. (See p. 43.)

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GAO did not obtain official Agency comments on this report. However, GAO did discuss the matters covered in this report with program officials and their views are included in the report where appropriate.

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ABBREVIATIONS

FEMA	Federal Emergency Management Agency
FIA	Federal Insurance Administration
FIRM	flood insurance rate map
GAO	General Accounting Office

CHAPTER 1

INTRODUCTION

The Chairman, Subcommittee on Consumer Affairs, Senate Committee on Banking, Housing, and Urban Affairs, and Senator Arlen Specter requested that we examine and report on the following aspects of the National Flood Insurance Program:

--Is the flood insurance program stimulating flood plain development?

--Are flood plain management regulations being adequately enforced?

--How are actuarial rates for flood insurance established by the Federal Emergency Management Agency's (FEMA's) Federal Insurance Administration (FIA)?

--Is it possible to eliminate the Federal subsidy and make the program self-sustaining?

--Is the Federal flood insurance revolving fund an appropriate mechanism for handling the program's finances as compared with a direct annual appropriation?

The first two questions were addressed in our report "National Flood Insurance:--Marginal Impact on Flood Plain Development--Administrative Improvements Needed" (GAO/CED-82-105, Aug. 16, 1982). The last three questions are addressed in this report. (See app. I for request letter.)

A BRIEF HISTORY OF THE NATIONAL FLOOD INSURANCE PROGRAM

Prior to the National Flood Insurance Act of 1968 (Public Law 90-448), flood insurance generally did not exist. Private insurers were generally unwilling to enter the flood insurance field for several reasons.

--The timing and magnitude of floods are unpredictable, making the estimate of potential losses very difficult.

--A major flood could bankrupt an insurance company before sufficient reserves had been accumulated to cover major losses.

--Private insurers found it difficult to offer affordable rates. Because of the unanticipated high probability of flood occurrence to insured properties, actual losses were much greater than those expected, and thus higher rates were charged the insureds.

In 1956, the Congress recognized that flood insurance was not available through private sources and sought to demonstrate that flood insurance could be offered on a commercially feasible basis. Consequently, the Federal Flood Insurance Act of 1956 was passed. This act called for an experimental program to provide insurance against flood losses. Although the 1956 act was never funded, it served as the initial step for Federal involvement in flood insurance.

Interest in flood insurance was renewed after flood disasters in 1962 and 1965. A report from the Secretary of Housing and Urban Development entitled "Insurance and Other Programs for Financial Assistance to Flood Victims" was one of the key documents which led to the National Flood Insurance Act of 1968. The study was required by the Southeast Hurricane Disaster Relief Act of 1965. The study concluded that flood insurance was both feasible and in the public interest.

The National Flood Insurance Act of 1968 established the National Flood Insurance Program. The act's principal objectives are to

--make flood insurance available to property owners on a nationwide basis,

--identify all flood-prone areas in the Nation,

--promote State and local land-use controls to minimize flood loss and guide development away from flood-prone areas, and

--reduce Federal expenditures for disaster relief.

Under the act's insurance ratemaking approach, before an insurance rate was determined for a flood hazard area, a rate map showing the various areas of flood risk was to be prepared for FIA by the U.S. Army Corps of Engineers, the U.S. Geological Survey, other Federal agencies, or a private contractor. The process of preparing rate maps proved to be time-consuming and communities did not enter the program as quickly as expected. During the program's first year of operation, only four communities out of approximately 20,000 with flood hazard areas joined the program. In the four communities that joined the program, only 16 policies were sold. Consequently, the 1968 act was amended in December 1969 to create an emergency program that allowed eligible communities to enter the flood insurance program before a detailed rate map was prepared.

The emergency program increased participation, and by 1973 over 272,000 policies were in force. However, participation was still below the program's projected goal. The Congress, recognizing the need for a more reliable and comprehensive flood insurance program, passed the Flood Disaster Protection Act of 1973 (Public Law 93-234) which amended the 1968 act. The

1973 act made the purchase of flood insurance, where available, a condition for receiving any new or additional Federal financial assistance for construction on or acquisition of property in identified special flood hazard areas. Federal financial assistance included not only loans, grants, or mortgage insurance provided by Federal agencies, but also mortgages made by private institutions regulated in some way by the Federal Government.

The Housing and Community Development Act of 1977 (Public Law 95-128) eliminated the restriction on Federal financial assistance in the form of loans through private mortgage companies to owners of flood-prone property in nonparticipating communities; however, Federal flood disaster relief was specifically denied to nonparticipating communities, which remained subject to the terms of the 1973 act.

Program financing

The insurance aspects of the National Flood Insurance Program are financed through a public enterprise revolving fund. Such revolving funds finance Federal programs which carry on a businesslike cycle of operations. Receipts from program operations are earmarked for future operations of the fund. The National Flood Insurance Fund has received income from premiums, Treasury borrowings, and appropriations. The Director of FEMA is authorized to borrow $500 million from the Treasury with an additional $500 million available with approval of the President and notification of the Congress. In addition to the revolving fund, the program also receives appropriations for other activities, including

--FEMA's administration of the program,

--converting communities to the regular program through development of flood insurance rate maps,

--providing technical assistance to communities in setting their flood plain management criteria, and

--monitoring communities for compliance with flood plain management ordinances.

HOW THE PROGRAM OPERATES

The National Flood Insurance Program is administered by FEMA. The insurance aspects are managed by FEMA's Federal Insurance Administration. In discharging its responsibilities FIA, among other things, sets insurance rates, develops an insurance manual for agents' use, underwrites policies, and maintains liaison with the insurance industry, trade associations, and mortgage lenders. The day-to-day insurance operations of the program are performed by a private contractor, Electronic Data Systems Federal Corporation, and are monitored by FIA staff. The private contractor is responsible for recordkeeping on policyholders, accepting premiums,

settling claims, and providing FIA with statistical and financial data on the insurance operations.

With regard to the noninsurance aspects of the program, FEMA's State and Local Programs and Support Directorate (1) identifies flood-prone areas, (2) provides communities with flood maps, so that they can enter the program, (3) establishes flood plain management criteria, (4) oversees participating communities' adoption of necessary ordinances and enforcement of required flood plain management regulations, and (5) oversees continued community eligibility for flood insurance resulting from the communities' compliance with FEMA's criteria.

FEMA provides flood insurance in two separate phases--the emergency program and the regular program. The rates charged and the insurance coverage available depend on which phase a community is in.

The emergency program is an interim approach to provide limited amounts of insurance at federally subsidized rates on all structures, pending completion of a flood insurance rate map. To be eligible a community is required to (1) apply officially to participate in the program and (2) adopt minimum flood plain management regulations to guide new construction in the flood-prone areas. Limited amounts of insurance are sold at chargeable, or subsidized, rates during the emergency phase, even for new construction.

A community enters the regular program after two principal conditions are fulfilled. First, local officials enact regulations that require all new or substantially improved structures to be built according to Federal flood plain management criteria. This aspect of the program is intended to help mitigate future flood losses. Second, to identify flood-prone areas and to assist in setting insurance rates, FEMA prepares a flood insurance rate map (FIRM). The FIRM identifies the rate zones in the community along with the base flood elevation--the level which flood waters have a 1-percent chance of reaching or exceeding in any given year. Insurance is required in the special flood hazard areas identified as zones A, A1-A30, A99, AO, V1-V30, AH, M, and V. Insurance is optional in other, less hazardous zones. The various zones are identified and defined in appendix II.

Within the regular program the act provides two classes of rates--chargeable and risk premium. Existing structures (also known as pre-FIRM construction) built before December 31, 1974, or the effective date of the FIRM, whichever is later, may continue to pay a chargeable rate for the basic layer of coverage. The act requires new, or post-FIRM, construction to pay a risk premium rate for basic coverage. The act also requires that risk premium rates be charged for the additional layer of coverage for both existing and new construction. Coverage available is shown in the accompanying table.

Maximum Insurance Coverage Available

Program and building type	Building		Contents	
	Basic	Additional	Basic	Additional
Emergency program:				
Single-family residence (note a)	$ 35,000	-	$ 10,000	-
Other residential (note a)	100,000	-	10,000	-
Nonresidential	100,000	-	100,000	-
Regular program:				
Single-family residence	$ 35,000	$150,000	$ 10,000	$ 50,000
Other residential	100,000	150,000	10,000	50,000
Small business	100,000	150,000	100,000	200,000
Other nonresidentia 1	100,000	100,000	100,000	100,000

a/Higher maximum amounts are available in Hawaii, Alaska, Guam, and the Virgin Islands.

The risk premium rate a policyholder pays depends on several factors, including (1) the zone the property is in, (2) the elevation of the property above or below the base flood elevation or depth (applies only to new construction in zones A, AO, AH, A1-A30, and V1-V30), (3) the type of building (e.g., mobile home versus two-story structure), and (4) the occupancy of the structure (e.g., single family versus a small business).

PROGRAM FINANCIAL STATISTICS

As of July 31, 1982, over 17,200 communities were participating in the program. Of these communities over 9,200 were in the emergency program and approximately 8,000 were in the regular program. An additional 3,100 communities have had special flood hazard areas identified but have decided not to participate in the program.

As of July 1982, the program had almost 1.9 million policyholders with a Federal liability, as measured by insurance in force, of almost $104 billion. Of this total the emergency program had about 325,000 policies with insurance coverage of approximately $10 billion, while the regular program had over 1.5 million policies with insurance coverage of over $93 billion.

According to unaudited FEMA data in fiscal year 1981, the most recent year for which data is available, the National Flood Insurance Fund was credited with $228.4 million in premium income, $561 million in appropriations to repay prior years' Treasury borrowings, and $64 million in borrowed funds. Withdrawals from

the fund were made to pay $28 million in insurance agent commissions, $27 million in operating expenses for FEMA's contractor, $118 million in loss and loss-adjustment expenses, and $42 million in interest costs on Treasury borrowings.

FEMA estimates that $1.8 million was appropriated in fiscal year 1981 for FIA administrative expenses and the Agency's cost of enforcing flood plain management criteria. Appropriations of over $47 million were also authorized for the program's flood plain management activities, including developing flood insurance rate maps and assisting communities in adopting and enforcing flood plain management regulations.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of this review was to answer questions asked by the Chairman of the Subcommittee on Consumer Affairs and Senator Arlen Specter relating to ratesetting, funding, and eliminating the Federal subsidy in the National Flood Insurance Program.

Our review was performed in accordance with generally accepted government audit standards. Work was conducted from March 1982 through September 1982 in Washington, D.C., at FEMA headquarters.

We reviewed the National Flood Insurance Act of 1968, as amended, its legislative history, and other pertinent legislative information. We also reviewed FEMA regulations, policies, procedures, records, and data applicable to the program.

To assist in assessing FEMA's procedures for setting rates, we used our actuaries and also contacted private insurance property and casualty actuaries and underwriters familiar with the program in order to compare FEMA's ratesetting procedures with those in the private sector.

We interviewed the FIA Administrator and other FEMA and FIA headquarters officials. We also interviewed an official from the Office of Management and Budget, all the former FIA Administrators, property and casualty actuaries and underwriters, and representatives of an environmental organization and property and casualty and insurance agent trade associations to obtain their views on the flood insurance program. A listing of the organizations and people we interviewed along with their affiliations is in appendix III.

CHAPTER 2

FEMA's RATESETTING PROCESS NEEDS TO BE CHANGED TO INCREASE PREMIUM INCOME

FEMA sets risk premium rates based on two approaches--a hydrologic model and actuarial and engineering judgments. Since the program's inception, weaknesses in these processes have resulted in these rates not producing adequate premium income to cover their associated costs; as a result, virtually all of FEMA's risk zones have operated at a deficit. Further, these deficits are understated because FEMA has not established a catastrophic reserve. FEMA has set a goal of achieving a self-sustaining, actuarially sound flood insurance program by fiscal year 1988. As part of its effort to achieve this goal, FEMA needs to correct the weaknesses in its ratemaking approach.

RISK PREMIUM RATES--A PRIMER

The rates charged in the regular program are called risk premium rates. This term is contained in section 1307 of the act and is intended to mean that the rates charged are to reflect the risks being insured against. The act requires that risk premium rates be charged for any structure constructed either after December 31, 1974, or after the completion of the community's initial flood insurance rate map, whichever is later. Besides applying to such post-FIRM construction, the act also requires risk premium rates for any additional insurance coverage purchased above the basic layer regardless of whether it is new or existing construction. FEMA also charges risk premium rates for any structure in certain low-risk zones, most notably zones B and C.

Sections 1307 and 1308 of the act provide the criteria for setting risk premium rates for flood insurance. Section 1307 of the act authorizes the Director of FEMA to undertake studies and investigations in order to estimate the risk premium rates necessary to provide flood insurance in accordance with accepted actuarial principles. In addition to payments to policyholders to cover insured losses, these rates are to take into account applicable operating costs and allowances. The rates may also include any administrative expenses which the Director of FEMA feels should be reflected in the rates. Based on these estimated risk premium rates, section 1308 instructs the Director to set the risk premium rates which policyholders will actually be charged. 1/

The act contains no definition of accepted actuarial principles. We discussed what constitutes an actuarial rate with

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1/FEMA also calls risk premium rates "actuarial" rates. We have not used this term because, as the remainder of this chapter demonstrates, the current risk premium rates do not conform to accepted actuarial principles.

insurance officials, actuaries, and underwriters both within FEMA and in the private sector. FIA's Deputy Administrator supplied us with a booklet published by the American Academy of Actuaries entitled "Risk Classification - Statement of Principles." This publication stated that setting rates should serve three primary purposes--(1) protect the insurance system's financial soundness, (2) be fair, and (3) permit economic incentive to operate and thus encourage widespread availability of coverage. The National Research Council of the National Academy of Sciences has also defined actuarial insurance rates as being

> "rates that fulfill the financial need in risk transfer, are responsive to competitive market conditions, improve the availability and reliability of insurance, and result in insurance premium charges that are not excessive, inadequate, unfairly discriminatory, or otherwise unreasonable."

According to the individuals we spoke with, an actuarially sound rate is one which provides enough premium income to cover all applicable costs of providing insurance, including losses, profits, and a contingency, or reserve, for extraordinary losses. Several officials also noted that the individual rates charged should be fair and adequately reflect the risk involved; in other words, persons at greater risk should pay more than persons facing a smaller risk.

Risk premium rates are set using two basic approaches. In the numbered zones--A1-A30 and V1-V30--rates are set based on a hydrologic model which combines estimates of the frequency of flooding with data on the magnitude of damage caused by flooding. This produces a "pure premium" which is intended to cover the actual flood losses. This pure premium is then adjusted upward to capture certain program costs and to compensate for underinsurance by policyholders. It is also adjusted downward to reflect the fact that the program has a $500 deductible. A detailed description of the model is in appendix IV.

For the unnumbered zones--for example, zones B and C--average risk premium rates have been developed based on actuarial and engineering judgments. FEMA has taken this approach because it believes the cost of obtaining the information necessary to develop detailed flood frequency-magnitude relationships would be extremely high in relation to the benefits.

RISK PREMIUM RATES CHARGED POLICYHOLDERS HAVE NOT PRODUCED ADEQUATE PREMIUM INCOME

The premium income generated by the program's risk premium rates has not been adequate to cover its associated loss and operating costs. Detailed loss and cost data is available only for the 1978-81 period; however, as appendix V illustrates, virtually all of the program's risk zones have operated at a

deficit. Excluding the emergency program, where all policyholders pay subsidized rates, the deficit per policy ranged from $194 per policy for zone D to about $20 per policy for the post-FIRM numbered A zones. Only two zone categories had an operating surplus--unnumbered V zones had a surplus of about $38 per policy and the combined zones AO, AOB, AH, and AHB had a surplus of almost $27 per policy. The zones which constitute solely new construction where premium income was supposed to be greater than costs--post-FIRM zones V1-V30 and post-FIRM zones A1-A30--both incurred deficits. In addition, some of the largest deficits were incurred in zones B and C where premium income was also intended to exceed costs and where all policyholders pay a risk premium rate designed to reflect the expectation of only a moderate or minimal amount of flood hazard.

FIA's Deputy Administrator told us that the 1978-81 loss experience may not be typical for the program. 1/ It is his view that the program's loss experience since 1978 has been better than that predicted by available probability models, suggesting that with more typical adverse flooding experience, the program's losses could have been greater. Further, despite rate increases in January and October 1981 and in June 1982, the Deputy Administrator believes, based on available loss data, that the current risk premium rates are still inadequate.

Numerous factors have contributed to this situation. These factors include

--a lack of attention to ratesetting during most of the program's history,

--untested frequency and severity data in the hydrologic model which is used to set rates in zones A1-A30 and V1-V30,

--incorrect assumptions in setting rates in zones B and C,

--invalidated enforcement and engineering assumptions, and

--a problem of underinsurance for which the ratesetting process may not be adequately compensating.

We were not able to quantify the effect of each factor on the overall deficit; however, the net result is that risk premium rates have not been adequate to cover their associated costs. Inadequate rates for new construction may also have hurt the program's overall objective of reducing future flood losses by not creating sufficient incentive for policyholders to adopt loss-mitigating actions, such as elevating their structures.

1/The Deputy Administrator functions as the program's Chief Actuary and is responsible for setting rates.

Setting appropriate risk premium rates did not receive adequate attention

After the first risk premium rates were established in 1969, no increases occurred until January 1981, despite consistent program deficits. To understand why this occurred, we spoke with each of the program's former Administrators. Their responses indicated that a number of assumptions and critical events as well as a lack of detailed data kept them from focusing on the adequacy of the risk premium rates.

The program's first Administrator, who ran the program from 1969 through 1974, told us that several factors contributed to his decision to not increase the risk premium rates. During the initial years he did not believe that FIA had developed enough experience with the program and its rate structure to justify a rate increase. It was his view that most losses the program was experiencing were in the emergency program. After the act was amended in 1973, the former Administrator told us that he was reluctant to increase risk premium rates since the amendment made the program mandatory for persons living in special flood hazard areas.

The second Administrator, who ran the program from 1974 to 1978, faced a different set of circumstances. He told us that he was initially comfortable with the risk premium rates because he had been involved in their establishment when he was the program's Chief Actuary. Once he became Administrator, he said that his attention was diverted by law suits challenging the constitutionality of the land-use restrictions required by the program. He also told us that FIA had not been able to get the National Flood Insurers Association, which had been operating the program, to develop adequately detailed claims data on which rate changes could be based. 1/ This inability to obtain adequate data was only part of a larger conflict between the National Flood Insurers Association and FIA which ultimately resulted in the termination of the Association's participation in the program. 2/ In short, between dealing with the legal challenges and the National Flood Insurers Association, the second Administrator did not, in his view, have the time or resources to change the risk premium rates.

1/From 1968 to 1978, FIA was part of the Department of Housing and Urban Development.

2/In a March 21, 1977, letter report to the Secretary of Housing and Urban Development (CED-77-47), we identified weaknesses in the Association's financial and claims data and noted that because of these weaknesses FIA could not accurately determine risk premium rates. Our May 31, 1978, letter to Senator Thomas F. Eagleton (CED-78-122) discussed the termination of the Association's participation.

The third Administrator, who was responsible for the program from 1978 through 1981, told us that when she took over the program she was immediately faced with the transition problems of shifting day-to-day program operation from the Association to the current contractor--Electronic Data Systems Federal Corporation. Simultaneously with this transition, the program experienced heavy flood losses from several severe hurricanes in 1978 and 1979, which further diverted her attention. It was during this time, however, that FIA did develop a data system to analyze claims experience by zone. Based on this data, officials saw the loss experience shown in appendix V and began in 1979 to examine the ratesetting process.

The hydrologic model uses untested data

In developing rates for property and casualty insurance, data on the frequency of loss is combined with loss experience to produce the pure premium needed to cover expected losses. In developing risk premium rates for flood insurance, FIA faced a serious problem: because flood insurance did not generally exist, historical data on frequency and loss costs was inadequate. Also, available data was highly variable, reflecting the low-frequency/high-magnitude nature of floods. As an alternative, FIA adopted the hydrologic model. (See app. IV.) This model had been developed and widely used by hydrologists and hydraulic engineers to determine the economic feasibility of flood protection and flood abatement projects. The model employs two basic elements: (1) a flood magnitude-frequency relationship and (2) a depth-damage relationship to provide the two needed data elements--the frequency of floods and the losses a flood of a given height causes. In implementing this model, however, FEMA has not tested key data.

The flood magnitude-frequency data FEMA uses was developed in 1970 by the U.S. Army Corps of Engineers. FIA's Deputy Administrator told us that he was not sure how this data was developed since it was developed before he became involved with the program. He thought that a significant amount of interpolation and judgment went into developing the data. He told us the data has never been tested or updated.

The Deputy Administrator said that the lack of testing and updating of the frequency data is a weakness in the ratesetting process and could be a contributing factor to the program's inadequate premium income. A Senior Vice President of the Insurance Services Office 1/ told us that this data element, critical to rate determination, is of uncertain value. Because it only reflects someone's estimate, she said that it needs to be tested. FIA's former Chief Actuary also told us that the frequency data needed

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1/The Insurance Services Office is a private statistical and actuarial service organization which supplies ratesetting support for most major property and casualty insurance companies.

verification but that while he was in charge, FIA did not have the resources to perform the necessary testing. Reflecting this, a 1977 attempt to verify this data was stopped before it was completed.

Weaknesses in the loss data may also be contributing to inadequate premium income. The loss data is based on a 1973 study of a sample of 4,000 claims. Because FIA did not have adequately detailed claims data until 1979, this data was not updated prior to this time. The factors have been adjusted to reflect claims experience since 1978; however, because of the large number of claims required to statistically adjust the data, much of the loss data FEMA uses continues to be based on the 1973 study.

As noted previously, frequency and loss data are combined in the hydrologic model to produce a pure premium which is intended to cover the actual flood losses. Although this premium is intended to collect revenue which will cover future costs, no adjustment is made to this data for inflation. Both the Deputy Administrator and the Senior Vice President of the Insurance Services Office cited this as an important weakness in the ratesetting process.

Incorrect assumptions used to set rates in zones B and C

Zones B and C are two of the program's largest zones, accounting for 30 percent of policyholders. These zones represent areas of minimal or moderate hazard, where losses from flooding by tidal waters, lakes, and rivers are expected to be very modest. Rates for these zones are based on engineering and actuarial judgment, and because no subsidy was originally designed into these rates, FEMA considers them to be "actuarial" rates. However, these two zones from 1978 to 1981 had a combined operating deficit of over $189 million, or over 28 percent of the program's total deficit. Only the emergency program and the pre-FIRM numbered A zones, where subsidized rates are charged, have lost more total dollars. These losses stem from several factors, most prominently incorrect assumptions in setting the rates initially and the lack of data to test these assumptions. In addition, adverse selection 1/ and misratings (policy premiums based on erroneously designated zones) may also have contributed to the losses.

1/Adverse selection occurs when insurance premiums are based on average rates (because custom tailoring of premiums is not possible) set to cover a fairly broad spectrum of risks. Some individuals correctly perceive that their risk is smaller than that implied by the premium. Other individuals perceive that their risk is greater. If the less risky individuals choose not to insure, participation is lowered, the more risky individuals remain in the program, and a self-reinforcing cycle of higher rates occurs because average risk increases. In theory, participation could eventually drop to zero.

FIA's Deputy Administrator told us that when FIA assumed the complete ratesetting function from the Corps of Engineers in 1973, he sat down with the program engineers and estimated a rate based on the expectation that few claims would be made in these areas of moderate or minimal hazard. FIA had no way to verify this assumption until 1979 when, as noted earlier, it first began to collect detailed claims data. This detailed data revealed that the claim frequencies in these zones actually exceeded those in the riskier A zones. Through contractual studies, FEMA engineers and hydrologists discovered that the flood insurance mapping methodology deals only with the primary source of flooding, for example, a rising river. The methodology does not deal with flood problems arising from man-made sources, such as inadequate storm water drainage. FEMA engineers also told us that some areas were designated B and C zones because flood history data was insufficient to justify a riskier flood zone classification.

Adverse selection may also be contributing to the losses in the B and C zones. People insuring B and C zone properties, or their lenders, may know that an area or property is subject to flooding more frequently than the mapping study would indicate. Because rates are averaged to cover a broad spectrum of risk, more flood-prone individuals who know about local flooding will join the program and take advantage of what, for them, is a low rate. The program ends up with a large number of high risks in what was expected to be a low-risk rate zone. FEMA's contractual studies of B and C zone properties in two communities with significant claims experience indicate that the program is insuring those more likely to be flooded. A property and casualty underwriter we spoke with told us that the program clearly suffers from adverse selection.

Misratings may also be contributing to B and C zone losses. A FEMA contractor found that 15 percent of the B and C zone rated properties checked in one Texas community should have been classified in other flood zones. Since the zone affects the premium charged, when combined with other rating factors an incorrect zone may produce an inadequate premium. FIA officials believe that the B and C zones are particularly susceptible to misratings because the premium rates are significantly lower than for most other zones. FIA's Administrator told us that misratings were a major problem for the program. Our earlier report (GAO/CED-82-105, Aug. 16, 1982) discussed flood zone misratings and made several recommendations for detecting and correcting such errors.

Despite two rate increases in the B and C zones since 1981, FIA's Deputy Administrator said that the current B and C zone rates will probably not produce sufficient premium income to offset related claims. He said that FIA needs to develop summary data on the type of structures affected and the type of damage being incurred in order to determine how to get the B and C zones on a sound financial basis.

Ratesetting has been based on invalidated enforcement and engineering assumptions

FEMA has established risk premium rates based on numerous underlying assumptions. Several of these assumptions have been proven incorrect either by our work or FEMA's own studies.

FIA's Deputy Administrator told us that rates on post-FIRM construction are based on the assumption that communities are enforcing their flood plain management regulations and, thus, the program is insuring less flood-prone structures. In our previous report, however, we found that after almost 15 years, FEMA knew relatively little about how well communities in the flood insurance program were enforcing flood plain management regulations. We found that FEMA's monitoring program was limited, that its method of selecting communities to visit was inadequate, and that it did not evaluate the results of the community visits.

We also reported that only three communities had been suspended for nonenforcement since the program began although FEMA knew about other communities with enforcement problems. We concluded that FEMA's decisions on communities with lax enforcement will continue to be subject to criticism until it develops adequate suspension criteria and issues a formal policy statement to regional offices and program participants setting out its position on dealing with communities not adequately enforcing required flood plain management regulations.

We also reported local enforcement problems with flood plain management regulations on enclosing and using the ground level of elevated structures (the open area from the ground level up to the base flood elevation on a structure elevated on pilings) in coastal high hazard V-zone areas. In 1981, according to the Deputy Administrator, the ratesetting model was changed to account for the effect of enclosures on the claims data.

In the area of invalidated engineering assumptions, FIA had assumed that mapping in the coastal V zones took into account the effects of storm-driven wave heights on the base flood elevation data. But a former Administrator told us that in 1974 FIA determined that wave heights had not been included in the mapping process. To compensate for this weakness, FIA conducted a study with the National Academy of Sciences to develop a procedure for incorporating wave heights into its elevations. FIA also adjusted the basis for determining rates in the numbered V zones. Because of the dramatic rate increases these adjustments can produce--a typical annual premium for a $50,000 building/$10,000 contents policy rose from about $200 to about $1,700--FEMA has applied this approach only to structures built after October 1, 1981, the effective date of the methodology's implementation. Structures built before that date will continue to pay the lower rate.

In a second example, FIA's Deputy Administrator learned that the method used to estimate the 100- and 500-year base flood elevations, while satisfactory for flood plain mapping purposes, produced an undesirable result in the flood insurance program. He determined that, when flood frequency estimates are based on analysis of gauge records, the fewer years of recorded weather and flood data available for a given location, the more uncertainty there is in flood magnitude and frequency estimates. In this regard, a professor of civil engineering at the University of Texas has calculated that the true expected probability of a "100-year" flood occurring in a given year when based on 40 years of gauge data is actually 0.013, or 30 percent greater than the 0.01 chance traditionally cited. If it is based on only 10 years of data, it would be 0.027, or 170 percent greater. FIA's Deputy Administrator concluded that complete reliance on the flood frequency data not adjusted for this uncertainty would produce only about half of the premium needed to meet the insured risk. In an attempt to compensate for this, FEMA has established, through the use of judgment, a minimum-risk premium rate, which is higher than the rate generated by the hydrologic model, for the potentially affected structures.

Ratesetting may not adequately compensate for underinsurance by policyholders

The flood insurance program faces a significant problem with policyholders not insuring to value, i.e., underinsurance. FEMA has attempted to compensate for this phenomenon by using a loading factor in its ratesetting process; however, this factor is without documentation and may be too low.

The probability of a total loss of property value is very small. In general, most losses experienced by policyholders are partial losses. As evidence of this, between 1978 and 1981 the program's average claim payment per policy was $5,975, while the average amount of insurance purchased in 1981 was about $52,700. This creates an incentive for policyholders to underinsure their property since by underinsuring they can significantly decrease their premium payments and not incur a great risk of a loss exceeding the policy's face value. As a Senior Vice President of the Insurance Services Office noted, this incentive is magnified in the flood insurance program because for owners of existing construction the basic layer of coverage is subsidized. Thus, property owners have a strong incentive to buy only the subsidized layer since it is typically large enough to cover any probable loss.

According to the Deputy Administrator, underinsurance has a direct negative impact on the financial health of the program. Because people do not insure to value the program is denied the extra premium income it would have received if the policyholder had insured to full value. This "extra" premium income is important since the program is less likely to have to pay out this

income on a total loss. Conversely, even though it is receiving premium income on the lower amounts of coverage, it is more likely to have to pay out this income in partial losses.

Since the pure premiums are based on the assumption that policyholders insure to value, FEMA has tried to compensate for this problem by using an underinsurance factor in its ratemaking model. Reflecting the magnitude of this problem, rates for one- to four-family dwellings are currently increased by a factor of 1.25. Residential contents and other building rates are raised by a factor of 2, and the factor for nonresidential contents is 3. These factors are not documented and reflect only the judgment of the Deputy Administrator, FIA. He has readily agreed that the factors may be too low.

FEMA has no requirement that policyholders insure to value; however, under section 102 of the Flood Disaster Protection Act of 1973, flood insurance is required to cover the outstanding mortgage balance on loans made by federally regulated institutions. FEMA has also taken actions to encourage an adequate amount of insurance to value. Specifically, FEMA

--offers lower rates for higher amounts of coverage in order to encourage policyholders to insure to value;

--provides a system of graduated rates for zones V1-V30 where it charges more if policyholders do not insure to value;

--provides replacement cost coverage if the owner of a single-family residence maintains insurance equal to at least 80 percent of the value; and

--on renewal bills encourages policyholders to increase the amount of insurance purchased each year by 10 percent.

According to insurance officials we spoke with, private property and casualty insurers typically require policyholders to insure to value. The usual underwriting rule is to require that the policy be written at 90 percent or more of the property value, excluding the value of the land and the building foundation for fire insurance, and 80 percent or more for more restrictive forms. If an owner refuses to comply, the policy becomes subject to the industry's 60- to 90-day cancellation rules or it is denied outright. Some insurers may allow lower insurance coverage, but in this case they will require co-insurance where the policyholder assumes a fixed percentage of any loss. In discussing this problem the FIA Administrator saw no legal impediment to requiring policyholders to insure to value. He did feel that such a requirement would be resisted by policyholders and therefore would be difficult to implement.

FEMA HAS NOT ESTABLISHED A RESERVE TO COVER CATASTROPHIC LOSSES

Risk premium rates are to be set in accordance with accepted actuarial principles. Setting rates under these principles usually involves establishing a reserve for catastrophic losses. Reserves are a common insurance practice and are often required by State insurance regulators. Reserves are necessary because losses can vary from year to year. This is particularly true in the flood insurance program where floods are typically low-frequency/high-magnitude events. FEMA has not established a catastrophic reserve. As FIA's Deputy Administrator noted, the program has operated at a deficit since its inception; consequently, there has never been any surplus to establish a reserve. Insurance industry officials and the current FIA Administrator agreed that a reserve would be appropriate if the program is to be in line with accepted actuarial principles.

FIA's Deputy Administrator has identified the program's $1 billion borrowing authority as a surrogate for a reserve. Use of this authority, however, actually increases program costs. In contrast, a reserve is typically used to supplement premium income in covering losses.

No methodology exists to estimate how large a reserve the program might need. Estimates we obtained from discussions with FIA officials ranged from $1 to $4 billion.

THE PROGRAM'S RATE STRUCTURE MAY BE TOO COMPLEX

In general, insurance rates differ in an attempt to account for the variations in risk among policyholders and to induce insureds to take action designed to minimize losses. Risk premium rates within the flood insurance program do differ to reflect risk and to induce certain actions by policyholders, most notably the elevation of structures on the property; however, many of the insurance industry officials we spoke with, as well as the current Administrator, expressed the view that FEMA's rate structure is too complex and is actually hurting the program.

In determining a flood insurance premium for a particular property, an insurance agent must deal with a variety of factors not common in other forms of property and casualty insurance. For a typical community already in the regular program the agent must determine

--the date of construction of the insured structure;

--what type of coverage is desired, e.g., building or contents, basic or additional;

--what zone the property is located in;

--what the occupancy characteristics of the structure are, e.g., single family or business; and

--for special flood hazard zones, the structure's elevation.

Since the rate manual must provide for more classes than exist in a single community, there are actually several thousand rate choices.

A property and casualty underwriter we spoke with told us that FEMA's approach was 8 to 10 times more complex than the most complex property and casualty rating system he had ever encountered. A Senior Vice President of the Insurance Services Office told us that by industry standards, FEMA's rating structure was far too complex. She noted that the variations in premium received were very small and were not justifiable when the cost of administering such a complex system was considered.

Insurance industry officials cited several negative consequences of the program's current rate structure. Many expressed the view that the overly complex structure contributes to the program's current problem with misratings. This view was shared by FIA's current Administrator. The rate structure was also seen as inhibiting the program's growth. According to industry officials, the difficulty insurance agents face in rating policies, combined with the relatively small commissions they receive, diminishes their desire to "sell" flood insurance to property owners who are not required to have it. The Senior Vice President of the Insurance Services Office also expressed the view that the complexity made it difficult to analyze the financial health of the various zones.

FEMA HAS RECOGNIZED THESE PROBLEMS AND BEGUN TO TAKE ACTION

In 1981 the Administrator, FIA, established a goal of making the flood insurance program self-sustaining and actuarially sound by fiscal year 1988. To achieve this goal, FEMA has recognized that it will have to address all of the problems we have discussed. While FEMA has initiated action in some of these areas, it has not developed a comprehensive plan to reach its goal.

The Administrator's goal has, in essense, two parts. First, he intends to have the program operating without a Federal subsidy by 1988--a self-sustaining program. Second, he wants to improve the program's ratesetting approaches by taking such action as developing a catastrophic reserve so that the program will meet accepted actuarial principles--an actuarially sound program. To achieve these goals, FEMA is reviewing a variety of alternative approaches.

To increase premium revenue, FEMA has established a semi-annual rate review to examine the adequacy of its rates and to implement annual rate increases. FEMA's three rate revisions since

1981 have already raised average risk premium rates about 150 percent. FEMA is also attempting to expand its marketing of the program to increase its policyholder base. Finally, FEMA has begun to consider additional variations in its rate structure which could increase income or reduce its losses. The approaches most often mentioned by FIA officials include (1) developing a rating system which would reward or penalize policyholders in a given community based on the adequacy of the community's enforcement of flood plain management regulations, (2) adding a surcharge to individual premiums if multiple claims are received on an insured property within a given number of years, and (3) providing a rate reduction for elevated properties in the B and C zones.

FEMA is also exploring ways to make its ratesetting approach more credible and in line with accepted actuarial principles. In particular, FEMA is (1) collecting and analyzing the frequency data in the hydrologic model, (2) reviewing the currency and validity of other factors used in setting rates, in particular the underinsurance factor, (3) examining ways to develop a catastrophic reserve, and (4) reviewing methods for simplifying its rate structure.

Some of these approaches, such as a rate reduction for elevated properties, are little more than desirable alternatives on which FEMA has taken no concrete action. Others, such as collecting information to test the frequency data, are the subject of ongoing efforts by FIA staff. In our discussions with the Administrator, he recognized that FIA is only beginning to identify the various alternatives that could be used to achieve his goal. In this regard the Administrator has set as a fiscal year 1983 objective the development of a plan which identifies the "significant insurance tasks, interrelationships, resources and milestones necessary" to accomplish an actuarially sound program by 1988.

Not all costs are included in setting rates

The risk premium rates FEMA charges are designed to recover the insurance program's losses, payments to claims adjusters, and insurance agents' commissions. FEMA also charges each policyholder a $20 expense constant each time a policy is taken out or renewed to recover the program's operating cost. This represents the cost of FEMA's contract with Electronic Data Systems Federal Corporation. All of these costs are financed from the flood insurance revolving fund. The interest paid on Treasury borrowings is also financed from the revolving fund but is not recouped through the rates.

Other costs of the National Flood Insurance Program are paid through appropriations. These include costs related to providing flood insurance. For example, appropriated funds pay the costs of the Federal Insurance Administration and of preparing flood insurance rate maps.

In discussions with insurance industry officials and past Administrators, we were told that under accepted actuarial principles all relevant costs of providing insurance would be recovered through the rates actually charged. They considered FIA's administrative costs and the cost of preparing FIRM's to be relevant costs and believed that if the program was to be considered actuarially sound, such costs ought to be recovered. In this context, a Senior Vice President of the Insurance Services Office noted that preparing a rate map is analogous to a private insurer performing a rating survey on a structure the firm is about to insure against fire. During such a survey the firm examines the structure to identify its fire protection systems and determines how much of a risk it represents. The costs of such surveys are recovered through the rates.

We discussed this situation with the current Administrator. He believed that under accepted actuarial principles, FEMA ought to recover the insurance program's administrative costs through its rates. He also believed that the insurance program should recover a portion of the costs of preparing FIRM's. He noted, however, that these maps are done not only for the insurance program but also to satisfy another major goal of the act: the identification of flood-prone areas. Where a map is done primarily to improve the insurance rating process--for example, when an area is remapped because its topography has changed--the Administrator believed it could be financed through the insurance program.

As part of its effort to make the flood insurance program actuarially sound, FEMA proposed to include, beginning in fiscal year 1983, FIA's administrative expenses in the flood insurance revolving fund and recover their cost through the expense constant. In approving FEMA's fiscal year 1983 appropriations, the Congress denied FEMA's proposal, stating that it wished to keep all of FEMA's administrative expenses in one account.

Impediments exist to a self-sustaining, actuarially sound program

In attempting to achieve a self-sustaining, actuarially sound program, FEMA faces two key impediments. As noted earlier, floods are low-frequency/high-magnitude events. As FIA's Deputy Administrator has noted, the occurrence or absence of only a few storms can have a dramatic impact on the program's loss experience. A FEMA review of paid losses for the three worst floods in each of the years 1978, 1979, 1980, and 1981 shows that they accounted for 51 percent, 52 percent, 51 percent, and 33 percent of all losses in each of the respective years.

The low-frequency/high-magnitude nature of floods could prevent the program from becoming self-sustaining, particularly by 1988. In making its assumptions for a self-sustaining program by 1988, FEMA has projected a low level of losses relative to the program's possible exposure to catastrophic losses. A large storm

would not only increase loss and loss-adjustment costs but would also, absent the development of a reserve, increase Treasury borrowings and the associated interest costs.

Raising rates to make risk premium income adequate could also exacerbate the problem of adverse selection. Rapid increases in rates could induce those individuals whose risk is smaller than that implied by the premium to drop out of the program. If these individuals choose not to insure, participation declines, more flood-prone property remains in the program, and a self-reinforcing cycle of high rates occurs because average risk increases. The potential for this occurring is probably greatest in the B and C zones where insurance is not mandatory and where some adverse selection may already be occurring.

We discussed potential impediments with the Administrator. He was particularly concerned with the impact of adverse selection on his goal. If continued rate increases reduce participation, the Administrator said that he would have to reduce or suspend future rate increases and reevaluate the time frame for achieving a self-sustaining, actuarially sound program. He told us he has recently instituted a monitoring effort to assess the impact of FEMA's rate increases on its policyholder base.

CONCLUSIONS

Between 1978 and 1981, which was a period of moderate flooding experience according to FIA's Deputy Administrator, the vast majority of the program's risk premium rates did not produce adequate premium income to cover their associated costs. Despite three successive rate increases since January 1981, these rates are still inadequate.

Inadequate rates have created an unnecessary fiscal drain on the program and may have worked counter to congressional intent. The act requires policyholders in newly constructed property to pay actuarial rates in order to create the proper incentives for taking flood loss mitigation measures. Rates for new construction in zones A1-A30 and V1-V30 have been inadequate and may have dampened incentives to mitigate flood losses. In any event, the Federal Government has had to provide a substantial subsidy in an area where none was originally intended.

FEMA's risk premium rates need to produce adequate premium income to cover their associated costs. By setting a fiscal year 1988 goal of a self-sustaining, actuarially sound program, FIA's Administrator has focused the agency's attention on the adequacy of the risk premium rates. In our discussions with FIA officials, we identified various efforts that are underway to address the weaknesses we have identified. FEMA's effort to date, however, is in a very preliminary stage and all the actions and resources necessary to produce adequate risk premium rates have not been fully defined. FEMA will need to put forth a considerable effort if it is to produce a credible ratesetting methodology which will

generate adequate risk premium rates by fiscal year 1988. FEMA's effort would be materially assisted if, as it has proposed, it develops a plan which provides a clear agenda for addressing the data and methodological weaknesses that have contributed to the current situation.

Besides correcting the identified weaknesses, other actions are needed to improve FEMA's ratesetting and make it more in line with accepted actuarial principles. First, FEMA needs to estimate and begin to accumulate a catastrophic reserve. Accepted actuarial principles clearly warrant such an action. FEMA's borrowing authority is not, in our view, an adequate surrogate for a reserve since its use increases rather than offsets program costs.

Second, FEMA needs to explore ways to simplify its rate structure. The current structure is too complex and may actually contribute to the program's financial problems. Fewer classifications would not prevent FEMA from charging policyholders on the basis of the risk involved; however, less complexity could make the program easier to sell and improve FEMA's ability to spread its risk through broader risk categories--an important consideration in light of the program's problem with adverse selection.

Finally, in setting rates FEMA needs to continue to give more credence to its recent loss experience. We recognize that the nature of floods can result in highly variable data. Indeed, FEMA's adoption of the hydrologic model is an attempt to deal with this phenomenon. This model, however, has not proven to be a very accurate predictor. Further, rates in some of the program's major zones, particularly zones B and C, are not based on the model but on judgment.

RECOMMENDATIONS TO THE DIRECTOR, FEMA

To develop a risk premium rate structure which produces adequate premium income and is in line with accepted actuarial principles, we recommend that the Director, FEMA:

--Develop and implement a plan to correct the identified data and methodological weaknesses in FEMA's current ratesetting approach.

--Estimate and establish a catastrophic reserve.

--Develop a rate structure which appropriately reflects variations in risk without unnecessary complexity.

--Increase reliance on recent loss experience in setting rates.

CHAPTER 3

ALTERNATIVES EXIST FOR ELIMINATING THE FEDERAL SUBSIDY

In addition to improving risk premium ratesetting, to achieve its fiscal year 1988 goal of a self-sustaining, actuarially sound flood insurance program, FEMA will need to eliminate the Federal subsidy produced by the chargeable (subsidized) rates. Eliminating the Federal subsidy can be accomplished by raising the chargeable rates, reducing the value of insurance coverage provided, cross-subsidizing chargeable rates with a surcharge on risk premium ratepayers, or a combination of these alternatives. FEMA, however, has not established a chargeable rate structure which allows the subsidy to be readily determined; therefore, it will be difficult for FEMA to choose among these alternatives.

FEMA's current approach represents a significant departure from how previous Administrators ran the program. Under their approach, the Federal subsidy would be gradually eliminated as structures paying chargeable rates were removed from the inventory and replaced with new, less flood-prone construction paying risk premium rates. Given this fundamental change, the Congress needs to consider (1) indicating to FEMA whether it agrees with this shift in direction and (2) giving FEMA specific direction on eliminating the subsidy.

WHY A SUBSIDY AND WHO RECEIVES IT?

A subsidy for some policyholders has been a part of the flood insurance program since its inception. Section 1308 of the National Flood Insurance Act of 1968 allows the Director to establish chargeable rates which are less than the risk premium rates in order to encourage prospective insureds to purchase flood insurance. By encouraging wide participation through subsidized rates, the Congress hoped to mitigate the heavy burden flood losses had placed on the Treasury. Through an insurance mechanism, the Government would collect in premiums at least a portion of the funds it had previously paid out in disaster assistance or had not received because of casualty loss tax writeoffs. Reasonable rates were also seen as creating an incentive for communities to join the program and adopt the required flood plain management regulations which were expected to mitigate future flood losses.

Chargeable, or subsidized, rates are available to owners of existing structures. All policyholders participating in the emergency program pay a flat rate regardless of their risk for a limited amount of insurance coverage. After the flood insurance rate map is completed and the community enters the regular program, existing properties built before the FIRM was completed can continue to pay the same chargeable rate as they paid in the emergency program, but only for a limited amount of insurance coverage. Additional coverage can be purchased only at risk premium rates. The rates and coverage limits are shown below.

Chargeable Rates

Type of structure	Annual rate per $100 coverage: Building	Contents
Residential	$ 0.40	$ 0.50
Other	$ 0.50	$ 1.00

Applicable Insurance Coverage

Type of structure	Coverage limit: Building	Contents
Emergency Program:		
Single-family residence (note a)	$ 35,000	$ 10,000
Other residential (note a)	100,000	10,000
Nonresidential	100,000	100,000
Regular Program:		
Single-family dwelling	$ 35,000	$ 10,000
Two-four family dwelling	35,000	10,000
Other residential	100,000	10,000
Nonresidential	100,000	100,000

a/Higher maximum amounts are available in Hawaii, Alaska, Guam, and the Virgin Islands.

About 90 percent of the program's policyholders as of December 31, 1981, were eligible to pay a chargeable rate, since about 1.6 million policyholders had insured properties built before their applicable FIRM was completed. In practice, however, the universe of persons paying the chargeable rate is smaller. FEMA regulations allow regular program policyholders to purchase basic coverage at the chargeable rate or the risk premium rate, whichever is less. Currently, the annual risk premium rates for basic coverage in the B and C zones range from $0.20 to $0.35 per $100 of coverage versus the chargeable rate of $0.40 per $100 of coverage. As a practical matter then, as FIA's Deputy Administrator noted, policyholders in B and C zones can be expected to opt for the lower risk premium rate in lieu of the higher chargeable rate. In addition, owners of existing structures in numbered A zones may find it advantageous, if the structure is elevated, to pay the risk premium rate for this zone instead of the chargeable rate. For example, the current annual rate for a single-family home with no basement and the first floor elevated above the base flood elevation, ranges from $0.20 per $100 coverage for zone A1 to $0.33 per $100 of coverage for zone A30. After adjusting for policyholders in zones B, C, and A1-A30 who elect to pay risk premium rates, the proportion of policyholders actually paying a chargeable rate is reduced to about 53 percent of the program's total insureds.

TO ACHIEVE FEMA's GOAL, THE FEDERAL SUBSIDY NEEDS TO BE ELIMINATED

To achieve FEMA's goal of an actuarially sound program, the Federal subsidy needs to be eliminated. Since, by definition, accepted actuarial principles require that premium income cover costs, as insurance and FIA officials noted, eliminating the Federal subsidy is necessary for the program to be actuarially sound.

Originally, the Federal subsidy was expected to gradually decline as existing, subsidized construction was replaced by new construction. This process was expected to take at least several decades. Eliminating the Federal subsidy in a shorter time frame could be accomplished by a variety of methods, such as raising chargeable rates, increasing deductibles, or requiring co-insurance. These actions, however, could reduce participation in the program and in turn be harmful to the program's objective of reducing the cost of disaster assistance. Further, to eliminate the Federal subsidy, FEMA will have to determine what the subsidy contained in the chargeable rates is--an extremely difficult task within the current rate structure.

The Federal subsidy was expected to gradually decline

The Federal subsidy provided for existing construction was not expected to be a permanent feature of the program. As noted by previous FIA Administrators and by insurance industry officials, floods and other causes are expected to gradually remove the existing construction, which pays the subsidized rates, from the inventory of insured properties. This existing construction would then be replaced with new, less flood-prone property which would be insured at a risk premium rate. This would cause the Federal subsidy to gradually decline. At some future time the share of new construction in the program would be large enough--one prior Administrator estimated about 80 percent--that the Federal subsidy could be eliminated. It was expected that policyholders in existing structures would continue to pay subsidized rates but that the shortfall from these ratepayers would be handled by a surcharge on the risk premium ratepayers, thus removing the need for further Federal contributions.

Estimates by former FIA Administrators of when the Federal subsidy would be eliminated varied from the year 2010 to the year 2030. These estimates are highly speculative and could be influenced by many factors. For example, as FIA's first Administrator noted, the current slowdown in housing construction could extend the time frame for elimination of the Federal subsidy. Based on the rate at which FEMA has added new construction to its insured property inventory, this time frame could be extended. The share of new construction in the program's policy base has increased from about 3 percent in 1978 to about 10 percent in 1981. Assuming this increase continues at the same rate, new

construction would represent about 68 percent of the insurance in force by the year 2020. The increase could be larger if the rate of construction rises above the historically low levels experienced between 1978 and 1981.

FEMA needs to know the amount of subsidy in the chargeable rates

FEMA has established the chargeable rates in such a way that the amount of intended Federal subsidy embodied in these rates cannot be readily determined. Without knowing what amount of subsidy the chargeable rates contain, FEMA is not in a good position to make decisions about eliminating the subsidy.

In establishing chargeable rates, the act authorizes the Director, FEMA, to the extent practicable, to identify the basis for such rates, including any differences between the chargeable rates and the risk premium rates. The only exception to this is in the emergency program where coverage is to be provided without regard to the risk premium rates.

FEMA has not identified the differences between the chargeable rates and the risk premium rates. According to FIA documents, the Deputy Administrator, and past FIA Administrators, chargeable rates have been set based solely on what FIA officials judged was affordable and would therefore be consistent with encouraging prospective insureds to purchase flood insurance. This criterion was used when the chargeable rates were first established for the emergency program in March 1970, when the rates were lowered in July 1972 and January 1974, and when rates were raised back to their 1970, and current, level in October 1981. The chargeable rates not only were applied to the emergency program but have also been incorporated into the regular program's rate structure for existing construction.

In dealing with the amount of the subsidy, FEMA has focused only on the total amount of the annual Federal subsidy. FEMA has defined subsidized rates as those where the premium income is not adequate to cover the associated loss and expense costs. In the view of FIA's Deputy Administrator, the subsidy then is whatever FEMA must borrow to meet the shortfall between premium income and costs. Under this definition, however, as shown in appendix V, virtually all program rates, including the risk premium rates, have been subsidized since 1978. This definition makes no distinction between the subsidy which is intentionally designed into the rate structure and the unintentional subsidy necessary to account for (1) inaccuracies in the ratesetting process and (2) extraordinary losses which exceed those predicted by the ratesetting process.

Because of the way the chargeable rates were set, FIA's Deputy Administrator told us that FEMA does not know the level of the intended subsidy. Further, he said that there is no congressional

or administrative guidance on what the subsidy level should be. The FIA program analyst, who assists the Deputy Administrator in developing the rates, told us that the subsidized rates bear no fixed relationship to the risk premium rates. Further, he stated that FEMA does not have the data to readily establish this relationship. For example, to establish the intended subsidy for existing construction in a numbered A zone, FEMA would need to know the structure's elevation. With the elevation, the risk premium rate could be determined and the difference between this rate and the chargeable rate could be computed.

Even with elevation data, establishing the subsidy would be a sizable task since about 27 percent of the program's policyholders own existing construction in a numbered A zone. FIA's Deputy Administrator also noted that determining the subsidy in this manner will likely be expensive since additional elevation data will be required. He also noted that these additional requirements have been a deterrent to getting insurance agents to sell flood insurance. The Deputy Administrator, however, agreed that before FEMA can take action to eliminate the Federal subsidy through, for example, the use of a surcharge, it needs to determine the amount of the subsidy.

In addition to making it difficult to determine the subsidy, FEMA's flat chargeable rate produces some inequities. As the Deputy Administrator noted, some persons may face a very high risk; thus, the flat rate provides them with a very substantial subsidy. Others may face a much lower risk and thus may receive little or no subsidy. An alternative to this situation is a percentage form of subsidy. Under this approach the Federal subsidy would be a percentage--for example, 50 percent--of the applicable risk premium rate. Such an approach is used in the Federal Crop Insurance Program where, to encourage the broadest possible participation, the Congress required that 30 percent of the premium be subsidized (up to a maximum of 65 percent of the appraised average yield). When we discussed this approach with FIA officials, they believed a percentage subsidy might be desirable but noted that such an approach could be easily applied only in a less complex rating structure. (The complexity of the program's rate structure was discussed in ch. 2.) They also noted that when a policyholder faced a high risk of flooding, even a 50-percent subsidy still could produce a relatively high premium.

Different methods could be used to eliminate the Federal subsidy

Several methods could be used to eliminate the Federal subsidy. These methods can be used individually or together. They include

--expediting the conversion of emergency program communities to the regular program,

--raising the chargeable rates to the risk premium level, and

—reducing the value of insurance coverage provided at a given chargeable rate.

Although the amount of intended subsidy is not known, the emergency program has accounted for a significant proportion (over 39 percent) of the program's deficit since 1978. If FEMA converted communities remaining in the emergency program to the regular program, it would not immediately eliminate the subsidy, since under FEMA's current regulations chargeable rates are still applied to the regular program's basic coverage; however, conversion could contribute to eliminating the subsidy.

By converting communities to the regular program, FEMA would cut off any further "grandfathering in" of new construction built while the community is still in the emergency program. Such construction is not required to meet the more stringent building regulations of the regular program and therefore can be just as much at risk from flood losses as much older construction built before the flood insurance program began. Not only would such construction probably incur higher losses than if it were built to regular program standards, but it would also be eligible for a continued subsidy for basic coverage once it enters the regular program.

In establishing the flood insurance program, the Congress made it clear that it intended for new construction to meet higher construction standards and pay risk premium rates. This was necessary to achieve program goals and to eventually eliminate the Federal subsidy. New construction has been grandfathered in only because communities have remained in the emergency program for so long. Converting communities from the emergency program to the regular program requires developing a flood insurance rate map. Developing these maps has been a slow and relatively expensive process. We are currently conducting a detailed review of the conversion process and alternatives to conversion and the mapping approach. We expect to issue a report by July 1983.

Converting communities to the regular program will provide a framework for identifying the subsidy being provided. Once communities are in the regular program, the risk faced by policyholders is known and the difference between the risk premium rate they should pay and the chargeable rate they are paying can be computed; however, under the program's current rate structure this could be a difficult task.

Raising the chargeable rates to the full risk premium level is another way to eliminate the Federal subsidy. As noted earlier, because of the way the chargeable rates have been set, the amount of the subsidy contained in these rates cannot be precisely determined. Consequently, the amount the chargeable rates would have to increase cannot be precisely determined. In our discussions with FIA's Deputy Administrator, we did identify a crude measure of what the potential impact might be. The Deputy Administrator

told us that in the early days of the program some field measurement of the elevation of existing structures was made. This fragmentary data indicates that existing construction was built on the average to a 40-year flood level. This means that the probability of flooding in any one year is about 2.5 percent, on the average, for existing structures. Since new construction is expected to be elevated to the 100-year flood level--a 1-percent chance of flooding--existing construction is 2.5 times more likely to be flooded than new, elevated construction. In his view, this means the chargeable rates might have to be raised by at least a factor of 2.5. Thus, the annual chargeable rate would rise from $0.40 per $100 coverage to $1 per $100 coverage, and the average subsidized premium would increase from $170 annually to $425. The Deputy Administrator noted that this could be a minimum factor and that increases of three to four times the current chargeable rate might be necessary. According to the Deputy Administrator, this is because, in addition to the increased flood frequency, the average claim cost would be higher since the building at the 40-year level would have much deeper flood waters in the premises than the building built to the 100-year level when a very severe flood occurs.

Another way to eliminate the Federal subsidy would be through the use of a cross-subsidy. With such an approach policyholders paying risk premium rates would be assessed a surcharge to offset the subsidy still contained in the chargeable rates. This approach could be used in conjunction with some increase in current chargeable rates. We were unable, however, to determine how large a cross-subsidy would be required.

A final way to eliminate the Federal subsidy is to reduce the value of insurance coverage--and thus FEMA's costs--provided at the current chargeable rate. This could be done in several ways. First, the current deductible of $500 could be raised. In our discussions with FIA's Deputy Administrator, he suggested that a deductible of $3,500 was probably the minimum necessary to eliminate the subsidy. He stressed that this was a "ball park" estimate and was not based on any analysis. Second, FEMA could require co-insurance. Rather than a flat deductible, FEMA could require insureds to pay, for example, 20 percent of every loss with FEMA paying the remaining 80 percent. With current losses averaging about $6,000 per claim, this approach could save FEMA about $700 per claim over the current $500 deductible approach. Third, FEMA could specifically exclude coverage of minor items regularly damaged by flooding, the loss of which would probably not be catastrophic to policyholders. Carpeting is a possible example, since recent FEMA data indicates that carpeting accounts for about 30 percent of a typical loss. Any of these approaches could be used in combination with an increase in chargeable rates, as well as a cross-subsidy from risk premium ratepayers, in order to eliminate the Federal subsidy.

Eliminating the subsidy could negatively affect program objectives

Eliminating or sharply reducing the individual subsidy provided to owners of existing construction in order to eliminate the Federal subsidy could negatively affect the flood insurance program's financial status by reducing participation. Less participation could also negatively affect the program objective of mitigating the cost of disaster assistance.

Two former Administrators and FIA's current Administrator expressed concern that if FEMA significantly raises the chargeable rates, the number of participants in the program could decline. In this case adverse selection could hurt the program. As noted in the previous chapter, adverse selection occurs when insurance premiums are based on average rates set to cover a fairly broad spectrum of risks. Some individuals will correctly perceive that their risk is smaller than that implied by the premium. If, in the face of higher premiums, these individuals choose not to insure, participation declines, more flood-prone property remains in the program, and a self-reinforcing cycle of higher rates occurs because average risk increases. In theory, participation could eventually drop to zero.

High participation is one program objective. It is important not only to maximize the benefits of risk pooling and to spread the fixed costs of the program, but also to reduce the pressure on other forms of post-disaster assistance. As noted by FIA and insurance industry officials we spoke with, reduced participation could increase the demand for disaster assistance and/or increase the amount of casualty loss tax writeoffs. Consequently, the total cost to the Federal Government could increase.

As we noted, however, in our report entitled "Federal Disaster Assistance: What Should the Policy Be?" (PAD-80-39, June 16, 1980), the only solutions to this problem are subsidized rates and/or compulsory participation. Currently, communities are not required to participate in the program. Within participating communities insurance is required only for persons receiving Federal financial assistance in special flood hazard areas.

Reducing the value of insurance coverage could also negatively affect the program objective of mitigating the cost of disaster assistance. As noted by FIA's Administrator and Deputy Administrator as well as a former Administrator, reducing coverage by raising the deductible, for example, could also increase the demand for disaster assistance and casualty loss tax writeoffs. The Administrator believed that this approach could not be used effectively as long as other forms of assistance are available.

As noted in chapter 2, the Administrator is concerned about the negative impact rate increases could have on program participation. He told us that if continued rate increases reduce participation, he would have to reduce or suspend future rate

increases and reevaluate the time frame for achieving a self-sustaining, actuarially sound program. The Deputy Administrator told us that FEMA is collecting data to monitor the impact of rate increases on the policyholder base. In fact, the number of policyholders has declined from a peak of over 1,983,000 in November 1980 to over 1,877,000 as of July 1982. FIA's Deputy Administrator believes this slide is due to the nationwide decline in real estate activity, which has reduced the amount of mortgage turnover subject to the requirements of section 102 of the Flood Disaster Protection Act of 1973.

CONCLUSIONS

As part of any effort to develop a self-sustaining, actuarially sound program by fiscal year 1988, FEMA will need to eliminate the Federal subsidy. This will require an increase in the chargeable rates and/or a decrease in the value of the insurance provided. It is unrealistic to expect the policyholders paying risk premium rates, who constitute less than half of the program and whose rates are already inadequate and will have to be raised (as discussed in ch. 2), to bear the full burden of the existing Federal subsidy through a cross-subsidy. Faced with substantially higher rates, these ratepayers might leave the program.

FEMA will have difficulty deciding exactly what changes in chargeable rates will be necessary. The current chargeable rates in the regular program were set on the basis of what FIA officials believed was affordable and not with reference to the risk premium rates which could be charged. As a result, the amount of the intended subsidy cannot be readily determined. While this approach was appropriate for the emergency program, it was not and is not appropriate for the regular program.

In order to decide what changes are necessary to eliminate the Federal subsidy, FEMA needs to develop a chargeable rate structure which clearly identifies the amount of intended subsidy. The best way to accomplish this is the approach the Congress suggested in the act--establish risk premium rates which produce adequate premium income, as recommended in chapter 2, and derive a set of chargeable rates which state the difference between the rates. Such chargeable rates could be determined by subtracting a percentage subsidy from the risk premium rates.

Raising the chargeable rates or decreasing the value of insurance provided, if done in a relatively short time frame, could be harmful to program objectives by reducing participation and increasing the use of disaster assistance and casualty loss tax writeoffs. Thus, FEMA must carefully monitor the impact of its chargeable rate increases on its policyholder base. FEMA also needs to develop a method to monitor the impact of any changes it might institute in the value of insurance coverge on the demand for disaster assistance or the level of casualty loss tax write-offs. FEMA may find it necessary, as the Administrator recognized, to extend the time frame for eliminating the Federal subsidy.

The act currently allows FEMA considerable freedom in establishing chargeable rates. Former FIA Administrators believed that eliminating the Federal subsidy was to be accomplished over a considerable period of time through the turnover of the insured properties inventory and the positive impact of flood plain management regulations and not through changes in the chargeable rate. The current Administrator has taken a different approach. He wants to eliminate the Federal subsidy in a much shorter time frame. To do so will require changes in the chargeable rate and/or in the amount of insurance provided. While the Administrator has indicated that he does not want to achieve his objective of a self-sustaining, actuarially sound program by reducing participation in the program, his approach does represent a fundamental change from how the program has previously been administered.

In view of this the Congress needs to consider (1) telling FEMA whether it agrees with the shift in direction and (2) giving FEMA specific guidance on how the Federal subsidy should be eliminated. If the Congress supports the current Administrator, it needs to recognize that chargeable rates are likely to increase, possibly by a substantial amount, and that wide participation may not be achieved. On the other hand, if the Congress supports the more gradual approach employed by previous Administrators, it needs to recognize that a substantial Federal subsidy could continue into the next century.

RECOMMENDATIONS TO THE DIRECTOR, FEMA

In order to provide the necessary framework to assess the impact of changes in chargeable rates on the flood insurance program, we recommend that the Director, FEMA:

--State chargeable rates for the regular program so that the amount of intended Federal subsidy can be accurately and readily determined.

--Establish a monitoring program to detect any adverse impacts which increases in chargeable rates or decreases in coverage provided at chargeable rates could have on the flood insurance program's objectives.

MATTER FOR CONSIDERATION BY THE CONGRESS

In establishing the flood insurance program the Congress gave FEMA very general guidance on the level and duration of the subsidy in the program's chargeable rates. These rates have been set based on what FIA's Administrators believed people could afford. In setting these rates the Administrators sought to encourage wide participation. While not ignoring the desirability of wide participation, the current Administrator has emphasized making the program self-sustaining and actuarially sound by fiscal year 1988. To achieve this goal some as yet undetermined rate increases and/or coverage reductions will be necessary. In view

of this fundamental change, the Congress needs to consider (1) telling FEMA whether it agrees with this shift in direction and (2) giving FEMA specific guidance on how the subsidy should be eliminated.

CHAPTER 4

THE CONGRESS CAN GAIN GREATER CONTROL OVER THE NATIONAL FLOOD INSURANCE FUND

The Congress established a revolving fund to finance the insurance mechanism of the flood insurance program. When it did so, it expected the program to be run as a joint Government-insurance industry operation and viewed the fund as necessary to provide flexibility and timeliness in paying claims. The act also permitted a Government-run program, and in 1978 the Government terminated the industry's involvement and took over the program.

Because premium income was not adequate to cover costs, FEMA financed the program's losses by borrowing funds from the Treasury. Between 1970 and 1980 it borrowed about $854 million. FEMA is authorized but not required to regularly request appropriations to repay its borrowings. This lack of a regular requirement to repay borrowings has reduced the Congress' ability to oversee the program and to determine why the losses occurred.

Given these conditions and our long-held view that the Congress needs to exert as much control as possible over program expenditures, we are recommending that the Congress adopt more stringent controls on how FEMA finances program losses.

REVOLVING FUNDS--THEIR CHARACTERISTICS AND LIMITATIONS ON CONGRESSIONAL CONTROL

A public enterprise revolving fund is an expenditure account authorized by the Congress to be credited with collections, primarily from the public, that are generated by and earmarked to finance a continuing cycle of business-type operations. Besides being credited with receipts collected from the public, revolving funds can also be credited with annual appropriations or funds borrowed from the Treasury.

The general term "revolving fund" designates a fund established by the Congress to finance a cycle of operations through amounts received by the fund. 1/ In concept, expenditures from the fund generate receipts which, in turn, are earmarked for new expenditures. This approach is aimed at selected Government programs in which a buyer/seller relationship exists and it attempts to foster an awareness of receipts versus outlays through businesslike programing, planning, and budgeting. Such a market

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1/Revolving funds are divided into three categories. Public enterprise revolving funds are used for business conducted primarily with customers outside the Government. Intragovernmental revolving funds are used for business conducted primarily within and between Federal agencies. Trust revolving funds are used when the Government holds receipts in trust.

atmosphere is intended to create incentives for customers and managers of revolving funds to protect their self-interest through cost controls and economic restraints similar to those that exist in the private sector.

Congressional control and oversight of revolving funds is often reduced because revolving funds do not require authorization and appropriated funds to continue operations. In addition, because a revolving fund's financial activities are generally reported on a net (receipts minus outlays) rather than a gross basis, the Federal budget gives little indication of the magnitude of the fund's financial obligations and liabilities.

In certain instances, revolving funds receive financing not only from receipts but also from congressionally authorized budget authority in the form of appropriations or borrowing authority. This additional funding can provide the fund with initial working capital, provide for operating and administrative costs, or make up for losses representing a subsidy to the program. Budget authority can be either direct or indirect, and as a result the Congress may have substantial or minimal control.

Congressional control over revolving funds through the authorization and appropriation process is direct if it specifies limitations on certain expenses paid for out of the fund, or appropriates funds for certain program activities. However, authorizations and appropriations to make up for a fund's losses do not represent direct control. Such appropriations are in response to what has already occurred and do not represent control over what obligations or outlays will be made in future operations.

Indirect control over a revolving fund's obligations and outlays results when budget authority is provided through borrowing authority. Borrowing authority permits a Federal agency to incur obligations and to make payments for specified purposes out of money borrowed from the Treasury or the public. Generally, authority to borrow is without fiscal year limitation; however, the outstanding balance on the amount borrowed is usually limited. The Treasury generally credits amounts borrowed to a revolving fund account for the borrowing agency; repayments made by the agency reduce the agency's operating funds and restore the authorization for additional borrowing. This type of authority provides minimal oversight and control of program operations because funds can be borrowed and spent without routine congressional approval.

OUR VIEWS ON REVOLVING FUNDS

Our views on the use of revolving funds have been governed by our concern over the Congress' weakening its control over program

activities when it authorizes this funding mechanism. 1/ We believe the Congress needs to be allowed to exercise its responsibility for controlling Federal activities which it jointly shares with the executive branch. We have applied the standard that the public interest is best served when direct congressional control over activities is exercised through regular reviews and affirmative action on planned programs and financing requirements through the appropriations process.

It has also been our view that departure from the above standard is appropriate only when it can be fairly shown that an activity cannot successfully be operated in the public interest within the congressional appropriation process. We believe that revolving funds need to be examined periodically to determine whether they still meet the criteria that justified their creation. In this context, it is our view that public enterprise revolving funds may be appropriate when (1) a continuing cycle of operations generates receipts, principally from the public, (2) a substantial need exists for flexibility to meet unforeseen requirements, and (3) the fund is or likely will be substantially self-sustaining.

In our view, the alternative to revolving fund financing which establishes the strongest congressional control over both individual programs and budget outlays is to finance these programs through regular appropriations. Various reasons have been offered why revolving funds cannot be under appropriation constraints, the most common ones being the need for flexibility, the need for cost awareness, and the need for better accounting, budgeting, and reporting. Further, in many instances it has been suggested that the appropriations process cannot work fast enough to meet the fund's needs. However, alternatives exist that can be used. For example, we have noted that the Congress could enact a stated amount as a permanently available, separate emergency fund. The fund could be replenished in the amounts disbursed from it by annual appropriations. This would allow flexibility while retaining firm congressional control over normal operations, such as renewal action on individual programs. This alternative appears fully consistent with the present appropriations process. Where revolving fund financing is used, we have advocated that as an alternative to an unrestricted fund, the Congress enact requirements for regular review and specific language controlling the fund's uses.

THE NATIONAL FLOOD INSURANCE FUND --WHY WAS IT ESTABLISHED?

To finance the insurance aspects of the National Flood Insurance Program, the Congress established the National Flood Insurance Fund. In establishing the fund as well as the insurance program, the Congress expected that flood insurance would be provided

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1/For a full discussion of our views on revolving funds see our report entitled "Revolving Funds: Full Dislosure Needed for Better Congressional Control" (PAD-77-25, Aug. 30, 1977).

through a pool of private insurance companies. The pool would sell and service flood insurance coverage under the program and would participate financially in underwriting flood risks and in the program's profits or losses. The Congress saw the fund as the mechanism to provide the Federal Government's share of the cost of the insurance program. This share included (1) making subsidy payments to the pool to compensate for losses attributable to the difference between the risk premium rates and the chargeable rates and (2) providing a Federal program of excess loss reinsurance to assist the insurance industry pool in meeting claims in years of abnormally high losses. 1/ The Congress believed a revolving fund was essential to the program's success because it would provide flexibility and timeliness for paying claims. The Congress also provided a "backstop" in the event that the industry pool could not operate the program effectively. This backstop was an insurance program run entirely by the Federal Government. In the event of an all-Federal program, the Congress directed that the fund also be used to finance the program.

Under section 1310 of the act, the fund can be credited with income from several sources. One source is income received from flood insurance premiums. A second source is funds borrowed from the Treasury--up to $500 million. This borrowing authority may be increased to $1 billion upon approval of the President and notification of the Congress. There are, however, no other limitations on the use of the borrowing authority. A third source is appropriations needed to maintain the fund in an operative condition adequate to meet its liabilities. Finally, the fund can be credited with interest earned on investments of the fund in U.S. Government obligations.

Amounts can be withdrawn from the fund for several purposes, including

--making subsidy payments,

--repaying Treasury borrowings (including interest),

--paying administrative expenses and operating costs, and

--paying the cost incurred in the adjustment and payment of any claims for losses.

1/Through reinsurance a reinsurer assumes all or part of a risk originally undertaken by another insurance company. For assuming this risk the reinsurer is paid a premium. Insurance companies may purchase reinsurance for several reasons, including (1) to reduce their exposure to liability on particular risks, (2) to protect against accumulations of losses arising out of catastrophes, and (3) to provide greater capacity to accept new risks.

Originally, the act placed no fiscal year limitation on FEMA's use of the fund; however, the Congress recently established some direct control over the fund. The Omnibus Budget Reconciliation Act of 1981 (Public Law 97-35), in amending the act, limits FEMA's use of the fund. FEMA must now receive annual authorization through an appropriation act for expenses and their funding level before they can be withdrawn from the fund. If expenses exceed their authorized levels, FEMA must request the Congress' approval before it can withdraw additional funds from the fund to finance the expenses. In fiscal year 1982 FEMA requested and received approval to exceed its originally authorized spending level for agents' commissions by $854,000. In its September 15, 1982, request letter, FEMA noted that it was difficult to accurately estimate its expenses and that because the actual number of policies purchased determines the total amount paid in commissions, it had underestimated its original budget estimate for commissions. The 1981 amendment's limitation does not apply to expenses for losses and loss adjustment. These expenses, however, account for a significant portion of the fund's obligations--53 percent in fiscal year 1981.

To date the fund has been credited with premium income, Treasury borrowings, and appropriations earmarked to repay Treasury borrowings. Withdrawals have been made to finance the costs of paying claims and claim adjustors; insurance agents' commissions; the operating expenses of FIA's contractor, Electronic Data Systems Federal Corporation; and interest charges on borrowed Treasury funds. For fiscal year 1983, FEMA requested that the fund be used to pay FIA's administrative expenses. Income to pay administrative expenses was to be obtained through the expense constant charged policyholders each time they take out or renew their policies. The Congress, however, in the fiscal year 1983 appropriations act for the Department of Housing and Urban Development and Independent Agencies, rejected FEMA's request.

THE CONDITIONS SURROUNDING THE FUND'S ESTABLISHMENT HAVE CHANGED

In June 1969, the Department of Housing and Urban Development entered into an agreement with the National Flood Insurers Association, a pool of insurance companies, to provide flood insurance on a limited risk-sharing basis. 1/ In addition to the sale of insurance, the Association was responsible for many of the program's administrative and accounting functions.

Over the years, however, numerous problems developed between the Association and the Department. Among the more important areas of contention were that (1) the Department wanted the right to review and approve the Association's overhead operating budget,

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1/Between 1968 and 1978, FIA was part of the Department of Housing and Urban Development.

but the Association refused, (2) the Association refused to competitively bid its servicing contracts, and (3) the Department and the Association disagreed on the extent of the Department's authority over the program regarding policy decisions and regulation. In February 1976, Arthur Anderson & Company issued a report disclosing serious weaknesses in the Association's automated accounting system.

While the 1969 agreement was self-renewing, either party could request that negotiations of its terms be reopened. In September 1976, the Department decided that such negotiations could resolve the disagreements. While the Department and the Association were negotiating, the Department in July 1977 issued a request for proposals to operate the program under either the industry-run or Government-run arrangement. In September 1977, the Department received two proposals to operate the program as a Government-run arrangement. After reviewing the two contractors' offers, the Department decided to negotiate with the Electronic Data Systems Federal Corporation to refine its costs and technical proposals. The Department then compared the Association's total program costs with the contractor's total program costs and found a cost difference of about $15 million. Largely on the basis of this difference the Secretary decided on November 2, 1977, that Government operation would materially assist the National Flood Insurance Program. The Government takeover was effective January 1, 1978.

As part of his effort to make the program self-sustaining and actuarially sound, the current Administrator has attempted to reinvolve the insurance industry in the flood insurance program. Our discussions with the Administrator and insurance industry officials, however, revealed that the industry is currently unwilling to reenter the program on a risk-sharing basis. Among the principal reasons cited by industry officials for not reentering the program were (1) a belief that the program was too heavily subsidized to be operated as an insurance business, (2) concern that the program had not been operated on a businesslike enough basis, and (3) resentment over how the industry's prior involvement had been terminated. Our discussions did indicate that some firms were interested in working with the Government on a servicing basis--similar to FEMA's current arrangement with the Electronic Data Systems Federal Corporation.

THE PROGRAM HAS BEEN SUSTAINED BY TREASURY BORROWINGS

Between 1970 and 1980, FIA used borrowed funds to augment inadequate premium income and finance the program. During this period it made two appropriations requests--one in 1974 as an initial attempt to repay accumulated borrowings and a second in 1981 when it had nearly exhausted its borrowing authority.

FIA began to borrow funds to finance the flood insurance fund in fiscal year 1970. FIA had originally intended to request

appropriations to repay its prior years' borrowings. It first requested these appropriations in its fiscal year 1974 supplemental request, noting that further appropriations could be required in future years as the actual amounts it borrowed were known. FIA requested $2,832,000 to repay the Treasury for sums it had borrowed, along with interest, during fiscal years 1970-72, and to restore its total borrowing authority, which at that time was $250 million. Its request was denied, however, and the Senate Committee on Appropriations, Subcommittee on Department of Housing and Urban Development, Space and Science and Veterans, stated that the Congress had no control over the magnitude of the program's losses since the program was financed directly by Treasury borrowings. Unless budget control and good management were implemented, appropriating funds to liquidate these losses would not ameliorate the problem, the subcommittee said.

FIA continued to augment premium income by borrowing from the Treasury. The Congress, in 1973, amended the act to raise FIA's borrowing authority limit from $250 million to its current level of $500 million. After heavy losses in 1979, FEMA requested and received Presidential approval to borrow up to $1 billion. By the end of fiscal year 1980, FEMA's outstanding borrowings had increased to $854 million and its remaining borrowing authority was $146 million; however, because of obligations for accounts payable and undelivered orders, the Agency had only about $97 million available to sustain the fund. In this situation FEMA made its second appropriations request. For fiscal year 1981, it requested an appropriation and received $561 million to repay Treasury borrowings. In fiscal year 1982, it requested an appropriation and received $328 million to repay prior years' Treasury borrowings. Taking into account current obligations, according to an accountant in FEMA's Office of Comptroller, the fund, as of October 1982, had available borrowing authority of about $950 million. 1/

OPPORTUNITIES TO IMPROVE BUDGET AND LOSS CONTROL WERE PREVIOUSLY IDENTIFIED

FEMA is currently required by section 1310(e) of the act to prepare and transmit to the Congress an annual business-type budget

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1/Through appropriations to repay Treasury borrowings, the flood insurance fund has had its previously recorded borrowing authority restored, or "rolled over," making the old authority available for another cycle of borrowings. The Agency may use this rolled over authority instead of requesting new borrowing authority to make additional borrowings. In this case, as FEMA borrows in the future it can accumulate gross obligations which will exceed the $1 billion in borrowing authority the Congress authorized. We have opposed this procedure as not providing the Congress adequate control. For a more detailed discussion, see our report entitled "Spending Authority Recordings in Certain Revolving Funds Impair Congressional Budget Control" (PAD-80-29, July 2, 1980).

for the National Flood Insurance Fund. This budget includes aggregate information on the expenses financed through the fund and the revenues received by the fund from premiums, Treasury borrowings, and appropriations. This budget does not differentiate between expenses and revenues associated with risk premium rates and expenses and revenues associated with chargeable, or subsidized, rates.

Between FIA's first and second appropriations request, we issued reports which emphasized weaknesses in budget control within FIA. In 1977 1/ we reported that numerous weaknesses in the financial statements of the flood insurance program could adversely affect the Government's ability to (1) determine flood insurance risk premium rates, (2) prepare financial statements of the program's condition, and (3) make management decisions. Our financial audit of the flood insurance program for fiscal year 1980 was terminated because FEMA was unable to produce financial statements of the flood insurance program's activities. 2/

Because losses are the major expense of the flood insurance program, one mangement tool which can be used to reduce losses is a systematic audit of claims. On March 5, 1982, we reported that, in general, internal accounting controls for flood claim processing provide for the valid and accurate payment and recording of claims. 3/ However, we identified weaknesses in the areas of

--controls over disbursements,

--separation of duties for processing of drafts,

--accounting for reissued drafts and following up the status of revised drafts, and

--automated processing of claims data.

These weaknesses could increase the possibility for inaccurate accounting, fraud, and abuse. FEMA is aware of the potential for

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1/Letter Report to the Secretary of Housing and Urban Development on the National Flood Insurers Association's financial controls over its operations relating to the National Flood Insurance Program (CED-77-47, Mar. 21, 1977).

2/Letter Report to the Director, FEMA, on Terminating the Audit of the National Flood Insurance Program's Fiscal 1980 Financial Statements (AFMD-81-93, Sept. 21, 1981).

3/Letter Report the Chairman, Subcommittee on Legislation and National Security, House Committee on Government Operations, on our Review of the Claims Processing Procedures of the National Flood Insurance Program (AFMD-82-56, Mar. 5, 1982).

fraudulent claims and has assisted in the prosecution and recovery of claims paid in cases it has been able to identify.

We did not reassess FEMA's claim processing procedures during this review. We did, however, examine its efforts to audit claims. According to the Director of FIA's Flood Insurance Operations Division, FEMA's contractor randomly checks claims to verify that costs of items claimed are reasonable. About 10 percent of claims are audited in detail; however, these represent only those claims filed in local flood insurance claims offices which are set up following a major disaster. These offices typically process about 50 percent of the program's total claims. The remainder of the claims are not audited. FEMA's Inspector General recently awarded a contract for an independent indepth audit and report on all insurance program activities, including the audit of claims. Because this audit was initiated at the same time as our review, we did not assess the adequacy of FEMA's claims auditing efforts. This independent study is due to be completed in December 1982. In chapter 2 of this report we have identified opportunities for FEMA to reduce program losses by improving its ratesetting practices for risk premium rates.

CONCLUSIONS

The basic conditions under which the Congress established the National Flood Insurance Fund have changed. Industry participation in the program was terminated in 1978 and since then the Government has operated the program. Based on our discussions with FEMA and industry officials, it appears the program will not revert to a joint industry-Government operation with industry in a risk-bearing role in the foreseeable future. Consequently, we believe the Congress needs to review how flood insurance is financed. The Congress' decision on the program's financing needs to be closely tied to any action it takes on the continuation of the Federal subsidy. If the Congress chooses to support the current Administrator's effort to make the program self-sustaining in a relatively short time frame, we believe the current financing approach can be retained. If, on the other hand, the Congress wishes to have the Federal subsidy gradually eliminated over the next several decades, and remain a substantial part of the program, we believe the flood insurance program needs to be financed through a direct appropriation.

Regardless of the approach it adopts, we believe the Congress needs to gain more direct control over how FEMA finances program losses. The Congress has gained a measure of direct control over the expenditures of the fund, but a significant area--the cost of losses and loss adjustment--remains uncontrolled. FEMA was able to borrow about $854 million to finance its losses over a 10-year period without having to request repayment. Without any legislative change, FEMA could do so again. As chapter 2 demonstrates, these losses were the result not only of an intentional subsidy but also of weaknesses in FEMA's ratesetting practices. In recent reports,

we have shown that additional opportunities exist to reduce the program's losses.

If the Congress chooses to finance the program through a direct appropriation, it will be able to gain direct control by regularly reviewing and approving the amounts FEMA proposes to expend for payment of claims. Because flood losses are unpredictable and the appropriations process may not work fast enough to meet the program's need to pay claims in a timely fashion, if it chooses this option we believe the Congress needs to enact a stated amount as a permanently available, separate emergency fund. Periodic appropriations could replenish amounts disbursed from the fund.

While this approach will give the Congress broad oversight and control, it will need additional detailed information on whether the risk premium rates are covering their costs, as required by the act. We believe such information can be supplied through a business-type budget which determines the surplus or deficiency (revenues minus costs) associated with the risk premium and chargeable rate classes. Although under the direct appropriation method, receipts would be deposited in the Treasury's general fund, as part of its control system to assure that policyholders pay the correct premiums, FEMA can retain enough revenue information to compare with the appropriate cost data so that it can compute the surplus or deficiency to be shown in the business-type budget.

If the Congress continues financing the program through the revolving fund, we believe that it can improve its control by amending the act to require a regular appropriation to pay the Federal subsidy until it is eliminated. This will give the Congress direct control over how FEMA is handling an important aspect of the program. Because flood losses are unpredictable, FEMA may find it necessary to borrow funds to pay for extraordinary losses in excess of premium income. To obtain full disclosure of these instances, and to prevent FEMA from financing losses which result from inadequate ratemaking through its currently unrestricted borrowing authority, we believe the Congress needs to amend the act to limit FEMA's borrowings to extraordinary losses and to require FEMA to notify the Congress when it borrows. We also believe that the Congress needs to require FEMA to request regular appropriations to repay any borrowings so that the full amount for extraordinary losses will remain available to the fund each year. If losses result from inadequate ratesetting, FEMA would have to request an appropriation to compensate, thus providing a forum for congressional oversight. Finally, we believe that the Congress needs to require a periodic authorization for the fund's borrowing authority so that it can determine, as the program becomes more businesslike, to what extent borrowing authority is still necessary.

RECOMMENDATIONS TO THE CONGRESS

If the Congress retains the National Flood Insurance Fund, in order to increase its oversight and direct control of how FEMA

finances its losses, we recommend that the Congress amend the National Flood Insurance Act of 1968 to

--limit FEMA's borrowings to extraordinary losses,

--require regular appropriations to pay the Federal subsidy and repay the prior year's borrowings,

--require FEMA to notify the Congress when it borrows, and

--require periodic congressional review of the fund's borrowing authority.

Language to accomplish this option is contained in appendix VI.

If the Congress finances the program through a direct appropriation, to maintain the program's flexibility in paying claims we recommend that the Congress amend the act to eliminate the National Flood Insurance Fund, to establish instead an emergency fund to pay unanticipated losses, to require periodic appropriations to repay expenditures from this fund, and to require a business-type budget which determines the surplus or deficiency associated with the risk premium and chargeable rates. Language to accomplish this option is contained in appendix VII.

APPENDIX I

United States Senate

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS

WASHINGTON, D.C. 20510

September 24, 1981

Mr. Milton J. Socolar
Acting Comptroller General
General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Socolar:

The purpose of this letter is to request that the General Accounting Office examine and report on several aspects of the National Flood Insurance Program.

Earlier this year, there was considerable testimony before the Senate and House Banking Committees and the Senate Appropriations Committee regarding the purposes and fiscal soundness of the program.

Congress stated in the Findings and Declaration of Purpose section of the National Flood Insurance Act of 1968 the following:

> "...The Congress further finds that (1) a program of flood insurance can promote the public interest by providing appropriate protection against the perils of flood losses and encouraging sound land use by minimizing exposure of property to flood losses; and (2) the objectives of a flood insurance program should be integrally related to a unified national program for floodplain management ... and
>
> ...It is the further purpose of this title 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, (2) guide the development of proposed future construction, where practicable, away from locations which are threatened by flood hazards...

Many reports and newspaper and magazine articles in recent years have suggested that the Flood Insurance Program, far from supporting the above objectives of floodplain management and hazard reduction, may actually be encouraging settlement of the floodplain by subsidizing insurance which the private insurance industry, without subsidies, would be unable to provide.

Despite the widespread view that the Flood Insurance Program may be stimulating floodplain development, there has never been a study which directly examines this issue. We ask you to address this issue in your report.

With respect to the fiscal soundness of the program, we would also like you to include in your report a study of the process by which "actuarial rates" are established by the FIA. The National Flood Insurance Program was envisioned to become fiscally self-sustaining; but, the facts show that for every dollar collected by the FIA in premiums, the federal government pays out about two-and-one-half dollars. Since it is apparent that the rates charged by FIA do not reflect the true cost of providing insurance, we would like you to study whether it is possible that FIA can ever establish rates that would eliminate the federal subsidy and make the program self-sustaining.

In preparing your report, we would also like you to examine enforcement procedures carried out by the Federal Emergency Management Agency which are supposed to ensure the programs' regulations are being followed.

We have prepared the enclosed outline as a suggested guide from which we hope the report could be based. It is important, as noted in the outline, that issues should be addressed in the context of the various flood-prone areas covered by the program, i.e., barrier islands and beaches, coastal mainland and Great Lakes, riverine floodplain and inland lakes.

[GAO NOTE: The enclosed outline is not included.]

Finally, a related matter which we would like to have reviewed is an evaluation of the usefulness and purpose of the Federal Flood Insurance Fund as against direct annual

appropriations to the Federal Insurance Administration for this program. It appears that the existence of the fund may complicate and confuse budget and accounting procedures.

After reviewing this material, we would hope that members of your staff and our staffs could promptly meet to discuss this request. Since the National Flood Act must be reauthorized by May 15, 1982, we would hope that you could complete the report by May 1, 1982.

Thank you for your attention in this matter.

Sincerely,

John H. Chafee, Chairman
Subcommittee on Consumer Affairs

Arlen Specter
United States Senator

Enclosure

JHC/zst

REGULAR PROGRAM RATE ZONES

Zone symbol	Category
A	Area of special flood hazards.
A1-A30	Area of special flood hazards with base flood elevations determined. Zones are assigned according to flood hazard factors.
AH, AO	Area of special flood hazards that have shallow flood depths of from one to three feet. Base flood elevations or depths are shown on the FIRM.
A99	Area of special flood hazards where enough progress has been made on a protection system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes.
V	Coastal high hazard area with wave action velocity waters that can be inundated by tidal floods. Base flood elevations have not yet been determined.
V1-V30	Coastal high hazard area with wave action velocity waters that can be inundated by tidal floods. Zones are assigned according to flood hazard factors.
B	Area of moderate flood hazards.
C	Area of minimal flood hazards.
D	Area of undetermined, but possible, flood hazards.
M	Area of special mudslide hazards.
N	Area of moderate mudslide hazards.
P	Area of undetermined, but possible, mudslide hazards.

Source: Federal Emergency Management Agency.

APPENDIX III

ORGANIZATIONS AND INDIVIDUALS INTERVIEWED

We obtained information from the following individuals and organizations:

Insurance organizations

Alliance of American Insurers
American Insurance Association
Independent Insurance Agents of America
Insurance Services Office
National Association of Independent Insurers
Professional Insurance Agents
Reinsurance Association of America

Former Administrators, FIA

George K. Bernstein - Attorney at Law
Administrator - 1969 to 1974

J. Robert Hunter - President, National Insurance Consumer Organization
Chief Actuary, FIA - 1971 to 1974
Acting Administrator - 1974 to 1976
Administrator - 1976 to 1978
Deputy Administrator - 1978 to 1980

Gloria Jiminez - Executive Director, Maryland Public Service Commission
Administrator - 1978 to 1981

Other

Hogan & Hartson, Attorneys at Law
Charles Horn, Certified Property Casualty Underwriter 1/
National Wildlife Federation
Office of Management and Budget

1/Mr. Horn is an employee of Allstate Insurance Company; however, he spoke to us as an individual and former member of the Board of Directors, National Flood Insurers Association, and former Chairman of the National Flood Insurers Association Steering Committee.

THE HYDROLOGIC MODEL USED TO SET RISK PREMIUM RATES IN ZONES A1-A30 and V1-V30

THE FORMULA:

$$\text{Rate} = \frac{\left[\sum_{\text{Min}}^{\text{Max}} (\text{PELV} \times \text{DELV})\right] \times \text{LADJ} \times \text{DED} \times \text{UNIS}}{\text{EXLOSS}}$$

Where: Min = Minimum elevation relative to the lowest floor at which flood damage occurs.
Max = Maximum elevation relative to the lowest floor at which flood damage approaches a maximum.

DEFINITION OF THE VARIABLES:

PELV: The probability of water rising to a particular level relative to the 100-year base flood elevation. This serves as the expected claims frequency for a particular water elevation within a given risk zone.

DELV: The expected amount of flood damage as a percent of market value of the property caused by floods of a given elevation.

LADJ: Provides funds for the payment of loss adjusters' fees and special claims investigation costs required to determine the appropriate insurance value of the flood damage and the amount due the policyholder under the terms of the policy.

DED: The deductible offset required to reflect the condition that the first $500 of loss is borne by the policyholder.

UNIS: The factor necessary to adjust for policyholders not insuring to full market value. DELV factors are based on the assumption that property will be insured to full value.

EXLOSS: The factor necessary to recover insurance agent commissions and other acquisition expenses.

Source: Federal Emergency Management Agency

APPENDIX V

NATIONAL FLOOD INSURANCE PROGRAM LOSS AND EXPENSE EXPERIENCE - JANUARY 1, 1978 TO DECEMBER 31, 1981

	Unnumbered V zone	Zones V1-V30 Post-Firm	Zones V1-V30 Pre-Firm	Zones V1-V30 Total	Unnumbered A zone	Zones A1-A30 Post-Firm	Zones A1-A30 Pre-Firm	Zones A1-A30 Total	Zone B	Zone C	Zones AO,AO8,AH,AHB	Alternative rates (AA/A8)1/	Zone D	Emergency	Zone A99	Total all zones
Number of policies in force as of 12/31/81	1,248	8,536	52,654	61,190	128,384	75,235	504,557	579,792	194,251	383,980	18,392	98,979	9,619	373,507	18,432	1,867,774
Amount of insurance as of 12/31/81	$66,783,800	$836,507,500	$2,948,294,700	$3,784,802,200	$6,063,844,500	$6,541,906,600	$25,333,175,000	$31,875,081,600	$11,897,094,500	$27,224,420,200	$919,790,400	$3,369,293,700	$376,743,500	$11,787,099,000	$994,744,300	$98,411,700,700
Insurance premium earned	387,880	2,225,317	25,725,181	27,950,298	33,369,746	13,884,791	178,363,468	192,248,259	34,887,353	55,881,058	3,841,929	10,944,384	4,398,418	199,167,147	2,502,999	565,579,471
Claims payment	169,279	3,584,323	27,987,782	31,572,105	55,582,358	11,080,267	259,231,335	270,311,602	65,799,835	160,287,066	1,513,134	2,399,773	10,553,297	365,929,482	5,468,578	969,586,500
Loss adjuster expense	8,232	132,346	1,205,948	1,338,294	2,702,132	546,033	12,560,185	13,106,218	2,932,084	7,704,824	74,704	169,865	480,575	21,068,370	409,139	49,994,437
Insurance agents' commissions	79,783	457,699	5,291,470	5,749,159	6,863,898	2,855,994	36,687,982	39,543,976	7,176,058	11,494,300	790,253	2,251,174	904,718	40,967,141	514,846	116,335,306
General expenses	36,234	272,377	2,766,527	3,042,104	5,496,223	2,699,624	25,582,276	28,281,900	8,323,048	16,520,145	535,875	1,295,620	609,318	32,924,539	785,099	97,659,852
Total operating expenses	$ 293,519	$ 4,449,935	$ 37,251,727	$ 41,701,662	$ 70,644,611	$ 17,181,918	$ 334,061,778	$ 351,243,696	$ 84,231,025	$ 196,006,335	$ 2,913,966	$ 6,116,432	$ 12,627,908	$ 460,889,532	$ 7,177,662	$ 1,233,576,095
Operating surplus (deficit)	$ 94,361	$ (2,224,018)	$ (11,526,546)	$ (13,751,364)	$ (37,274,865)	$ (3,297,127)	$ (155,698,310)	$ (158,995,437)	$ (49,343,672)	$ (140,125,277)	$ 927,963	$ 4,827,952	$ (8,229,490)	$ (261,722,385)	$ (4,674,663)	$ (667,996,624)
Operating surplus (deficit per policy)	$ 38.31	$ (132.08)	$ (64.86)	$ (70.68)	$ (109.24)	$ (19.99)	$ (93.84)	$ (87.17)	$ (92.37)	$ (135.44)	$ 26.97	$ 47.88	$ (194.18)	$ (127.58)	$ (96.53)	$ (107.59)

1/Alternative rates are used when a community is being converted from the emergency program to the regular program and a rate map is not yet available. The rates charged are based on A zone rates. When a map is available the policies are converted to the correct risk zones.

Source: Federal Emergency Management Agency

PROPOSED AMENDMENTS TO THE

NATIONAL FLOOD INSURANCE ACT OF 1968

TO INCREASE CONGRESSIONAL OVERSIGHT AND CONTROL OF THE

NATIONAL FLOOD INSURANCE FUND

Section 1: This act may be cited as the "National Flood Insurance Act Amendments of 1983."

Section 2: Section 1309 of the National Flood Insurance Act of 1968, as amended (Public Law No. 90-448, 82 Stat. 577) is amended--

(a) By adding at the end thereof the following new subsection:

> "(c) The Congress shall periodically review the authority of the Secretary under this section and determine the extent to which it is adequate and necessary for carrying out the flood insurance program. Such review shall include a finding whether the authority granted to the Secretary by this section should be continued."

(b) In subsection (a) by (i) inserting the words "paying only extraordinary losses incurred in" between the words "of" and "carrying" in the first sentence; (ii) striking the words "request the approval of the President" and inserting in lieu thereof the words "exercises his authority to borrow funds" in the second sentence thereof.

(c) In subsection (b) by adding the following new sentence at the end thereof:

> "Request for annual appropriations under section 1310(g)(1) shall include an amount equal to the total funds borrowed by the Secretary."

Section 3: Section 1310 of the National Flood Insurance Act of 1968 is amended by adding at the end thereof the following new section:

> "(g) The Secretary shall estimate in each fiscal year the 'deficiency costs' of the flood insurance program for the next fiscal year. Based on this estimate,

the Secretary shall submit a request for appropriations for the next fiscal year that is sufficient to pay the estimated 'deficiency costs' of the program in such fiscal year. Such request shall be submitted along with the annual budget required by subsection (e).

"(1) In the event that the funds appropriated or collected under subsections (b)(2), (b)(3), (b)(4), (b)(5), and (b)(6) of this section are not sufficient to pay all the costs of the program in any fiscal year; or the Secretary exercises his authority under section 1309 to borrow funds during any fiscal year; the Secretary shall before the end of such fiscal year submit, along with his request for appropriations to pay the estimated 'deficiency costs' for the next fiscal year, a request to Congress for appropriations sufficient to pay all the 'deficiency costs' of the program for any current fiscal year, and to repay total borrowings from the Treasury for any such fiscal year, if applicable. 'Deficiency costs' are the difference between the amounts received by the flood insurance fund under subsections (b)(2), (b)(3), (b)(4), (b)(5), or (b)(6) of this section, and all the applicable costs and operating allowances expended to carry out the flood insurance program during a fiscal year."

SECTION-BY-SECTION ANALYSIS

Section 1. Title of enactment. The purpose of these amendments is to implement the legislative recommendations GAO developed during its review of the National Flood Insurance Fund. These proposed amendments are designed to improve Congress' oversight and control over the expenditures of the National Flood Insurance Program.

Section 2. GAO concludes that Congress needs to consider whether the flood insurance fund is now the appropriate method for funding the flood insurance program. The amendments set out in section 2 are designed to improve Congress' control over the flood insurance fund should it determine that the fund is still the best vehicle for financing the program. This section amends the act to: (a) require periodic congressional review of the borrowing authority of the Secretary; (b) limit the Secretary's borrowings from the Treasury to pay for only extraordinary losses

and require notification to Congress if borrowing occurs; (c) require the Secretary to seek annual appropriations from Congress to repay in the next fiscal year the Treasury funds borrowed during the current fiscal year.

Section 3. In addition to providing that the Secretary must seek appropriations to repay Treasury borrowings, this amendment is intended to require the Secretary to estimate and to seek annual appropriations to pay for the "deficiency costs" of the flood insurance program. "Deficiency costs" are the difference between the amount received by the flood insurance fund under subsections (b)(2), (b)(3), (b)(4), (b)(5), or (b)(6) of section 1310, and all the applicable costs and operating allowances expended to carry out the flood insurance program. Thus, for example, where the rates charged are insufficient to pay for annual loss claims and costs for these policies, a "deficiency" or "subsidy" occurs in the program. Under such circumstances, the Secretary must request appropriations for the next fiscal year to pay for the current year's deficiency, and to pay any estimated deficiency for the next fiscal year.

PROPOSED AMENDMENTS TO THE

NATIONAL FLOOD INSURANCE ACT OF 1968

TO FINANCE FLOOD INSURANCE THROUGH A DIRECT APPROPRIATION

Section 1. This act may be cited as the "National Flood Insurance Act Amendments of 1983."

Section 2: Section 1309 is repealed.

Section 3: Section 1310 of the act is amended by striking all that follows "Treasury of the United States" and inserting in lieu thereof the following: "an Emergency Flood Insurance Loss Fund (hereinafter referred to as the "fund") which shall be funded and available without fiscal year limitation to pay unanticipated losses or expenses resulting from the occurrence of an emergency, or for other purposes authorized by Congress in appropriation or other acts. The Secretary shall report to the Committee on Banking and Currency in the House and to the Committee on Banking, Housing and Urban Affairs in the Senate at any time he exercises his authority to make payments from the fund. Further, the Secretary shall seek in his next request for appropriations sufficient funds to replenish the fund if he exercises his authority under this section."

> "(b) An annual business-type budget for the flood insurance program shall be prepared and transmitted each fiscal year to Congress along with the Secretary's request for appropriations. Such budget shall include a statement of the premiums, fees, and other revenues received from carrying out the flood insurance program (including appropriations) and shall separately show the "surplus or deficiency," as defined in section 1370(d), for (i) the flood insurance program in general, (ii) the insurance provided at risk premium rates, and (iii) the insurance provided at less than risk premium rates. The budget shall be submitted to the Committee on Banking and Currency in the House and to the Committee on Banking, Housing and Urban Affairs in the Senate in the fiscal year that preceeds the year to which the budget is applicable. Congress shall consider and enact the budget in the manner prescribed by law for wholly-owned Government corporations."

Section 4: Section 1376 is amended--

(a) In subsection (a) by: (1) striking the entirety of subpart "(2)" and "(2)(A)" and "(2)(B)"; and (ii) striking the number "(3)" in subpart (a)(3) and redesignating it as subpart (a) "(2)."

(b) In subsection (b) striking the words "without fiscal year limitation" and inserting the following in lieu thereof: "for use on a fiscal year basis."

Section 5: Section 1370 is amended by adding at the end thereof the following new subsection:

> "(d) The term 'surplus or deficiency' (as used in section 1310(b)) means (i) the sum of all appropriations, receipts, premiums, or other revenues collected during a fiscal year less (ii) the sum of all applicable costs and operating allowances disbursed during the same fiscal year."

SECTION-BY-SECTION ANALYSIS

Section 1: Title of enactment. The purpose of these amendments is to implement the legislative recommendations GAO developed during its review of the National Flood Insurance Program. GAO concludes that the Congress needs to gain more direct control over the expenditures of the flood insurance program. If the Congress determines that the flood insurance fund is no longer the appropriate mechanism for financing the program, GAO recommends that the Congress amend the act to require direct appropriations to finance the flood insurance program.

Section 2: This section implements the aforementioned recommendation by abolishing the National Flood Insurance Fund and by operation making the program's funding subject to direct appropriations.

Section 3: To maintain flexibility in the funding of the program, an emergency loss fund is established which would be used to pay for unanticipated losses and expenses resulting from the occurrence of an emergency, or for whatever purposes Congress might specify in appropriation or other acts. While no attempt is made to describe the conditions under which the Secretary may determine an "emergency" exists warranting use of the fund, it is anticipated that the fund would normally be

available to supplement appropriations when, due to the occurrence of unforeseen circumstances beyond the control of the Secretary, available financial resources are or will be depleted. Funding levels would be maintained by direct appropriations requests each fiscal year if the fund is used.

This section also requires the Secretary to prepare and submit an annual business-type budget each fiscal year along with his request for annual appropriations. A requirement is established for the budget to show the "surplus or deficiency," as defined in new section 1370(d), for (1) the overall flood insurance program, (2) the class of insurance for which risk premium (actuarial) rates are charged, and (3) the class of insurance for which less-than-risk premium (actuarial) rates are charged. The purpose of this requirement is to give the Congress the information it needs to determine the extent to which Federal funds subsidize the overall flood insurance program and, at a minimum, two classes of policies for which different rates are charged.

Section 4: This section sets out technical amendments that conform existing provisions of the act to the elimination of the flood insurance fund and the conversion of the program's funding to the direct appropriation method.

Section 5: A definition of "surplus or deficiency" is added to the act by this section to make it clear that the "surplus or deficiency" set out in the budget for the overall program and for at least two classes of insurance should be calculated by totaling all revenues received and subtracting the sum of all applicable costs and allowances.

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