Background

Flooding is the nation’s most frequent form of natural disaster; and as was recently identified in a report by the Congressional Research Service, a substantial portion of Corps of Engineers’ (Corps) funding over the past 25 years, and especially in recent years, has been appropriated by Congress through emergency supplemental appropriations legislation in response to flooding and natural disasters. A significant proportion of these funds were channeled and spent repairing and rehabilitating damaged levees and flood risk reduction works and coastal flood risk reduction works via the Public Law 84-99 Flood Control and Coastal Emergency Act (PL84-99).

The PL84-99 program was enacted to assist public sponsors/owners of flood control projects to repair their projects after they are damaged by a flood event, or for advance temporary measures to reduce failure or overtopping (e.g., levees) from an ongoing flood. It has provided federal taxpayer funding assistance to public sponsors/owners of flood control structures over the years, many which may have been well built and maintained projects. However, for many years the PL84-99 program has also provided federal taxpayer funded support for the repair of substandard levees. Substandard in many cases may mean these facilities neither meet Corps standards nor the standards of the National Flood Insurance Program. Not only does PL84-99 have 100-year or greater levees in the program, but many levees that provide much less protection—down to 5-year level of protection. In many ways PL84-99 is sometimes similar to having the federal government pay to re-plumb a condemned home with a leaky roof and bad wiring. Yes the home is marginally more habitable, but it is still uninsurable and we would not encourage people to live there simply because this shelter is “better than nothing.” In fact, we would recognize a policy of this type as actually promoting moving citizens into harm’s way, many of whom might not have the resources to sustain another disaster.

To further exacerbate this problem, flood risk is changing. The federal government can foresee and is communicating that flood risk is changing and in many cases will be much worse than what we experience today. The Federal Flood Risk Management Standard (FFRMS) was adopted in 2015 in order to fight this real and ever growing problem. It requires federal investments to make use of prudent standards higher than NFIP minimums (i.e., freeboard standards) or make use of climate-informed science in order to properly design for future flooding risk. It is clear that flood risk for the nation is increasing and it’s even more clear that the demands on the PL84-99 program will grow exponentially over the next 10-20 years if we divert funds to “temporarily supplement or to repair” substandard structures, and away from the funding of lasting and meaningful flood risk reduction measures. ASFPM urges a reform of the program such that substandard levees are phased out (a few years or one last repair, whichever comes first) as being part of the program.

According to the National Levee Database (NLD) there are 14,500 miles of levees by three classes: Corps built and maintained (2,800 mi), Corps built and locally maintained (9,500 mi) all of which are enrolled in the federal PL84-99 program, and non-Corps built - locally maintained of which 2,200 miles are enrolled within the non-federal PL 84-99 program. It also indicates these are in a total of 2,500 levee systems. The 2,200 miles of non-federal PL84-99 enrolled non-Corps built levees contain all levels of protection, some with levees as small as 5-year level of protection. With 15,000 miles of Non-Corps built and Non-Corps maintained levees in the FEMA inventory, so there are about 30,000 total miles of all levees in the US.
**Assistance provided by PL84-99:** The Corps is authorized under PL84-99 to provide flood emergency assistance under these three categories if the projects constructed by federal or non-federal interests meet minimum criteria and standards set forth by the Corps of Engineers:

- Emergency Operations, Flood Fight Assistance
- Rehabilitation of Damaged Flood Risk Management Projects
- Advance Measures

When flood conditions exceed, or are predicted to exceed the response capability of levee and drainage districts and local or state governments, the Corps has the authority under PL84-99 to provide emergency flood response assistance without further specific authorization of Congress. The Corps can furnish assistance for flood emergency preparation, flood fighting and the repair and restoration of certain flood damage reduction projects damaged or destroyed by flooding. Assistance also includes providing flood fight personnel for technical advice, sandbags, plastic sheeting, pumps, or other materials and equipment for an imminent or actual flood emergency to protect against substantial loss of life and property. The assistance provided by the Corps is intended to be **supplemental** and not a replacement for local **O&MRRR** (Operation and Maintenance; Repair, Rehabilitation and Replacement) responsibilities, and requires a written request for assistance from a public sponsor or entity. No assistance can be provided directly to private **individuals or businesses**.

The sponsoring agency/local interests must be fully authorized to provide requirements of local cooperation and to pay a local share of the costs for the PL 84-99 program activities. The federal cost share is either 100 percent (Corps built) or 80 percent (non-Corps built). Since most emergency work provides flood risk reduction for an immediate situation, the Corps’ **authority does not extend** to the reimbursement of flood fighting expenditures incurred by local interests, flood and debris cleanup, or the removal of temporary flood control structures built under this program, which are required to be removed by other than federal money.

ASFPM’s concerns with current practices in PL84-99 include:

1. Inequitable cost share compared to other federal flood programs.
2. The program provides perverse incentives for local sponsors to avoid their required Operations and Maintenance (O&M).
3. Sponsors are not informed of their true and long-term O&M costs before flood structures are built.
4. The Corps comes in immediately after a flood and “fixes” existing damaged project with taxpayer funds without considering a full range of alternatives to determine the best long term solution.
5. Advance measures (temporary barriers) to fight floods are constructed again and again for the same project at federal taxpayer expense.
6. Lax compliance of project O&MRRR responsibility by sponsor and consideration of temporary building or rebuilding to greater than authorized level of protection by the Corps.
7. Lack of integration with other federal flood programs, like NFIP, HUD, etc.
8. The Corps is not analyzing nonstructural alternatives in repairing a project unless specifically asked to by the sponsor.
9. The nonstructural project costs are capped at the cost of the structural project costs or benefits, whichever is less, regardless if the nonstructural project provides many more benefits than the structural project.
10. And finally, nonstructural project alternative is required to be compliant with EO 11988 while a structural levee repair is not.

ASFPM submitted comments in April 2015 on the Corps advanced notice of rulemaking on PL84-99 and can be seen here at the link: [ASFPM submits comments on potential revisions to 33 CFR Part 203 (PL 84-99)]

This paper will list suggested changes in brief form, followed by more detail in those suggestions.
RECOMMENDATIONS IN BRIEF

Funding and Cost Sharing

1. Conform the cost sharing of this program with other flood risk reduction programs to reduce federal disaster costs, reduce risks and support greater use of comprehensive flood risk management and nonstructural measures that do not have high O&M costs long into the future.

2. Ensure that PL84-99 only goes to sponsors/communities that have carried out their duties on O&MRRR. In other words, don’t reward those that do not commit to their responsibility with PL84-99 funds; but do find incentives to reward those sponsors/communities that do it right.

3. Ending the practice in PL84-99 where nonstructural options are only considered if the sponsor specifically requests. Instead the policy should be that nonstructural measures must be considered every single time. Often they can be more cost effective in the long run and often even lower in initial cost.

4. Related to the nonstructural emphasis above, make PL84-99 flexible enough to quickly accomplish buyouts of properties that are impacted by the failed flood protection system. Currently, such an action is all but impossible to accomplish, yet may be more cost effective and provide a permanent solution to flooding.

5. Halt the current practice of repeatedly allowing Corps funding of emergency advance measures structures under PL84-99 such as building emergency levees, with specific conditions that the temporary structure must be removed with non-federal funds. (too often the action is followed post-disaster by FEMA providing federal taxpayer disaster funds to remove the temporary advance measures structures) This results in a cycle of federal taxpayer expenditures from one flood event to the next.

6. Identify repetitively damaged federal infrastructure (levees and flood control works) and require ample consideration of a full suite of flood risk mitigation options in PL84-99 for the infrastructure (similar to NFIP repetitive loss mitigation programs).

Program Eligibility Criteria, Conditions and Operation and Maintenance

1. Require the sponsor of structural flood control projects to demonstrate financial and technical capacity to provide the full O&MRRR requirements for all project features, on an ongoing and permanent basis, before project approval and/or recognition and certification of structural and nonstructural measures for PL84-99 programs.

2. Review and revise procedures in PL84-99 for monitoring, inspection and evaluation to assure required ongoing O&MRRR is performed by non-federal sponsors for structural and nonstructural flood risk management projects as a condition of federal assistance or denial.

3. Require communities with NFIP-recognized structural flood risk reduction measures to provide a FEMA-approved multi-hazard mitigation plan and an emergency action plan as conditions of eligibility for the PL 84-99 program and NFIP flood control project accreditations, respectively.

4. PL 84-99 funds should never be used for activities that should have been done under sponsor required O&MRRR.

5. As part of the PL84-99 program, signs must be placed in the area “protected” by a structural flood risk reduction project to show either historic flood levels or frequency of flooding so people know that residual flood risk exists. Placement and maintenance of these signs must be a requirement of the project sponsor’s O&MRRR.

6. Do not allow federal influence on a PL84-99 project to raise flood protection levels above authorized levels, increase the breadth of the project, nor can it transfer risk to adjacent properties by causing an increase in flood levels or flood velocities on any other property without appropriate mitigation.
EXPLANATIONS AND DETAIL

Funding, Cost sharing and Positive Incentives

Cost share—Change from current 100 or 80 percent federal to 65/35 to match other Corps project cost share formulas

The program currently provides excessive assistance (either 100 percent or 80 percent federal taxpayer funded) to non-federal public project sponsors at great expense to the federal taxpayer. No federal cost share for water projects, including after disasters or beach nourishment should ever be 100 percent federal funding.

Changes are needed in the federal / non-federal cost-sharing formulas for Advance Measures and in the basic actions within the P.L. 84-99 program. As the current regulations and cost-sharing formulas are structured, it is often observed that local interests and local project owners and managers are insufficiently incentivized to adequately maintain projects or to make substantial risk-reduction investments. With federal shares set at 80 percent to 100 percent, there is an obvious, strong economic incentive to defer investment or wait to make substantial changes until after damages are sustained, rather than before; thus hoping many of those repairs will be made during the Corps repair.

Substantial adjustment of basic cost-sharing formulas for levee repairs and hurricane and shore protection project repair and rehabilitation to the same or similar 65 percent federal – 35 percent non-federal shares as are now required for standard Corps flood risk reduction projects. In addition, the non-federal cost-share for repairs could be structured to increase by, say, 5 percent each time Advance Measures are required to be placed at a particular site/community. Such changes would substantially strengthen incentives for local interests to explore and identify cost-effective, long-term solutions to managing flood risk, rather than relying inappropriately on overly-generous federal taxpayer disaster assistance, as currently occurs through P.L. 84-99.

Incentives are needed that would assist and encourage non-federal sponsors and flood-prone communities to reduce their risks from flooding. Congress and the Corps must develop criteria that will provide incentives and rewards to sponsors that do a good job of flood risk management. As it exists today, too often those who do the least to reduce/manage flood risk get the most from federal taxpayers and the Corps. The criteria must require that structural measures meet the current minimum national standards for structural resilience.

The program could provide preferential support (grants and cost share) and other incentives to states and localities that adopt land use management policies that incorporate strategic retreat from eroding shorelines and projects that provide benefits to natural floodplain functions.

PROGRAM ELIGIBILITY AND COMPLIANCE

Program Eligibility Criteria

Changes should be considered in types and eligibility and/or performance requirements for advance measures and in eligibility for the basic criteria within the PL84-99 program.

Require the sponsor of structural flood control projects to demonstrate financial and technical capacity to provide the full operation, maintenance, repair, rehabilitation and replacement requirements for all project features, on an ongoing and permanent basis, before project approval and/or recognition and certification of structural and nonstructural measures, for PL84-99 programs.
Compliance with Program Requirements

The Corps should at a minimum enforce its current criteria for O&M, and should utilize any standards for design, construction and operation and maintenance newly developed by the National Levee Safety Committee established by WRRDA 2014. The Corps must also enforce the total O&MRRR requirements contained in its current criteria for local cooperation. The criteria of O&M should be consistent with current and future national levee standards that provide the greatest public protection and ecosystem functions.

Level of Protection and Risk Reduction

Flood control systems, such as levees, cannot guarantee a high level of flood risk reduction because of the residual risk associated with these systems due to performance issues and the potential consequences associated with life loss and insurable property damage when the system fails or is overtopped. Prior to WRDA 86, the Corps was directed by Congress to design and construct levees to approximately the Standard Project Flood (SPF), which approximately equates to the 500-year level of protection. After WRDA 86, when nonfederal cost sharing for studies and projects became a requirement, and when the NFIP began to allow 100-year levees to remove flood insurance requirements within the protected area, communities no longer wanted to fund levee systems greater than the 100-year level of protection. Nonfederal cost sharing and the national economic development processes has resulted in federal levee systems providing 100-year level of protection or less in many communities. The current PL84-99 program also recognizes and provides rehabilitation compensation for levee systems with a minimum level of protection significantly below the 100-year NFIP target, further demonstrating the PL84-99 program requirements are not correlated with NFIP requirements.

There are a number of flood control projects in PL84-99 that are minimal levees that do not provide adequate protection for developed land. Some levee systems only provide 5-year level of protection. Think about how often a 5- or 10-year levee will be overtopped and damaged or completely washed out. When that happens, the levee is rebuilt with 80 percent federal taxpayer funds. And this will happen again and again. In California the Corps indicates levees in the Delta are eligible only if they provide at least 50-year protection. The PL84-99 program only requires a minimum of 10-year level of protection for non-federal URBAN levees.

No flood control project should be allowed into the PL 84-99 program that provides less than 100-year protection, and consideration should be given to raising that to 200- or 500-year level of protection (LOP), depending on the consequences when the levee fails or is overtopped. Not only do low LOP standards result in repetitive use of federal taxpayer funds for repair, but we also know that more development occurs behind any levee, because people and communities do not really understand that levees do not provide total protection, but have residual risk, putting more development at high risk for federal taxpayers assistance, not only for this program but for the NFIP claims and disaster relief. And, a minimum LOP should always be required even as other design hazard analysis methods change – such as using risk and uncertainty analysis to determine the supposed optimal economic solution.

Under the current law, the Corps must require a Flood Plain Management Plan (FPMP) for every Flood Risk Management (FRM) Project. However, the Corps has not established criteria for those plans as a condition of eligibility for programs, and any consequences to the community for failing to implement the plan are virtually non-existent.

The PL84-99 program should promote hazard mitigation planning and community risk communication through better integration with community-level and State Hazard Mitigation Planning through FEMA and Stafford Disaster Assistance Act programs. Participation in the RIP should include requirements for the districts’ own
floodplain management plans – with annual risk communication to residents and those potentially affected by project management, and include well formulated contingencies for emergencies.

**ALTERNATIVE SOLUTIONS AND INTEGRATED APPROACHES TO LEVEE REPAIR**

Positive outcomes for property owners and taxpayers will result only if the Corps is always required to “stop and think” about all alternatives before rushing in to rebuild failed/damaged flood control structures after a flood event. A full analysis of all flood risk reduction alternatives must be done. The current practice of only looking at nonstructural options if specifically requested by the sponsor must end. All alternatives must be analyzed in order to protect the federal taxpayer’s long-term investment and avoid repeated failure.

The Corps must develop and use true costs of operation, maintenance, repair, relocation and rehabilitation for all flood risk reduction systems when comparing costs for all alternatives in the PL84-99 program for levee systems having sustained significant flood damage. This will ensure the benefit/cost analysis is fair and equitable for all alternatives. To encourage the longer term solutions and lessened O&M costs, Congress might consider providing a cost share incentive of 75/25 for them.

Nonstructural alternatives must be able to be implemented as quickly as structural repair. Too often, local sponsors insist the Corps immediately rebuild a levee or other structural measure because they know it will take much longer to implement nonstructural measures, such as buyouts or building elevations, even though those measures may be more cost effective to federal taxpayers and sponsors, and provide a permanent solution. Buyouts, for example, are a “one and done” approach for the federal taxpayer so they never have to pay again for flooding on that property. The Corps must find ways to implement nonstructural alternatives as fast as structural repair. Because nonstructural measures are “one and done” for taxpayers, an incentive of 5 or 10 percent on cost share should be considered for these measures.

Current policy generally indicates that entire levee removal must be conducted for nonstructural consideration where a combined solution may prove most effective. Analyzing and discussing with the sponsor the full array of nonstructural flood risk management measures (levee setback, elevation, acquisition, relocation (complete or partial), dry flood proofing, wet flood proofing, levee removal, and effective floodplain management) and their potential for managing flood risk is recommended for incorporation into the policy guidance document.

Specifically incorporate "levee setback" as a mitigation activity within the full array of or in combination with nonstructural flood risk management measures identified as NSAPs.

Recommend opportunities for pre-disaster or post-disaster evaluation of levee segments that have been tracked and could be categorized as having repetitive flood losses

The Corps should also structure the PL84-99 program to assist local levee districts and sponsors to identify nonstructural and nature-based solutions to reduce flood risk as well as protect and enhance natural floodplain functions and environmental resources. This should especially be an objective where there is a history of repetitive flood damages and project repair under the PL84-99 program. In many instances, the use of setback levees can reduce flood risk, enhance environmental values and floodplain functions, all while reducing long-term costs of O&MRRR. The overall program should be designed to foster advance exploration of the most cost-effective and socially and environmentally–sound floodplain and flood risk management alternatives. The Corps should require the sponsor and itself to record and maintain and make public damage data and repair costs on every project in the RIP. The Corps should also compile a publically-accessible database of PL84-99 levee and
flood project repair histories and costs, and encourage advance discussion and planning with PL84-99 RIP-participating sponsors/districts to explore alternatives to reduce disaster and project repair costs. This could be similar to FEMA hazard mitigation efforts associated with NFIP repetitive loss and severe repetitive loss buildings.

Consideration of the full range of options must be required post damage for any repetitive loss levee. The Corps should identify all "repetitive loss" federal system levees where dollar damages have been significant and recurring, resulting in repeated levee repair under the PL84-99 program. Identification of these "repetitive loss" levee systems should be communicated with non-federal interests to work with them on nonstructural alternatives like partial levee setback or entire levee removal through advance planning activities under existing civil works planning authorities. This advance planning could be done in collaboration with sponsors/levee owners so it does not have to be done in a crisis mode right after the flood when everyone is clamoring for immediate repair, not wanting to take the time to find the most cost effective and best long-term solution. Planning activities should identify comprehensive flood risk reduction through decreased water surface elevations and decreased erosive velocities, thereby limiting future damages. Land use considerations for fully or partially evacuated floodplains should be directed toward open space use, potential increase in habitat benefits or sustainable agricultural based activities, where the unprotected land may be productive during dry cycles and the protected land may be drained more expeditiously during wet cycles.

ADVANCE MEASURES

Advanced measures must only be used for projects in full compliance with PL84-99 standards. Those projects where the sponsors are not meeting the program criteria must be removed from the program, which has been lax in the past.

Some communities have come to rely on advance measures immediately before floods on a repeated basis, rather than invest in more reliable, long-term flood risk management solutions. A further problem is that they then use FEMA or other federal disaster assistance funds to remove the advance measure works, thus avoiding local cost-sharing altogether. The current, mostly unrestricted use of advance measures and ultra-high federal cost-share provided through PL84-99, along with availability of other federal disaster aid, creates a “moral hazard” that encourages risky behavior on the part of a variety of sectors associated with flood risk reduction structures.

The Corps must ensure sponsor agreements requiring that advance measures are removed after the event, and must be removed with non-federal funds. Too often communities are using FEMA funding to remove advance measures, resulting in total federal taxpayer funding of temporary local flood fighting actions again and again.

Criteria must be developed that puts a limit on the number of times in a specified period that Corps Advance Measure Assistance can be provided. The program has evolved to the point that communities rely on advance measures as their primary means of flood risk reduction program, thus repeatedly receiving federal funds for construction/removal/construction of advanced measures to provide flood mitigation for the community at nearly full cost to the federal taxpayers, with little or no cost for the community or people living at risk. We suggest a limit of one time for advanced measures paid for by federal taxpayers. After that non-federal interests must pay for the measures or avail themselves of federally cost shared permanent mitigation measures.
RISK COMMUNICATIONS PLAN

The PL84-99 program must include and require activities for informing local officials, residents and business owners about the residual risks associated with the potential failure of the flood control project.

The FPMP required for every FRM Project is the vehicle for Risk Communication, Emergency Preparedness and Evacuation Plan. The FPMP should be cross-walked with FEMA NFIP requirements and Hazard Mitigation Plan to make it more holistic and consistent among federal agencies and measureable.

At least annually the non-federal sponsor must be required to fully communicate to those people in the “protected” area of a structural project that a residual flood risk exists.

The Corps must require that as a condition of the program the O&MRRR plan must require signs be placed in the “protected” area that inform and educate people that a flood risk exists in that area.