出國報告（出國類別：考察）

101 年「公眾參與環境影響評估監督措施之業務考察」

服務機關：行政院環境保護署

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派赴國家：美國

出國期間：101 年 10 月 13 日至 10 月 19 日

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摘　　要

本次考察主題爲考察美國地區環境影響評估後續監督工作民眾參與情形，提供未來我國民眾參與環境影響評估監督參考，惟因美國之國家環境保護法(National Environmental Protection Act, NEPA) 係由計畫提出或目的事業主管機關擔任環境影響評估審查之主導機關（Lead Agency），其並未訂有專屬環境影響評估監督之條款及違反罰責，而係回歸至各相關機關與計畫相關之法令，由各機關依所管法令進行稽查及處分，且無明確之民間團體或個人參與，然美國對於不管是否通過環境影響評估審查之開發計畫，其針對危害環境所爲之手段，包括裁罰及補償等措施，以及爲進一步達到環境保護的目的而積極發展新的系統工具，其常有公眾之參與，亦可作爲我國民眾參與環保事務之參考。

故本次考察重點主要分爲三大項，包括：「清潔水法案（CWA）針對維持國家水域完整性所採之紓緩補償措施（Compensatory mitigation）」、「清潔水法案（CWA）之裁罰政策」及「政府機構和社區共同發展之社區環境報告系統（FERN）」，內容包含民眾及相關環保團體參與之時機及扮演之角色。

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壹、目的

本次考察主題爲考察美國地區環境影響評估後續監督工作民眾參與情形，計畫目的係透過本署派員赴美考察下述議題，俾供我國借鏡未來公眾參與環境影響評估監督措施參考，並可運用於未來環境影響評估監督實務工作：

一、美國民眾參與環境影響評估監督查核之相關措施及規定。

二、美國環境影響評估監督運作措施中，政府與民眾間溝通及意見交換管道及運作方式。

三、實地參訪 NGO 執行環境保護計畫成效。

四、美國就違反環保法令裁罰措施及程序。

貳、過程

一、出國行程概述：

101.10.13	啓程，出發至美國舊金山。
101.10.14	抵達舊金山。
101.10.15	與美國環保署西南太平洋區〈第九分局〉律師 Ms. Jessica Kao 討論考察行程細節及蒐集相關資料。
101.10.16	由美國陸軍工程兵團（U.S Amy Corps of Engineers,USACE）北區分部主任 Ms.Laurie Ikuta Monarres 說明清潔水法案（CWA）針對維持國家水域完整性所採之紓緩補償措施（Compensatory mitigation）。
101.10.17	由美國環保署西南太平洋區〈第九分局〉律師 Mr.Brett P.Moffatt 以聯合太平洋鐵路公司違反清潔水法案（CWA）爲例說明清潔水法案之裁罰政策。
101.10.18	訪問社區環保團體（San Joaquin Valley Latino Environmental Advancement & Policy Project）及 Fresno 地區都會部門(Fresno Metro Ministry)共同執行之環境報告網絡（FERN）計畫，由社區環保團體執行主任 Mr.Rey Leon 及 Fresno 地區都會部門(Fresno Metro Ministry)環境健康部門主任 Ms.Sarah Sharpe 負責接待及現場解說。
101.10.19	與美國環保署西南太平洋區〈第九分局〉律師 Ms. Jessica Kao 討論考察行程心得及整理相關資料，搭機離美。
101.10.20	抵達台灣。

二、主要內容概要：

（一）清潔水法案（CWA）針對維持國家水域完整性所採之紓緩補償措施（Compensatory mitigation）

清潔水法案（CWA）之目標爲復原及維持國家水域之化學、物理和及生物完整性。爲實現此一目標，清潔水法案禁止疏浚排

放或填料排入美國水域，除了美國陸軍工程兵團（U.S Amy Corps of Engineers,USACE）發給許可證或在清潔水法案404條款允許同意下。每個獲許可之排放行爲對濕地、河流及其他水生生物資源所產生之不良影響，必須避免及減少至可行之範圍內。對於不可避免之影響，必須用紓緩補償措施以替代失去的濕地和水生生物資源功能。紓緩補償措施係指復原、建立、加強或在某種環境下保存濕地、河流或其他水生生物資源，達到抵銷不可避免的不利影響之目的。濕地若藉由生態補償制度的導入，或許可以改善現有生態環境破壞的情況，一方面可以遏止生態品質持續惡化，達到「無淨損失」的地步，另一方面，在積極的意義上，如能妥善應用生態補償制度，更可改善生態環境品質，達到生態品質的「淨增加。

環境保護署（EPA）和陸軍部於1990年環境協議備忘錄（MOA）建立三個紓緩順序，以協助引導紓緩措施的決定，並根據清潔水法案404條款之規定來決定需要紓緩措施的類型及程度。紓緩順序則以避免（Avoidance）爲最優先方案，無法避免則以衝擊最小化（Minimization）原則進行縮減開發規模，若衝擊最小化仍無法滿足保育需求，則進行補償(Compensation）替代方案。三紓緩順序內容如下：

步驟 1.避免（Avoid）：應該避免對水生生物資源之不良影響，且應許可較少不利影響之可行的替代方案。

步驟 2.最小化（Minimize）：如果影響是無法避免的，則必須採取適當及可行的措施，以盡量減少不利影響。

步驟 3.補償（Compensate）：不可避免的不利影響仍然存在時，需要適當和可行的紓緩補償措施。紓緩補償措施的質和量可能無法代替避免及最小化之措施。

即使在採取避免及最小化措施後，仍對濕地、河流和其他水生生物資源造成不良影響的計畫，通常需要其他紓緩補償措施。美國陸軍工程兵團（或許可機關）負責決定所需紓緩補償措施適當的形式及金額。紓緩補償措施的方法包括復原

（restoration）、建立（establishment）、加強（enhancement）及保存（preservation）。

復原：濕地或其他水生生物資源之重建或復原的目標，是將舊有的或退化的濕地恢復到自然或以往的功能及特性。復原可重獲濕地的功能或土地面積，或兩者的收益。

建立：透過操作物理、化學及生物特性發展出新的濕地或其他水生生物資源。成功的建立可獲得濕地的土地面積及功能。

加強：可提高、增強或改善更多現有濕地之功能的各項活動。進行加強往往是用來爲某一特定目的，如改善水質、湧水保存或野生動物棲息地。加強的收益是濕地功能，但不會增加濕地土地面積。

保存：透過實施適當的法律和物理機制（即土地使用權的保護，所有權轉讓）來永久保存具有重要生態價值的濕地或其他水生生物資源。保存包括保護毗鄰濕地的高地地區，以確保保護或增強水生生態系統。保存不會獲得濕地土地面積，且可能只用於在某些情況下，包括要保留的資源對於流域生態的永續發展是有顯著貢獻的。

紓緩補償措施對於濕地不可避免之不利影響可透過三種不同的措施來完成。開發者應負之紓緩計畫（permittee-responsible mitigation），許可證課予法律責任維持達到場址的建設及長期的成就。紓緩銀行（Mitigation Banking）及補償替代費（In-Lieu Fee Mitigation）是以第三方團體（third party）賠償的方式，可將開發案成功與否的責任轉移到紓緩銀行或補償替代費保證人身上。

開發者應負之紓緩計畫（Permittee-Responsible Mitigation）：由開發單位進行現地保育或移地/易地復育，開發單位需對紓緩方案的成功與否負責。

紓緩銀行（Mitigation Banking）：是指一塊已經復育、建置、加強或保護的濕地，用以預留來補償未來濕地開發所可能造成的衝擊。開發單位可向紓緩銀行購買同在一集水區流域內的濕

地“信用狀（credits）”，做爲補償。濕地復育的成效，由紓緩銀行負責(相關資料請參閱附錄一：A Primer on Mitigation Banking－Process and Potential Revenue)。

補償替代費（In-Lieu Fee Mitigation）：由開發單位提供資金給政府資源管理單位或非營利性組織，通常情況下，政府資源管理單位或非營利性組織從多個開發單位募集資金，以集中必要的財政資源進行濕地復育，但與紓緩銀行不同的是，它通常是在已經開發並造成影響後(相關資料請參閱附錄二：Federal Guidance on the Use of In-Lieu-Fee Arrangements)。

生態補償制度可作爲國土保育的一種機制，用以保障國土的永續利用，故補償制度宜提早於可行性規劃階段即以導入，我國之環評制度應可考量，在導入的初始階段可採用個案補償與單一使用者補償銀行並用之補償模式，並針對濕地生態敏感地區遭受衝擊時進行補償。因紓緩補償措施之制度可讓非營利組織或民間團體以第三方團體參與開發行爲，故亦可作爲民眾或相關環保團體參與環評監督措施之管道。

（二）清潔水法案（CWA）之裁罰政策

美國裁罰政策是爲了實現以下四個目標：一、罰鍰金額應達到可嚇阻違法行爲之目的。二、違法者不應得到比其他遵守法規者更多經濟上的優勢，以確保一公平的競爭環境。三、全國裁罰基準應是一致的。四、罰款的計算應建立在公平及合理的計算方法之基礎上。罰款的計算方式主要由因違法之行爲所得之利益(Economic Benefit)及加重之懲罰(Gravity component)所組成，以有關清潔水法案（CWA）計算罰緩裁處基準爲例(相關資料請參閱附錄三：CLEAN WATER ACT SECTION 404SETTLEMENT PENALTY POLICY)，其公式如下：

罰鍰金額＝因違法之行爲所得之利益＋加重因素＋/－調整因素－訴訟上之考量－償還能力－替代環境改善計畫

1.因違法之行爲所得之利益（Economic Benefit）：產生之利益分爲三個部分(相關資料請參閱附錄四：Economic

Benefit:EPA’s BEN Model)。

(1)延遲支出產生收益：其節省之成本包含污染防治設備投資成本（如工程設計、購置、裝置、替換之成本）、環境損害採取補救措施成本及一次性之購置成本(如爲設置污水處理設施所必須之購地支出）等。

(2)規避支出產生收益：其節省之成本包含設備操作及維護成本，或其他每年經常性的費用。

(3)違法期間因不合法的競爭優勢產生收益：目前 BEN 不計算該項不法利益。但如果因經濟優勢，而致增加銷售或產量獲得之利益，環保署將審查每個案件，並估計其收益與生產成本之間的變化。

2.加重之懲罰（Gravity component)：在清潔水法案之裁罰基準中，對於加重之懲罰是以月爲單位計算，其公式如下：

月加重之懲罰=(1+A+B+C+D) X$1000

ABCD 各代表如下之意義：A 因素代表違規行爲之嚴重程度(Significance of Violation)、B 因素指建康與環境上之損害(Health and Environmental Harm)、C 因素指違反放流標準之數目(Number of Effluent Limit Violations)、D 因素指違反非放流標準規定之嚴重程度(Significance of Non-effluent Limit Violations)。

在得出加重之懲罰金額後，應再考量其他之彈性調整因素，原則上不調整利益組成之部分，而對於加重後調整之幅度(調高或是調低)除非有特別之情事，不超過百分之二十，須有特別之狀況才能將罰鍰之加重成分調降超出百分之二十。應考量之調整因素有如下數點：

(1)故意或過失之程度－罰鍰之高低應反映其主觀惡意之程度，考慮故意或過失之程度應注意以下之點：

a.違法者對於該違法事件之控制程度

b.該違法事件的可預見性

c.違法者對於預防該事件所採取之預防措施

d.違法者對於該行爲之危害程度知情之程度

e.該業界對於合乎法規執行操作之熟悉程度，以及取得適當之控制技術的難易程度

f.違法者對於法規要求是否知情，其中對於法規之不知情不得作爲減輕罰鍰之因素。

(2)合作之程度：考慮合作程度之因素是爲了提供違法者誘因，迅速處理違法之事件並解決紛爭。

(3)是否迅速主動回報違法情節及是否迅速採取補救措施:依照採取補救措施之迅速與有效程度，最多可減少罰鍰之加重成分之金額至 50%。

(4)對於遲不改善之違法情形，應予以加重。

(5)過去違法之紀錄:如違法者過去有違反環境法規之紀錄，則應予以加重。加重之程度應考慮以下數點：

a.與過去違法情節之相似程度

b.距離上次違法事件是否接近

c.先前違法之次數

d.在先前違法後之改善程度。

(6)償付罰鍰之能力:原則上主管機關不希望企業因罰鍰之裁處而倒閉，然如有必要並不排除裁處使企業倒閉罰鍰之可能性，違法者應自行舉證其無力償付罰鍰，當違法者確實無力償付罰鍰，應考慮以下措施：

a.延遲或分期償付方案

b.考慮非金錢之公共服務方案

c.考慮減低罰鍰金額

d.考慮併罰違法者之自然人業主

(7)其他個別法規應考量之獨特因素

(相關資料請參閱附錄五：EPA Clean Water Act Penalty Policy：Gravity)

（三）政府機構和社區共同發展之社區環境報告系統（FERN）

是由政府機構和社區倡導合作，以防止污染，新工具包括發短信的報告、網站（www.FresnoReport.org）及專責小組等。，在加利福尼亞州弗雷斯諾縣，一個合作的政府機構和社區倡導推出一個新的計畫，弗雷斯諾縣環境報告網絡（FERN），一種社區友好的通報系統，以解決在弗雷斯諾縣的環境和公眾健康的危害。克服公眾報告的障礙，弗雷斯諾縣環境報告網絡是一種創新的工具，使用Web技術（www.FresnoReport.org）擴大政府機構的執法能力，幫助社區成員可快速，準確地提供目擊者描述當地的問題，一天24小時，可用英語或西班牙語。

弗雷斯諾縣環境報告網絡是一種未來的環境問題報告系統，社區成員經常面臨的阻礙，包括不知道向哪個機構通報的障礙，語言障礙，害怕政府官員，無法在營業時間內通報等。這種模式克服了這些障礙。

當弗雷斯諾縣的居民看見對環境或公眾健康產生危害時，如非法傾倒垃圾或油馬達、污染嚴重的工廠、燃燒農業廢棄物、農藥堆積、卡車空轉、洪水、製酪場的臭味、不安全的工作場所或損壞的道路等，而他們不知道向哪些政府機構通報時，環境報告網絡提供了一個簡單的方式。

弗雷斯諾縣的居民可用英語或西班牙語以匿名的方式通報，包含下面四種方式：網路、語音信箱、傳真及電子郵件。相關的政府機構將很快的受理通報，並且每月召開執法機構官員與社區居民之工作會議以公開辦理進度。

除了可以文字、照片和視頻通報，尚有其他網站的服務，包括在全縣所有通報事故的互動地圖，新通報電子郵件警報，以及可用簡單的方式來確認以前通報案件的處理狀態。這個專案計畫消除了公眾如何通報案件的困惑，以及提供社區居民一個追踪通報案件辦理結果的方式。

相關政府組織聯合，如Fresno地區都會部門(Fresno Metro Ministry)、加州農藥聯盟及美國環境保護署，皆致力於改善兒

童的健康，特別是在過於有沉重工作負荷的社區，美國環境保護署資助社區環境報告系統將有助於建立當地州及聯邦各級政府管理單位之間的聯繫，以提高公眾了解整個管理程序，這將有助於建立責任究問制度，並賦予社區參與決策權力。

雖然許多當地的州及聯邦法律的目的在於減少環境危害的風險，但有限的人力，混亂的通報機制嚴重限制了這些法律預防和減少污染的能力。

環境報告網絡機構面臨著嚴格的預算約束，利用社區成員的更多的眼睛和耳朵，就可快速辨識環境和健康的危害，使管理單位在問題變大之前就能夠快速的解決。

弗雷斯諾縣環境報告網絡計畫的資金是由美國環境保護署撥款給加州農藥改革聯盟及社會正義組織Fresno地區都會部門(Fresno Metro Ministry)。

(FERN Environmental Justice Bus Tour會議討論及與社區民眾溝通情形)

大部分民眾並不甚了解政府部門之組織架構，所以當有民眾遇到與他們息息相關之環境健康議題時，常不知該尋求何單位協助，因FERN社區環境報告系統係由政府機構和社區共同發展，故可提供一聯繫溝通平台，以更簡單容易之方式讓民眾使用，大大減少公部門之間輾轉問題至負責單位之時間，政府單位亦可更有效率的解決尚未擴大的環境問題，故對於無論是否為須實施環境影響評估開發案之環保稽查監督，一旦發現造成環境污染之行為，如何快速通報並縮短處理時間，解決惱人的環境污染問題，向為民眾所關切，現今全球已進入網路雲端的

世代，發展新的、友善的網路工具以達到全民監督環保的目的，已是當前全球趨勢。

參、心得及建議

本次考察主題爲考察美國地區環境影響評估後續監督工作民眾參與情形，提供未來我國民眾參與環境影響評估監督參考，考察重點主要分爲三大項，包括：「清潔水法案（CWA）針對維持國家水域完整性所採之紓緩補償措施（Compensatory mitigation）」、「清潔水法案（CWA）之裁罰政策」及「政府機構和社區共同發展之社區環境報告系統（FERN）」，內容包含民眾及相關環保團體參與之時機及扮演之角色。茲分別說明如下：

一、「清潔水法案（CWA）針對維持國家水域完整性所採之紓緩補償措施（Compensatory mitigation）：

生態補償制度可作爲國土保育的一種機制，用以保障國土的永續利用，故補償制度宜提早於可行性規劃階段即以導入，我國之環評制度應可考量，在導入的初始階段可採用個案補償與單一使用者補償銀行並用之補償模式，並針對濕地生態敏感地區遭受衝擊時進行補償。因紓緩補償措施之制度可讓非營利組織或民間團體以第三方團體參與開發行爲，故亦可作爲民眾或相關環保團體參與環評監督措施之管道。

二、清潔水法案（CWA）之裁罰政策

依據我國行政罰法第 18 條規定，行政機關於裁處罰鍰時，應審酌違反本法上義務行爲應受責難程度、所生影響及因違反本法義務所得之利益，並得考量受處罰者之資力，予以裁處。我國對於違反環境法規之裁量基準，其考量因素則集中在應受責難程度及所生影響，至於如何將因違反本法義務所得之利益納入審酌之標準，就其意義、計算方式及其它各應審酌因素之間的關係尚須進一步的研究討論，美國清潔水法案（CWA）之裁罰政策針對罰鍰金額之計算，其計算不法利得之 BEN Model 及考量加重之懲罰因素，係值得我國借鏡學習。

三、政府機構和社區共同發展之社區環境報告系統（FERN）

大部分民眾並不甚了解政府部門之組織架構，所以當有民眾遇到與他們息息相關之環境健康議題時，常不知該尋求何單位協助，因 FERN 社區環境報告系統係由政府機構和社區共同發展，故可提供一聯繫溝通平台，以更簡單容易之方式讓民眾使用，大大減少公部門之間輾轉問題

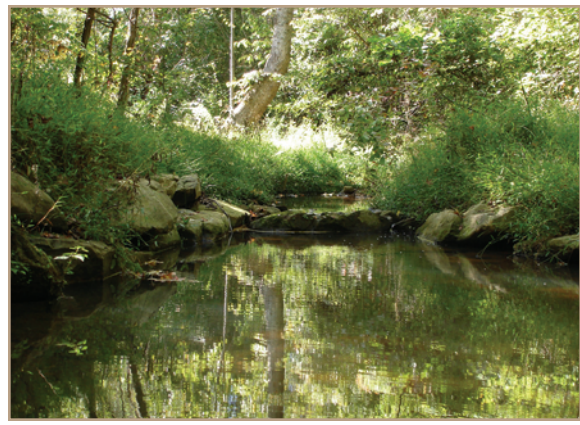
至負責單位之時間，政府單位亦可更有效率的解決尚未擴大的環境問題，故對於無論是否爲須實施環境影響評估開發案之環保稽查監督，一旦發現造成環境污染之行爲，如何快速通報並縮短處理時間，解決惱人的環境污染問題，向爲民眾所關切，現今全球已進入網路雲端的世代，發展新的、友善的網路工具以達到全民監督環保的目的，已是當前全球趨勢。

附錄一

A Primer on Mitigation Banking: Process and Potential Revenue

Brian T. Normanly, PWS and Sam Vacca
Ecological Solutions, Inc.

Regardless of whether the property was passed down through generations of family or recently purchased, owning a piece of mother earth instills an innate sense of pride and stewardship, provides a practical education in nature, and creates memories to last a lifetime. Whatever the reason for owning land, many of us depend on some type of income stream produced by land ownership, e.g., farm rent, timber sales, recreational leases, etc. With increasing land values, development pressures, and global competition in agricultural and forestry arenas, traditional means of generating income from land ownership do not always provide the most lucrative financial returns. Mitigation banking may provide an additional avenue for generating the income stream necessary to retain ownership and preserve a much-valued way of life.



▲ Constructed riffle with rock vane to dissipate flow energy, provide grade control, and enhance aquatic habitat.

What is Mitigation and Mitigation Banking?

Section 404 of the Clean Water Act (CWA §404) establishes the federal program for regulating the discharge of dredged or fill material into federally jurisdictional wetlands, streams, and other waters of the United States. As part of the CWA §404 permitting process, applicants are often required to compensate for unavoidable impacts to jurisdictional waters by providing mitigation. Compensatory mitigation for streams typically consists of restoring degraded streams, replanting denuded stream buffers, and preserving intact forested stream buffers. Compensatory mitigation for wetlands typically consists of restoring wetlands that have been hydrologically altered, replanting wetlands that have been cleared or otherwise maintained for agricultural purposes, and preserving high-quality existing wetlands.

Mitigation banking is a market-based approach established by federal regulations that allows a public or private entity, i.e., bank sponsor, to restore and preserve wetlands, streams, and other aquatic resources expressly for the purpose of providing compensatory mitigation for authorized impacts to similar resources at development sites. Mitigation banks operate similarly to other financial institutions that describe transactions in terms of credits and debits. Credits represent the composite of ecological function at a mitigation bank, while debits represent the loss of ecological function at a development site. Bank sponsors can sell mitigation credits to permittees who are required to compensate for jurisdictional impacts incurred at their development sites. Mitigation banks can generate credits from wetland mitigation, stream mitigation, or both. The sale of these credits legally transfers the liability for compensatory mitigation from the permittee to the bank sponsor.

The number of wetland and stream credits generated at a potential mitigation bank is determined using procedures outlined in a regulatory guidance document, referred to as the Standard Operating Procedure (SOP), that is typically provided by the applicable U.S. Army Corps of Engineers (USACE) district office. A given district's SOP represents a collaborative effort between multiple federal and state environmental agencies referred to hereafter as the Interagency Review Team (IRT). The IRT is responsible for reviewing and approving the banking instrument, which is the primary permit document that describes in detail the physical and legal characteristics of the bank, the proposed mitigation design, the net ecological benefit that will be realized from implementation of the proposed design, the total number of mitigation credits generated at the bank, and the schedule for releasing credits.

Mitigation Bank Site Selection Criteria

There are certain favorable criteria used to evaluate a site's potential for developing a successful mitigation bank. These favorable criteria include the following market and land-use considerations.

Banking Market Criteria

- The potential bank site is located in a high-growth watershed that is not saturated with existing mitigation banks.
- The potential bank is located within an area in which credits are required for large local, state, and federal projects, e.g., state department of transportation road projects, military base expansion, reservoirs, landfills, etc.
- The potential bank is located within a watershed listed, or is otherwise considered by the regulatory agencies as high priority.

Land-Use Criteria

- Mitigation banking is consistent with adjacent land uses and will not create complications arising from neighboring properties or infrastructure (e.g., existing roads, utility lines, impoundments, etc.).
- The potential bank site contains ditches, constructed waterways, tile drainage, levees, and other man-made structures that have altered the site's natural hydrologic regime.
- The potential bank site contains impounded, channelized, or straightened streams in which natural channel form can be restored.
- The potential bank site contains wetland or stream buffers in which vegetation consisting of planted pine monoculture, pasture grasses, or agricultural crops can be replaced with native species.

Sites being considered for mitigation banking should meet all or most of these market and land-use criteria. Development of a mitigation bank that meets these criteria usually results in lower start-up costs and a higher profit margin. It is important to note that many expenses associated with developing a mitigation bank are independent of the actual size of the proposed bank site. For example, regulatory agency coordination required for a 100-acre mitigation bank is typically similar to that required for a 500-acre bank. Consequently, it is financially advantageous to select sites on which large areas of wetlands and extensive reaches of stream can be restored. This will allow a bank sponsor to generate a large number of mitigation credits, thereby increasing the profit margin for the project.

Type of Mitigation	Amount	Credits	Fair Market Value for Credit	Gross Revenue
Wetland	110 acres	273	$7,500	$2,047,500
Stream	7,000 feet	113,050	$70	$7,913,500
			Total	$9,961,000

▲**Table 1:** Credit and gross revenue estimates for the hypothetical mitigation bank.

Task	Estimated Cost
Site evaluation and mitigation prospectus	$9,000
Draft banking instrument, includes: baseline hydrologic, water quality, vegetative and ecological studies, topographic survey, Phase One cultural resources survey, 50 percent design drawings, preparation of draft banking instrument, and regulatory coordination	$170,000
Final banking instrument, includes: complete design drawings, preparation of final banking instrument, and regulatory coordination	$27,000
Section 404 permitting, state, and local permitting	$10,000
Recordation of restrictive covenant	$15,000
Construction, planting and supervision of site grading and tree planting	$600,000
Report containing as-built GPS survey and final credit generation	$5,000
Annual monitoring of bank and reference sites (7 years)	$194,000
Total Estimated Cost	$1,030,000

▲**Table 2:** Estimated costs for the hypothetical mitigation bank.

Potential Revenue From a Hypothetical Mitigation Bank

Because of the many advantages mitigation banking offers the regulated community, banking represents a potentially lucrative means of generating income. A hypothetical bank site is presented herein to demonstrate potential cash flows generated from mitigation banking. The hypothetical bank is assumed to contain 110 acres of wetland mitigation and 7,000 linear feet of stream mitigation located in north Georgia. Based on some general assumptions for calculating credit generation in the applicable SOP, the hypothetical bank has the potential for generating 273 wetland credits and 113,050 stream credits.

Projected gross revenue estimates generated from the hypothetical bank are provided in Table 1. The cost per credit estimate indicated for stream and wetland credits is based on current market value as determined from recent quotes obtained from mitigation banks located in north Georgia. It is important to note that there is currently a significant demand for mitigation credits in north Georgia, which may exceed the demand for credits in other states and other regions of Georgia. Consequently, the number of

Year	Mitigation Milestone	Credit Release	Revenue to Date	Cost to Date	Cash Flow to Date
1	Baseline studies, permitting, design	0%	$0	$179,000	-$179,000
2	Bank concurrence, recordation of restrictive covenant, initiation of construction	15%	$1,494,150	$529,000	$965,150
3	Completion of construction, as-built GPS survey, and Year 1 annual monitoring report	35%	$4,980,500	$869,000	$4,111,500
4	Year 2 annual monitoring report	6%	$5,578,160	$882,500	$4,695,660
5	Year 3 annual monitoring report	6%	$6,175,820	$917,500	$5,258,320
6	Year 4 annual monitoring report	6%	$6,773,480	$929,500	$5,843,980
7	Year 5 annual monitoring report	6%	$7,371,140	$966,500	$6,404,640
8	Year 6 annual monitoring report	6%	$7,968,800	$980,000	$6,988,800
9	Year 7 annual monitoring report	20%	$9,961,000	$1,030,000	$8,931,000

▲**Table 3:** Typical credit release schedule and projected cash flow.

credits and the revenue generated from the north Georgia hypothetical bank should not be extrapolated to other areas. It is imperative to understand the mitigation process and the demand for credits that are specific to a given market before a cost/benefit analysis can be accurately prepared.

Anticipated costs for developing the hypothetical mitigation bank are provided in Table 2. The cost estimates are based on projects in north Georgia that are similar in nature. Estimated costs do not include the cost of mitigation lands, implementation of potential contingency and remedial actions, or administration of the proposed mitigation bank.

Credits generated from the hypothetical bank would be released by the USACE at defined mitigation milestones. The initial release in Georgia is equal to 15 percent of the total number of credits. This release is granted by the USACE upon approval of the final banking instrument and recordation of the restrictive covenant. The second release, which is typically equal to 25 percent of the total number of credits, is granted after completion of construction activities. Release of the remaining 60 percent is distributed on an annual basis over a minimum seven-year period. The USACE releases the credits only after reviewing scientific data in an annual post-mitigation monitoring report submitted by the bank sponsor and then determining that the mitigation has sufficiently met success criteria. If the bank has not met success criteria, the USACE may request that the bank sponsor implement contingency measures to correct problem areas before a credit release is granted.

A typical credit release schedule and cash flow projections are provided in Table 3. The credit release schedule assumes a total of 35 percent of the credits are released at year three (25 percent release for completing the construction and the 10 percent release after submitting the first annual monitoring report). Cash flow estimates assume that all credits are released by the USACE and sold by the bank sponsor on an annual basis, and that the fair market value for credits indicated in Table 1 remains constant throughout the eight-year credit sale period. Using these same assumptions and an annual discount rate of eight percent, the net present value of this hypothetical mitigation banking investment equals $6,095,302.15.

While the hypothetical example appears to indicate that mitigation banking represents a lucrative form of business, it is important to understand the risks associated with developing and implementing a mitigation bank. For example, new regulations may directly or indirectly affect mitigation schedules, credit generation, and service areas. Regulatory workloads and prioritization on CWA §404 permit applications or high profile projects may extend regulatory review periods resulting in prolonged delays to credit releases. Other risks include economic downturns and regulatory approval of competing banks that may reduce credit sales.

It is important to note that mitigation banks are not required to generate both wetland and stream banks. It is also important to note that mitigation banks must be protected in perpetuity through placement of a restrictive covenant or conservation easement. These forms of property control restrict certain activities within bank lands, such as future land development, agriculture, and forestry; but allow other activities that support or are consistent with mitigation banking, such as various wildlife management activities, maintenance of existing access roads, hunting, and fishing. It is also important to note that the restrictive covenant and conservation easements are only placed on credit-generating lands and do not include uplands or other areas that are not included in the bank.

Approaches to Mitigation Banking

There are three main approaches to investing in mitigation banking for landowners with properties meeting the appropriate market and land-use criteria. The first approach would be to serve as the bank sponsor and retain the services of an environmental consultant with experience in mitigation banking in the USACE district in which the property is located. Under this approach, the landowner would pay for all costs associated with developing the mitigation bank, receive all revenue generated from credit sales, and retain liability and exposure to risks inherit to the banking process.

The second approach to mitigation banking would be to enter a contractual agreement with a turnkey mitigation provider (TMP), which typically consists of an investor or group of investors interested in developing mitigation banks or mitigation sites dedicated to large-scale economic development projects. Under this approach, the landowner retains ownership of the land and the TMP serves as the bank sponsor. Depending on the terms of the contract, the TMP typically retains all risks and liability associated with the project and pays for all costs associated with bank development. In return, the TMP would receive a percentage of the credit sales. Environmental consultants can often recommend TMPs to landowners interested in pursuing this mitigation approach.

The final approach to mitigation would be to sell property containing mitigation lands to third parties interested in pursuing mitigation. These third parties may include CWA §404 permit applicants in need of mitigation for their specific projects or investors (i.e., TMPs) interested in pursuing mitigation banking.

A Win-Win Opportunity

Mitigation banking provides positive results for all parties involved with the CWA §404 permitting process. The resource agencies and the regulated public benefit from mitigation banking because it provides the most effective means of meeting national goals of no net loss of jurisdictional waters and ecological functions provided by jurisdictional waters. Mitigation banking also provides CWA §404 permittees with a centralized repository of mitigation credits that effectively compensate for jurisdictional impacts in a manner that reduces overall mitigation costs and liability. Finally, mitigation banking offers landowners an alternative means of generating revenue from their property, while still retaining ownership and preserving opportunities for recreation.

About the Authors

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附錄二

Federal Guidance on the Use of In-Lieu-Fee Arrangements for Compensatory Mitigation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act

I. Purpose

Compensatory mitigation projects are designed to replace aquatic resource functions and values that are adversely impacted under the Clean Water Act Section 404 and Rivers and Harbors Act Section 10 regulatory programs. These mitigation objectives are stated in regulation, the 1990 Memorandum of Agreement on mitigation between Environmental Protection Agency (EPA) and the Department of the Army, the November 28, 1995, Federal Guidance on the Establishment, Use and Operation of Mitigation Banks ("Banking Guidance"), and other relevant policy. The advent of in-lieu-fee approaches to mitigation has highlighted the importance of several fundamental objectives that the agencies established for determining what constitutes appropriate compensatory mitigation. The purpose of this memorandum is to clarify the manner in which in-lieu-fee mitigation may serve as an effective and useful approach to satisfy compensatory mitigation requirements and meet the Administration's goal of no overall net loss of wetlands. This in-lieu-fee guidance elaborates on the discussion of in-lieu-fee mitigation arrangements in the Banking Guidance by outlining the circumstances where in-lieu-fee mitigation may be used, consistent with existing regulations and policy.

II. Background

A. "In-lieu-fee" mitigation occurs in circumstances where a permittee provides funds to an in-lieu-fee sponsor instead of either completing project-specific mitigation or purchasing credits from a mitigation bank approved under the Banking Guidance.

B. A fundamental precept of the Section 404(b)(1) Guidelines is that no discharge of dredged or fill material in waters of the U.S. may be permitted unless appropriate and practicable steps have been taken to minimize all adverse impacts associated with the discharge. (40 CFR 230.10(d)) Specifically, the Section 404(b)(1) Guidelines establish a mitigation sequence, under which compensatory mitigation is required to offset wetland losses after all appropriate and practicable steps have been taken to first avoid and then minimize wetland impacts. Compliance with these mitigation sequencing requirements is an essential environmental safeguard to ensure

that CWA objectives for the protection of wetlands are achieved. The Section 404 permit program relies on the use of compensatory mitigation to offset unavoidable wetlands impacts by replacing lost wetland functions and values.

C. The agencies further clarified their mitigation policies in a Memorandum of Agreement (MOA) between the EPA and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404(b)(1) Guidelines (February 6, 1990). That document reiterates that "the Clean Water Act and the Guidelines set forth a goal of restoring and maintaining existing aquatic resources. The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions." Moreover, the MOA clarifies that mitigation "should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site," and that "if on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close proximity and, to the extent possible, the same watershed)." As outlined in the MOA, the agencies have also agreed that "generally, in-kind compensatory mitigation is preferable to out-of-kind." The MOA further states that mitigation banking may be an acceptable form of compensatory mitigation. The agencies recognize the general preference for restoration over other forms of mitigation, given the increased chance for ecological success.

D. Pursuant to these standards, project-specific mitigation for authorized impacts has been used by permittees to offset unavoidable impacts. Project-specific mitigation generally consists of restoration, creation, or enhancement of aquatic resources that are similar to the aquatic resources of the impacted area, and is often located on the project site or adjacent to the impact area. Permittees providing project specific mitigation have a U.S. Army Corps of Engineers (Corps) approved mitigation plan detailing the site, source of hydrology, types of aquatic resource to be restored, success criteria, contingency measures, and an annual reporting requirement. The mitigation and monitoring plan becomes part of the Section 404 authorization in the form of a special condition. The permittee is responsible for complying with all terms and conditions of the authorization and would be in violation of their authorization if the mitigation did not comply with the approved plan.

E. In 1995, the agencies issued the Banking Guidance. Consistent with that guidance, permittees may purchase mitigation credits from an approved bank. Mitigation banks will generally be functioning in advance of project impacts and thereby reduce the temporal losses of aquatic functions and values and reduce uncertainty over the ecological success of the mitigation. Mitigation banking instruments are reviewed and approved by an interagency Mitigation Banking Review Team (MBRT). The MBRT ensures that the banking instrument appropriately addresses the physical and legal characteristics of the bank and how the bank will be established and operated (e.g., classes of wetlands and/or other aquatic resources proposed for inclusion in the bank, geographic service area where credits may be sold, wetland classes or other aquatic resource impacts suitable for compensation, methods for determining credits and debits). The bank sponsor is responsible for the operation and maintenance of the bank during its

operational life, as well as the long-term management and ecological success of the wetlands and/or other aquatic resources, and must provide financial assurances.

F. The Banking Guidance describes in-lieu-fee mitigation as follows: "...in-lieu-fee, fee mitigation, or other similar arrangements, wherein funds are paid to a natural resource management entity for implementation of either specific or general wetland or other aquatic resource development project, are not considered to meet the definition of mitigation banking because they do not typically provide compensatory mitigation in advance of project impacts. Moreover, such arrangements do not typically provide a clear timetable for the initiation of mitigation efforts. The Corps, in consultation with the other agencies, may find circumstances where such arrangements are appropriate so long as they meet the requirements that would otherwise apply to an offsite, prospective mitigation effort and provides adequate assurances of success and timely implementation. In such cases, a formal agreement between the sponsor and the agencies, similar to a banking instrument, is necessary to define the conditions under which its use is considered appropriate."

III. Use of In-Lieu-fee Mitigation in the Regulatory Program

In light of the above considerations and in order to ensure that decisions regarding the use of in-lieu-fee mitigation are made more consistently with existing provisions of agency regulations and permit policies, the following clarification is provided. It is organized in a tiered manner to reflect and incorporate the agencies' broader mitigation policies, and is based on relative assurances of ecological success.

A. Impacts Authorized Under Individual Permit: In-lieu-fee agreements may be used to compensate for impacts authorized by individual permit if the in-lieu-fee arrangement is developed (or revised, if an existing agreement), reviewed, and approved using the process established for mitigation banks in the Banking Guidance. MBRTs should review applications from such in-lieu-fee sponsors to ensure that such agreements are consistent with the Banking Guidance.

B. Impacts Authorized Under General Permit: As a general matter, in-lieu-fee mitigation should only be used to compensate for impacts to waters of the U.S. authorized by a Section 404 general permit, as described below:

1. Where "On-site" Mitigation Is Available and Practicable: As a general matter, compensatory mitigation that is completed on or adjacent to the site of the impacts it is designed to offset (i.e., project-specific mitigation done by permittees consistent with Corps approved mitigation plans) is preferable to mitigation conducted off-site (i.e., mitigation bank or in-lieu-fee mitigation). The agencies' preference for on-site mitigation, indicated in the 1990 Memorandum of Agreement on mitigation between the EPA and the Department of the Army, should not preclude the use of a mitigation bank or in-lieu-fee mitigation when

there is no practicable opportunity for on-site compensation, or when use of a bank or in-lieu-fee mitigation is environmentally preferable to on-site compensation, consistent with the provisions in paragraph 2 below.

2. Where "On-site" Mitigation Is Not Available or Practicable: Except as noted below in a. or b., where on-site mitigation is not available, practicable, or determined to be less environmentally desirable, use of a mitigation bank is preferable to in-lieu-fee mitigation where permitted impacts are within the service area of a mitigation bank approved to sell mitigation credits, and those credits are available. Use of a mitigation bank is also preferable over in-lieu-fee mitigation where both the available in-lieu-fee arrangement and the service area of an approved mitigation bank are outside of the watershed of the permitted project impacts, unless the mitigation bank is determined on a case by case basis to not be practicable and environmentally desirable.

a. Where Mitigation Bank Does Not Provide "In-kind" Mitigation: In those circumstances where wetlands impacts proposed for general permit authorization are within the service area of an approved mitigation bank with available credits, but the impacted wetland type is not identified by the Mitigation Banking Instrument for compensation within such bank, then the authorized impact may be compensated through an in-lieu-fee arrangement, subject to the considerations described in Section IV below, if the in-lieu-fee arrangement would provide in-kind restoration as mitigation.

b. Where Mitigation Bank Does Not Provide Restoration, Creation, or Enhancement Mitigation: In those circumstances where wetlands impacts proposed for general permit authorization are within the service area of an approved mitigation bank, but the only available credits are through preservation, then the authorized impact may be compensated through an in-lieu-fee arrangement subject to the considerations described in Section IV below, if the in-lieu-fee arrangement would provide in kind restoration as mitigation.

IV. Planning, Establishment, and Use of In-lieu-fee Mitigation Arrangements

This section describes the basic considerations that should be addressed for any proposed use of in-lieu-fee mitigation to offset unavoidable impacts associated with a discharge authorized under a general permit described in Section III above.

A. Planning considerations:

1. Qualified Organizations: Given the goal to ensure long-term mitigation success, the Corps, in consultation with the other Federal agencies, should carefully evaluate the demonstrated performance of natural resource management organizations (e.g., governmental organizations, land trusts) prior to approving them to manage in-lieu-fee arrangements. In fact, given the unique strengths and specialties of such organizations, it may be useful for the Corps, in consultation with other Federal resource agencies, to establish formal arrangements with several natural resource management organizations to ensure there are sufficient options to effectively replace lost functions and values. In any event, in-lieu-fee arrangements and subsequent modifications should be made in consultation with the other Federal agencies and only after an opportunity for public notice and comment has been afforded.

2. Operational Information: Those organizations considered qualified to implement formal in-lieu-fee arrangements should work in advance with the Corps to ensure that authorized impacts will be offset fully on a project-by-project basis consistent with Section 10/404 permit requirements. As detailed in the paragraphs that follow, organizations should supply the Corps with information in advance on (1) potential sites where specific restoration projects or types of restoration projects are planned, (2) the schedule for implementation, (3) the type of mitigation that is most ecologically appropriate on a particular parcel, and (4) the financial, technical, and legal mechanisms to ensure long-term mitigation success. The Corps should ensure that the formal in-lieu-fee arrangements and project authorizations contain distinct provisions that clearly state that the legal responsibility for ensuring mitigation terms are satisfied fully rests with the organization accepting the in-lieu-fee. In-lieu-fee sponsors should be able to demonstrate approval of all necessary State and local permits and authorizations. In-lieu-fee sponsors (e.g., State) should notify the Corps and MBRT if the service area of any mitigation bank overlaps the jurisdiction in which their in-lieu-fees may be spent.

3. Watershed Planning: Local watershed planning efforts, as a general matter, identify wetlands and other aquatic resources that have been degraded and usually have established a prioritization list of restoration needs. In-lieu-fee mitigation projects should be planned and developed to address the specific resource needs of a particular watershed.

4. Site Selection: The Federal agencies and in-lieu-fee sponsor should give careful consideration to the ecological suitability of a site for achieving the goal and objectives of compensatory mitigation (e.g., posses the physical, chemical and biological characteristics to support the desired aquatic resources and functions,

preferably in-kind restoration or creation of impacted aquatic resources). The location of the site relative to other ecological features, hydrologic sources, and compatibility with adjacent land uses and watershed management plans shall be considered by the Federal agencies during the evaluation process.

5. Technical Feasibility: In-lieu-fee mitigation should be planned and designed to be self-sustaining over time to the extent possible. The techniques for establishing aquatic resources must be carefully selected. The restoration of historic or substantially degraded aquatic resources (e.g., prior-converted cropland, farmed wetlands) utilizing proven techniques increases the likelihood of success and typically does not result in the loss of other valuable resources. Thus, restoration should be the first option considered for siting in-lieu-fee mitigation. This guidance recognizes that in some circumstances aquatic resources must be actively managed to ensure their sustainability. Furthermore, long-term maintenance requirements may be necessary and appropriate in some cases (e.g., to maintain fire dependent habitat communities in the absence of natural fire, to control invasive exotic plant species). Proposed mitigation techniques should be well-understood and reliable. When uncertainties surrounding the technical feasibility of a proposed mitigation technique exist, appropriate arrangements may be phased-out or reduced once the attainment of prescribed performance standards is demonstrated. In any event, a plan detailing specific performance standards should be submitted to ensure the technical success of the project can be evaluated.

6. Role of Preservation: As described in the Banking Guidance, simple purchase or "preservation" of existing wetlands may be accepted as compensatory mitigation only in exceptional circumstances. Mitigation credit may be given when existing wetlands and/or other aquatic resources are preserved in conjunction with restoration, creation or enhancement activities, and when it is demonstrated that the preservation will augment the functions of the restored, created or enhanced aquatic resource.

7. Collection of Funds: Funds collected under any in-lieu-fee arrangement should be used for replacing wetlands functions and values and not to finance non-mitigation programs and priorities (e.g., education projects, research). Funds collected should be based upon a reasonable cost estimate of all funds needed to compensate for the impacts to wetlands or other waters that each permit is authorized to offset. Funds collected should ensure a minimum of one-for-one acreage replacement, consistent with existing regulation and permit conditions. Land acquisition and initial physical and biological improvements should be completed by the first full growing season following collection of the initial funds. However, because site improvements associated with in-lieu-fee mitigation may take longer to initiate, initial physical and biological improvements may be

completed no later than the second full growing season where 1) initiation by the first full growing season is not practicable, 2) mitigation ratios are raised to account for increased temporal losses of aquatic resource functions and values, and 3) the delay is approved in advance by the Corps.

8. Monitoring and Management: The in-lieu-fee sponsor is responsible for securing adequate funds for the operation and maintenance of the mitigation sites. The wetlands and/or other aquatic resources in the mitigation site should be protected in perpetuity with appropriate real estate arrangements (e.g., conservation easements, transfer of title to Federal or State resource agency or non-profit conservation agency). Such arrangements should effectively restrict harmful activities (e.g., incompatible uses) that might otherwise jeopardize the purpose of the compensatory mitigation. In addition, there should be appropriate schedules for regular (e.g., annual) monitoring reports to document funds received, impacts permitted, how funds were disbursed, types of projects funded, and the success of projects conducted under the in-lieu-fee arrangement. The Corps, in conjunction with other Federal and State agencies, should evaluate the reports and conduct regular reviews to ensure that the arrangement is operating effectively and consistent with agency policy and the specific agreement. The Corps will track all uses of in-lieu-fee arrangements and report those figures by public notice on an annual basis.

B. Establishment of In-Lieu-Fee Agreements:

A formal in-lieu-fee agreement, consistent with the planning provisions above, should be established by the sponsor with the Corps, in consultation with the other agencies. It may be appropriate to establish an "umbrella" arrangement for the establishment and operation of multiple sites. In such circumstances, the need for supplemental information (e.g., site specific plans) should be addressed in specific in-lieu-fee agreements. The in-lieu-fee agreement should contain:

1. a description of the sponsor's experience and qualifications with respect to providing compensatory mitigation;
2. potential site locations, baseline conditions at the sites, and general plans that indicate what kind of wetland compensation can be provided (e.g., wetland type, restoration or other activity, proposed time line, etc.);
3. geographic service area;
4. accounting procedures;
5. methods for determining fees and credits;
6. a schedule for conducting the activities that will provide compensatory mitigation or a requirement that projects will be started within a specified time after impacts occur;
7. performance standards for determining ecological success of mitigation sites;

8. reporting protocols and monitoring plans;
9. financial, technical and legal provisions for remedial actions and responsibilities (e.g., contingency fund);
10. financial, technical and legal provisions for long-term management and maintenance (e.g., trust); and
11. provision that clearly states that the legal responsibility for ensuring mitigation terms are fully satisfied rests with the organization accepting the fee.

In cases where initial establishment of in-lieu-fee compensatory mitigation involves a discharge into waters of the United States requiring Section 10/404 authorization, submittal of a Section 10/404 application should be accompanied by the in-lieu-fee agreement.

V. General

A. Effect of Guidance. This guidance does not change the substantive requirements of the Section 10/404 regulatory program. Rather, it interprets and provides guidance and procedures for the use of in-lieu fee mitigation consistent with existing regulations. The policies set out in this document are not final agency action, but are intended solely as guidance. The guidance is not intended, nor can it be relied upon, to create any rights enforceable by any party in litigation with the United States. This guidance does not establish or affect legal rights or obligations, establish a binding norm on any party and it is not finally determinative of the issues addressed. Any regulatory decisions made by the agencies in any particular matter addressed by this guidance will be made by applying the governing law and regulations to the relevant facts.

B. Definitions. Unless otherwise noted, the terms used in this guidance have the same definitions as those terms in the Banking Guidance. Note that as part of the Administration's Clean Water Action Plan, the Federal agencies have proposed a tracking system to more accurately account for wetland losses and gains that includes definitions of terms such as restoration used in wetland programs. Future notice will be given when these definitions will be applied to Section 10/404 regulatory program.

C. Effective Date. This guidance is effective immediately on the date of the last signature below. Therefore, existing in-lieu-fee arrangements or agreements should be reviewed and modified as necessary in light of the above.

D. Conversion to Banks: If requested by the in-lieu-fee sponsor, the Corps, in conjunction with the other Federal agencies, will provide assistance and recommendations on the steps necessary to convert individual in-lieu-fee arrangements to mitigation banks, consistent with the Banking Guidance.

E. Future Revisions. The agencies are supporting a comprehensive, independent evaluation of the effectiveness of compensatory mitigation by the National Academy of Sciences. The technical results of this evaluation are expected to be used by the public to improve the

quality of wetlands and aquatic resource restoration, creation, and enhancement. The agencies will take note of the results of this evaluation and other relevant information to make any necessary revisions to guidance on compensatory mitigation, to ensure the greatest opportunity for ecological success of restored, created, and enhanced wetlands and other aquatic resources. At a minimum, a review of the use of this guidance will be initiated no later than 12 months after the effective date.

FOR FURTHER INFORMATION CONTACT: *Mr. Jack Chowning (Corps) at (202) 761-1781; Ms. Lisa Morales (EPA) at (202) 260-6013; Ms. Susan Marie Stedman (NMFS) at (301) 713-2325; Mr. Mark Matusiak (USFWS) at (703) 358-2183.*

Michael L. Davis Date
Deputy Assistant Secretary (Civil Works)
Department of the Army

Robert H. Wayland, III Date
Director, Office of Wetlands, Oceans,
and Watersheds
U.S. Environmental Protection Agency

Jamie Clark Date
Director
Fish and Wildlife Service
Department of Interior

Scott B. Gudes Date
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 21 2001

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

MEMORANDUM

SUBJECT: Issuance of Revised CWA Section 404 Settlement Penalty Policy

FROM: Sylvia K. Lowrance
Acting Assistant Administrator

TO: Water Protection/Management Division Directors, Regions I-X
Director, Office of Environmental Stewardship, Region I
Director, Division of Environmental Protection and Planning, Region II
Enforcement and Compliance Assistance Directors, Regions II, VI, and VIII
Water, Wetlands, and Pesticides Division Director, Region VII
Regional Counsels, Regions I-X

Attached is the Agency's new Clean Water Act Section 404 Settlement Penalty Policy. This Policy is intended to be used by EPA in calculating the penalty that the Federal government will generally seek in settlement of judicial and administrative actions for Section 404 violations (i.e., violations resulting from the discharge of dredged or fill material into wetlands or other waters of the United States without Section 404 permit authorization, or in violation of a Section 404 permit.) This policy establishes a framework which EPA expects to use in exercising its enforcement discretion in determining appropriate settlement amounts for such cases.

This guidance is intended to promote a more consistent national approach to assessing settlement penalty amounts in CWA Section 404 enforcement actions, while allowing EPA staff flexibility in arriving at specific penalty settlement amounts in

a given case. This policy is effective immediately and supersedes the December 14, 1990 Guidance, "Clean Water Act Section 404 Civil Administrative Penalty Actions: Guidance on Calculating Settlement Amounts." This policy applies to all CWA Section 404 civil judicial and administrative actions filed after this date, and to all pending cases in which the government has not yet transmitted to the defendant or respondent a proposed settlement penalty amount. This policy may be applied in pending cases in which penalty negotiations have commenced, if application of this Policy would not be disruptive to the negotiations.

We would like to take this opportunity to thank all those in the Regions, the Office of General Counsel, and Department of Justice who commented on drafts of this policy. Your comments were very helpful in making this a more complete and useful document.

If you have questions or comments with respect to this Policy please contact Joe Theis in the Water Enforcement Division at (202)564-0024.

Attachment

cc: Susan Lepow, OGC
Leti Grishaw, DOJ-EDS
Mary Beth Ward, DOJ-EDS

CLEAN WATER ACT SECTION 404
SETTLEMENT PENALTY POLICY

TABLE OF CONTENTS

CLEAN WATER ACT SECTION 404
SETTLEMENT PENALTY POLICY

I. INTRODUCTION

This document sets forth the policy of the U.S. Environmental Protection Agency ("EPA" or "Agency") for establishing appropriate penalties in settlement of an administrative or civil judicial penalty proceeding against a person who has violated Sections 301 and 404 of the Clean Water Act ("CWA" or "Act")[1] by discharging dredged or fill material into wetlands or other waters of the United States without Section 404 permit authorization, or in violation of a Section 404 permit.[2] This policy implements the Agency's *Policy on Civil Penalties* and the companion document, *A Framework for Statute Specific Approaches to Penalty Assessments*, both issued on February 16, 1984, with respect to these types of violations. This settlement penalty policy should be read in conjunction with other applicable policies, such as the *Interim Guidance on Administrative and Civil Judicial Enforcement Following Recent Amendments to the Equal Access to Justice Act* (SBREFA Policy) (May 28, 1996), *Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations* (EPA Audit Policy) (April 11, 2000), and the *EPA Supplemental Environmental Projects Policy* (SEP Policy) (May 1, 1998).

EPA brings enforcement actions to require alleged violators to promptly correct their violations and to remedy any harm caused by those violations.[3] As part of an enforcement action, EPA also seeks substantial monetary penalties, that recover the economic benefit of the violations plus an appropriate gravity amount that will deter future violations by the same violator and by other members of the regulated community. Penalties help to ensure a level playing field within the regulated community

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[1] 33 U.S.C. § 1311(a), 33 U.S.C. § 1344.

[2] EPA may currently seek civil penalties up to $27,500 per day per violation in the federal district courts under Section 309(d), or may seek an administrative assessment of $11,000 per day of violation up to $137,500 before an Agency administrative law judge under Section 309(g) for the unauthorized discharge of dredged or fill material into waters of the United States, or violation of a Section 404 permit. 33 U.S.C. § 1319(d) and (g). These figures reflect a 10% increase from the amounts set forth in the CWA as provided for under the Civil Monetary Penalties Adjustment Rule. The Agency is preparing to issue a revision to the Civil Monetary Penalties Adjustment Rule in the near future. See footnote 10 below for further discussion.

[3] For a discussion of the policy and procedures regarding EPA and Army Corps of Engineers ("Corps") implementation of Section 404 enforcement responsibilities see "Memorandum of Agreement Between the Department of the Army/Environmental Protection Agency Concerning Federal Enforcement for the Section 404 Program of the Clean Water Act" (January 19, 1989). This document is available on the Internet at: hhtp://www.epa.gov/OWOW/wetlands/regs/enfmoa.html.

by ensuring that violators do not obtain an unfair economic advantage over competitors who have complied with the Act. At the same time, EPA's policies provide for adjustments based on a violator's good faith efforts to comply (or lack thereof) and inability to pay a penalty.

The need to deter violations and remedy any harm caused by such violations is especially evident with respect to the discharge of dredged and/or fill material into waters of the U.S., particularly wetlands and other special aquatic sites.[4] Wetlands are a vital yet increasingly threatened natural resource.[5] Wetlands act as natural sponges, providing flood protection and storm damage control and facilitating groundwater recharge. They furnish habitat for myriad plants and animals, including many endangered species, and provide billions of dollars to the national economy each year from fisheries and recreational activities such as hunting and bird watching.[6] Wetlands also perform a vital role in maintaining water quality by trapping sediments and other pollutants before they reach streams, rivers, and other open-water bodies.[7] Other special aquatic sites, such as mud flats and vegetated shallows, as well as open bodies of waters such as rivers, lakes, and streams also provide important functions and values. Discharges of dredged or fill material into waters of the U.S. may result in destruction of, or serious degradation to such waters. Given the significant values provided by such waters, it is all the more important to assess adequate penalties to deter future Section 404 violations and thereby help to achieve the goal of the Clean Water Act to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[8]

This policy sets forth how the Agency generally expects to determine an appropriate settlement penalty in CWA Section 404 cases. In some cases, the calculation methodology set forth here may not be appropriate, in whole or in part. In such cases, with the advance approval of the Office of Enforcement and Compliance Assurance ("OECA"), an alternative or modified approach may be used.

A. Purpose

This policy is intended to provide guidance to EPA staff in calculating an appropriate penalty amount in settlement of civil judicial and administrative actions involving Section 404 violations and

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[4] See 40 C.F.R. 230.2(q-1) (Special aquatic sites include sanctuaries and refuges, wetlands, mudflats, vegetative shallows, coral reefs and riffle and pool complexes).

[5] See e.g., U.S. Fish and Wildlife Service: Report to Congress: Wetlands Losses in the United States 1780's to 1980's (1990).

[6] See e.g., U.S. Fish and Wildlife Service: Wetlands of the United States: Current Status and Recent Trends (1984).

[7] See e.g., U.S. v. Deaton, 209 F.3d 331 (4th Cir. 2000).

[8] 33 U.S.C. § 1251(a).

related violations (e.g., failure to comply with a Section 308 request or a Section 309(a) order with respect to such a violation). The guidance is designed to promote a more consistent national approach to assessing settlement penalty amounts, while allowing EPA staff flexibility in arriving at specific penalty settlement amounts in a given case. Subject to the circumstances of a particular case, this policy provides the lowest penalty figure that the Federal Government should accept in settlement. The Federal Government reserves the right to seek any amount up to the statutory maximum where settlement is not possible, as well as where circumstances warrant application of a higher penalty than what would be provided for under this settlement policy.

This policy is meant to accomplish the following four objectives in the assessment of penalties for Section 404 violations. First, penalties should be large enough to deter noncompliance, both by the violator and others similarly situated. Second, the penalties should help ensure a level playing field by making certain that violators do not obtain an economic advantage over others who have complied in a timely fashion. Third, penalties should generally be consistent across the country to promote fair and equitable treatment of the regulated community. Finally, settlement penalties should be based on a fair and logical calculation methodology to promote expeditious resolution of Section 404 enforcement actions and their underlying violations.

B. Applicability

This policy applies to all CWA Section 404 civil judicial and administrative actions filed after the signature date of the policy, and to all such pending cases in which the government has not yet transmitted to the defendant or respondent a proposed settlement penalty amount. This policy revises and hereby supersedes the December 14, 1990 Guidance, "Clean Water Act Section 404 Civil Administrative Penalty Actions: Guidance on Calculating Settlement Amounts." Except as provided in Section II below, this policy is not intended for use by EPA, violators, administrative judges or courts in determining penalties at hearing or trial. This policy does not affect the discretion of Agency enforcement staff to request any amount up to the statutory maximum allowed by law.[9] Finally, this policy does not apply to criminal cases that may be brought for the unauthorized discharge of dredged or fill material in violation of the CWA.

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[9] Because of the requirements of 40 C.F.R. §22.14(a) (4), administrative complaints filed under Part 22 must have either the amount of the civil penalty that the Agency is proposing to assess, and a brief explanation of the proposed penalty, or where a specific penalty demand is not made, a brief explanation of the severity of each violation alleged and a citation to the statutory penalty authority in Section 309(g)(3) applicable for each violation alleged in the complaint. Regional enforcement staff should follow the guidance provided on this subject in "Guidance on the Distinctions Among Pleading, Negotiating and Litigating Civil Penalties for Enforcement Cases Under the Clean Water Act," issued January 19, 1989, and in "Interim Guidance on Administrative and Civil Judicial Enforcement Following Recent Amendments to the Equal Access to Justice Act," issued May 28, 1996.

C. Statutory Authorities

The Clean Water Act provides EPA with various enforcement mechanisms for responding to violations of Sections 301(a) and 404 for discharging without, or in violation of, a Section 404 permit. Under Section 309(a), the Agency is authorized to issue an administrative compliance order (AO) requiring a violator to cease an ongoing unauthorized discharge, to refrain from future illegal discharge activity, and to remove unauthorized fill and/or otherwise restore the site. Section 309(g) of the Act authorizes EPA to assess administrative penalties for, among other things, discharging dredged or fill material into waters of the United States without a Section 404 permit or in violation of a Section 404 permit. Section 309(g) establishes two classes of administrative penalties, which differ with respect to procedure and maximum assessment, for such violations. A Class I penalty, provided for under Section 309(g)(2)(A), may not exceed $11,000 per violation, or a maximum amount of $27,500. A Class II penalty under Section 309(g)(2)(B) may not exceed $11,000 per day for each day during which the violation continues, or a maximum amount of $137,500.[10]

EPA may also seek injunctive relief, criminal penalties (fines and/or imprisonment), and civil penalties through judicial action under CWA Sections 309(b), (c) and (d), respectively. Under these provisions, the Agency may refer cases to the Department of Justice (DOJ) for civil and/or criminal enforcement. Under Section 309(d), EPA may seek civil penalties of up to $27,500 per day per violation in the federal district courts, for CWA violations including the unauthorized discharge of dredged or fill material into waters of the United States, violation of a Section 404 permit, or violation of a Section 309(a) administrative compliance order.

For purposes of calculating a penalty under Sections 309(d) or (g), a violation begins when dredged or fill material is discharged into waters of the United States without a Section 404 permit and continues to occur each day that the illegal discharge remains in place. With respect to a violation of a Section 309(a) compliance order, a violation begins when the order is violated and continues each day until the order is complied with.

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[10] The Civil Monetary Penalties Inflation Adjustment Rule, 40 C.F.R. Part 19, issued pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. § 2461 note; Pub. L. 101-410, enacted October 5, 1990; 104 Stat. 890), as amended by the Debt Collection Improvement Act of 1996 (31 U.S.C. 3701 note; Public Law 104-134, enacted April 26, 1996; 110 Stat.1321), mandates that EPA adjust its civil monetary penalties for inflation every four years. Thus, the maximum penalty figures cited in this guidance reflect the initial ten percent increase from the amounts set forth in the Act. For violations occurring before January 30, 1997, the maximum penalty amounts the Agency may seek are those specified in the Act. The Agency is preparing to issue a revision to the Civil Monetary Adjustment Rule in the near future. After the effective date of the rule, the maximum penalties available are expected to be as follows: for civil judicial penalties under 309(d) - $30,500 per day per violation, for Class I administrative penalties -$12,000 per day per violation, $30,000 maximum; for Class II penalties - $12,000 per violation, $152,500 maximum.

D. Statutory and Settlement Penalty Factors

Section 309(d) of the CWA sets forth the following penalty factors that district court judges are to use when determining an appropriate civil penalty: "the seriousness of the violation or violations, the economic benefit (if any) resulting from the violation, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require." 33 U.S.C. Section 1319(d).

Section 309(g)(3) addresses the factors to be considered when determining an appropriate administrative penalty amount. It states that the Agency "shall take into account the nature, circumstances, extent and gravity of the violation, or violations, and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require," 33 U.S.C. Section 1319(g)(3).

The penalty assessment factors in Sections 309(d) and 309(g) are substantively the same, and not in conflict. The references in Section 309(d) to "good faith efforts" and in Section 309(g)(3) to "culpability," for example, although oriented to different types of behavior, both measure the non-compliant conduct of the violator. Other factors, such as economic benefit, history of violations, and such other matters as justice may require, are essentially identical, and the remaining factors are just restatements of each other. Consequently, the penalty calculation methodology drawn from the statutory factors and set forth below can be applied to both administrative and judicial civil enforcement cases.

E. Choice of Forum

The application of this penalty settlement policy, through the calculation of an appropriate bottom-line penalty amount, is one factor for Agency personnel to consider when choosing an appropriate forum.[11] The case development team[12] should apply this policy to help determine whether to seek a penalty administratively or judicially. If the bottom-line penalty calculated under this policy exceeds the maximum penalty that can be achieved in an administrative proceeding, EPA should refer the matter to the Department of Justice for judicial enforcement.[13] Cases should also be referred to

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[11] OECA intends to issue additional guidance in the near future on determining the appropriate response for Section 404 violations.

[12] For purposes of this guidance, the case development team refers to the Agency 404 technical and legal staff responsible for developing and pursuing a particular administrative or judicial enforcement action.

[13] For further guidance on choosing between administrative and judicial enforcement options, see "Guidance on Choosing Among Clean Water Act Administrative, Civil and Criminal Enforcement Remedies," (August 28, 1987), which was attachment 2 to the August 28, 1987 “Guidance Documents and Delegations for

DOJ where court ordered injunctive relief is necessary to remedy a violation, or where the violator has failed to comply with an administrative compliance order or consent order.

II. ADMINISTRATIVE PENALTY PLEADING GUIDANCE

In complaints filed in civil judicial cases, the United States' general practice is not to request a specific proposed penalty, but instead to paraphrase the Clean Water Act in reciting a request for a penalty "up to" the statutory maximum. This is sometimes referred to as "notice pleading" for penalties. In contrast, in administrative complaints the Agency may use either a form of notice pleading or make a specific penalty request. See 40 C.F.R. 22.14(a)(4) (64 Fed. Reg. 40138, 40181 (July 23, 1999)). When including a specific penalty request in an administrative complaint, the Agency litigation team may elect to adapt the settlement methodology in Part III of this policy (Minimum Settlement Penalty Calculation) to establish a definitive penalty request in an administrative complaint.[14]

In using Part III of this policy to establish a specific penalty request in an administrative complaint, the litigation team should, after reasonable examination of the relevant facts and circumstances of the case (including any known defenses), make the most favorable factual assumptions, legal arguments, and judgments possible on behalf of the Agency. Because the specific penalty amount proposed in an administrative complaint will, for all practical purposes, be the most the Agency will be able to seek at a hearing (unless the complaint is subsequently amended) and will provide a starting point for settlement negotiations, such an administrative penalty request should be higher than the bottom-line settlement penalty amount calculated under Part III of this policy. Although appropriate for settlement calculations, the Adjustments in Part III.C. should not be applied to reduce the specific penalty amount requested in an administrative complaint.

The proposed administrative penalty amount should be consistent with the statutory factors identified in Section 309(g), because those factors would ultimately provide the basis for the penalty assessment of the presiding officer or administrative law judge.[15] In any Class II administrative complaint under Section 309(g)(2)(B), the Agency litigation team should take into account the requirements of the Small Business Regulatory Enforcement Fairness Act ("SBREFA"), P.L. 104-121 (1996), if the respondent qualifies as a small business under that statute. SBREFA by its terms does

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Implementation of Administrative Penalty Authorities Contained in 1987 Clean Water Act Amendments."

[14] Although this policy provides general guidelines on how EPA may select an appropriate penalty amount in an administrative complaint, it does not direct when an Agency litigation team should use penalty notice pleading and when it should plead for a sum certain.

[15] In administrative cases under Part 22, the Agency is required to provide "[t]he amount of the civil penalty which is proposed and a brief explanation of the proposed penalty." 40 C.F.R. §22.14(a)(4)(i). In contrast, a settlement figure calculated under this policy and its supporting documentation are not subject to such disclosure requirements.

not apply to non-Administrative Procedures Act ("non-APA") cases, and thus would not apply to Class I cases brought under Section 309(g)(2)(B).[16]

III. MINIMUM SETTLEMENT PENALTY CALCULATION

The case development team shall calculate the minimum settlement penalty for a Section 404 enforcement action consistent with the following formula (set forth in more detail in Attachment 1), and the factors described in this section:

Penalty = Economic Benefit + (Preliminary Gravity Amount +/- Gravity Adjustment Factors) - Litigation Considerations - Ability to Pay - Mitigation Credit for SEPs

The result of this calculation will be the minimum penalty amount that the government will accept in settlement of the case, in other words, the "bottom-line penalty" amount. As new or better information is obtained in the course of litigation or settlement negotiations, or if protracted litigation or settlement discussions unduly extend the final compliance date and/or the penalty payment date, the "bottom-line" penalty should be adjusted, either upwards or downwards as necessary, consistent with the factors laid out in this policy, and subject to Headquarters concurrence in appropriate cases. Each component of the penalty is discussed below. The results of these calculations should be documented as dollar amounts on the "Worksheet for Calculating Section 404 Settlement Penalty," included as Appendix A. This calculation should be supported by a memorandum describing the rationale and basis for the data. As a general matter, the Agency should always seek a penalty that, at a minimum, recovers the economic benefit of noncompliance plus some amount reflecting the gravity of the violation.

A. Determining the Economic Benefit Component

Consistent with EPA's February 1984 *Policy on Civil Penalties*, every effort should be made to calculate and recover the economic benefit of noncompliance.[17] Persons who violate the CWA by discharging dredged and/or fill material without Section 404 permit authorization or in violation of a permit may have obtained an economic benefit by obtaining an illegal competitive advantage ("ICA"), or as the result of delayed or avoided costs, or by a combination of these or other factors. Taking into account ICA may be particularly appropriate in situations where on-site restoration is not feasible (e.g., where restoration would result in greater environmental damage), and a permit would not likely have been issued for the project in question. In such cases, the Agency may consider recovering the commercial gain the violator realized from illegally filling in the wetland or other water. The objective of

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[16] For a more extended discussion of SBREFA, see "Interim Guidance on Administrative and Civil Judicial Enforcement Following Recent Amendments to the Equal Access to Justice Act" (May 28, 1996).

[17] See *Policy on Civil Penalties*, February 16, 1984, at 3.

calculating and recovering economic benefit is to place violators in no better financial position than they would have been had they complied with the law.

The BEN computer model should be used to calculate the economic benefit gained from delayed or avoided compliance costs.[18] Economic benefit should be calculated from the date of the initial violation, (i.e., the date of the initial discharge of dredged or fill material). As a general rule, there should be no offset in an economic benefit calculation, in a delayed or avoided cost scenario, for costs the violator incurs as a result of undertaking the illegal activity (i.e., in the context of a 404 violation this would be the amount the violator spent to perform the original unauthorized dredging or filling activities), since, as specified in the BEN User's Manual, credit is only appropriate for cost savings that "are both documented and related to compliance."[19]

Because a violator may have obtained more than one type of economic benefit from its noncompliance, the case development team should ensure that the amount calculated represents the total economic benefit wrongfully obtained.[20] Examples of other types of economic benefit may include delayed or avoided permitting fees and associated costs (e.g., information collection and consultant fees), increased property values, profits from the temporary or permanent use of property, or other illegal competitive advantage to the extent that the gain would not have accrued but for the illegal discharge.[21]

B. Determination of the Gravity Component

[18] The BEN model is found on the Agency's web site at hhtp://www.epa.gov/oeca/datasys/dsm2.html along with the BEN User's Manual. EPA currently does not have an economic benefit model for calculating economic benefit from illegal competitive advantage. For further information on the use of the BEN model and guidance in its use, or for help in calculating ICA, contact the Financial Issues Helpline at (888) 326-6778. Since as a general rule all 404 civil judicial cases are deemed nationally significant, Headquarters and the Regions will consult on the appropriate determination of economic benefit in such cases. In administrative cases, when considering under what circumstances various costs may offset economic benefit, the Regions will need to consult with Headquarters.

[19] BEN User's Manual, (September 1999), at 3-11.

[20] If an initial calculation of economic benefit yields a zero or negative result, the case development team should ensure that all possible forms of illegal competitive advantage have been analyzed and included if appropriate. (Where the economic benefit calculation yields a negative number, a zero should be entered in the minimum settlement penalty calculation for the economic benefit component.)

[21] Additional examples include gains generated from such uses as agriculture (e.g., profits from the sale of crops), logging, aquaculture, receipt of a loan, rent or lease payments, mining of sand and gravel, or from the early use of a recreational site (e.g., golf course or ski resort), which the violator gained prior to ceasing operation or removing the unlawful discharge or otherwise restoring the property.

Removal of the economic benefit of noncompliance generally places violators in the same position they would have been in had they complied with the Act. Therefore, both deterrence and fundamental fairness are served by including an additional element to ensure that violators are adequately penalized. [22] The following gravity calculation is based on a methodology that provides a logical scheme and uniform criteria to quantify the gravity component of the penalty based on the environmental and compliance significance of the violation(s) in question.

Preliminary Gravity Amount = (sum of A factors + sum of B factors) x M

M (Multiplier) = $500 for minor violations with low overall environmental and compliance significance, $1,500 for violations with moderate overall environmental and compliance significance, and $3,000-$10,000[23] for major violations with a high degree of either environmental or compliance significance. Given the highly fact specific nature of 404 cases, this policy provides broad ranges for the factors set out below to afford the case development team broad discretion to assess the appropriate penalty in a given circumstance.

"A" FACTORS: ENVIRONMENTAL SIGNIFICANCE

Factors	Value Assigned
1. Harm to Human Health or Welfare	0-20

The case development team should consider whether the discharge of dredged or fill material has adversely impacted drinking water supplies, has resulted in (or is expected to result in) flooding, impaired commercial or sport fisheries or shellfish beds, or otherwise has adversely affected recreational, aesthetic, and economic values. The case development team should also consider whether the discharge has otherwise endangered the health or livelihood of persons by virtue of the chemical nature of the discharge (i.e., has the discharge resulted in a violation of any applicable toxic effluent standard or prohibition under section 307 of the CWA, in the release of a hazardous substance under 40 C.F.R. 117 or Subtitle C of RCRA,[24] or in an imminent and substantial endangerment under Section 504 of the Safe Drinking Water Act, Section 7003 of RCRA, or Section 106 of CERCLA).[25]

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[22] See *Policy on Civil Penalties*, February 16, 1984, at 3.

[23] Looking at the totality of the circumstances, the case development team should use its best professional judgment to decide what amount to use as a multiplier for a such violations. For egregious violations with extreme environmental consequences, a higher value in this range should be used as a multiplier.

[24] 42 U.S.C. § 6973.

[25] 42 U.S.C. § 9606.

The greater the actual or potential threat to human health or welfare, the higher the value the case development team should assign to this factor. If the discharge has resulted in an imminent and substantial endangerment, the highest value for this factor should be used.

2. Extent of Aquatic Environment Impacted 0 - 20

Although the size (acreage) of a violation is not dispositive of the environmental significance of the violation (i.e., a small impact to a unique or critical water may have high environmental significance), all other factors being equal, the greater the acreage of waters filled or directly impacted, the higher the value the case development team should assign to this factor. Staff should consider how large the acreage impacted is in the case under consideration compared to other violations observed within the same watershed, regionally or nationally.[26]

3. Severity of Impacts to the Aquatic Environment 0 - 20

The case development team should consider the overall impact of a defendant's discharges to waters of the United States.[27] Staff should also consider as part of this factor the extent to which the discharge of dredged or fill material has caused (or has threatened to cause) adverse impacts to, or destruction of waters of the United States, including the extent to which the discharge has impaired the flow or circulation or reduced the reach of waters of the United States, or has caused or contributed to violations of any applicable water quality standard. Under this factor, the case development team should also consider whether the violation has resulted in adverse impacts to life stages of aquatic life and other wildlife dependent on aquatic ecosystems, or has adversely impacted or destroyed wildlife habitat, including aquatic vegetation, waterfowl staging or nesting areas, and fisheries. The greater the risk of harm or actual impact to aquatic ecosystems, the higher the value the case development team should assign to this factor. If a defendant's violation has resulted in harm to an endangered or threatened species, or impacted endangered species habitat, or has otherwise significantly impacted ecosystem diversity, productivity, or stability, a value in the highest end of the range should be used.

4. Uniqueness/Sensitivity of the Affected Resource 0 - 20

The case development team should consider whether the affected ecosystem is nationally or regionally limited, of a type that has become rare due to cumulative impacts (e.g., Poccosin, vernal pools), or is relatively abundant. The more scarce the impacted ecosystem, the higher the value that

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[26] In areas where there has been a substantial historic cumulative loss of waters of the United States, or in arid areas where acreage of waters is a small portion of the natural landscape, a high value should be assigned to even small acreage fills.

[27] As part of this factor, the case development team should also consider the temporary loss of wetlands functions and values.

staff should assign for this factor. Moreover, if the discharge occurred into any of the following, the case development team should generally assign a higher value to this factor: a site determined to be unsuitable under 40 C.F.R. 230.80; an area identified as having a Section 404(c) prohibition or restriction; a Section 303(d) impaired water; an area within the boundary of an Advance Identification of Disposal Areas (ADID); an outstanding natural resource water under a state anti-degradation policy; areas designated as federal, state, tribal, or local protected lands; or an area established as a restored or enhanced wetland under an approved mitigation plan.

5. Secondary or Off-Site Impacts 0 - 20

The case development team should consider to what extent the discharges caused, or threatened to cause, secondary or off-site impacts such as erosion and downstream sedimentation problems, nuisance species intrusion, wildlife corridor disruption, etc. The greater the amount of secondary impacts, the higher the value that should be assigned.

6. Duration of Violation 0 - 20

The case development team should consider the duration of the violation under this factor. Consideration should be given both to the length of time that the discharge activity occurred in waters of the U.S., and the length of time that dredged or fill material has remained in place in such waters. Generally, the longer the duration of the initial discharge activity, and/or the longer dredged or fill material has remained in place compared to other violations in the same watershed, regionally or nationally, the higher the value that should be assigned to this factor.

Mitigating Factors for Environmental Significance

It is possible in some wetlands cases for a violator to undo, or largely undo, the continuing environmental harm resulting from violations -- although past loss of functions and values cannot be restored. In cases in which the original wetland or other water is restored, or will be restored under an enforceable agreement, Agency enforcement staff may reduce the amount determined from the preliminary gravity calculation for Environmental Significance (i.e., by reducing the values assigned to one or more of the Environmental Significance factors). This offset should generally not be used in cases where off-site mitigation is undertaken in lieu of on-site restoration of the violation.[28] Wherever possible, the case development team should seek complete on-site restoration of the aquatic areas impacted.[29] In determining the gravity amount for environmental significance, the case development

[28] Where an after-the-fact has or will be issued for the discharge, the preliminary gravity amount may be reduced where the loss of waters is fully mitigated.

[29] See "Injunctive Relief Requirements in 404 Enforcement Actions" (September 29, 1999).

team should focus on the net impairment of the wetlands or other waters after remediation is completed, rather than on the costs of the remediation to the violator. In addition, even where complete restoration occurs, the temporary loss of functions and values should still be considered in determining the Environmental Significance amount, unless those temporary losses have already been fully mitigated. Staff should also consider whether there is a risk that restoration may fail or be less than fully successful over time, when considering whether a reduction should be made for this factor.

"B" FACTORS: COMPLIANCE SIGNIFICANCE

Factors	Value Assigned
1. Degree of Culpability	1 - 20

The case development team should evaluate the overall culpability of the defendant (i.e., the degree of negligence, recklessness, intent or responsibility involved in committing the violation). The greater the degree of culpability, the higher the value that should be assigned to this factor.[30] The principal criteria for assessing culpability are the violator's previous experience with or knowledge of the Section 404 regulatory requirements, the degree of the violator's control over the illegal conduct, and the violator's motivation for undertaking the activity resulting in the violation.

The criterion for assessing the violator's experience with or knowledge of the Section 404 program is whether the violator knew or should have known of the need to obtain a Section 404 permit or of the adverse environmental consequences of the discharge prior to proceeding with the discharge activity. The greater the violator's knowledge of, experience with, and capability to understand the Section 404 regulatory requirements, and the greater the violator's ability to avoid the illegal conduct, the greater the culpability. Examples of circumstances demonstrating greater culpability include previous receipt of a Section 404 authorization or a prior independent opinion of the need for a permit or of permit requirements. In such circumstances, a value in the highest end of the range should be used.

With regard to the violator's control over the unlawful conduct, there may be some situations where the violator bears less than full responsibility or may share the liability for the occurrence of a violation. The case development team should assess the degree of culpability of each violator with respect to the violations in question.

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[30] The case development team should separately consider the violator's "recalcitrance" as specified in the "Additional Adjustments to Gravity" section below, and should adjust the penalty accordingly based on the level of recalcitrance present (i.e., the violators refusal or unjustified delay in preventing, mitigating, or remedying a violation or in otherwise failing to cooperate).

Finally, the motivation for the violation may be a factor evidencing greater culpability. If the violator has sought to obtain a windfall profit by destroying waters of the U.S. (e.g., by converting wetlands to uplands) through conscious or negligent disregard of the Section 404 permitting program, culpability should be considered high even though the violator will not in fact realize those profits and may have had little previous experience with the Section 404 program.

2. Compliance History of the Violator 0 - 20

The case development team should consider whether the defendant has a history of prior Section 404 violations including unpermitted discharge violations, permit violations, or a previous violation of an EPA administrative order. The greater the number of past violations and the more significant the violations were, the higher the value that should be assigned to this factor. The earlier violations need not relate to the same site as the present action. Prior history information may be obtained not only from EPA experience with the violator, but also from appropriate Corps Districts, other federal agencies' knowledge and records, and the violator's responses to Section 308 requests for information.

3. Need for Deterrence: 0-20

The case development team should consider the need to send a specific and/or general deterrence message for the violations at issue. Staff should consider the extent to which the violator appears likely to repeat the types of violations at issue and the prevalence of this type of violation in the regulated community. The greater the apparent likelihood of the violator to repeat the violation, or the more prevalent the violation at issue in the general community, the greater the need for a strong deterrent message and the higher the value that should be assigned to this factor.

ADDITIONAL ADJUSTMENTS TO GRAVITY

After establishing the preliminary gravity amount above, the case development team may adjust this amount to reflect the recalcitrance of the violator and other relevant aspects of the case as provided for below. In addition to the gravity adjustments discussed below, there may be situations where the gravity component may also be adjusted under EPA's Audit Policy.[31]

[31] See "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations" 65 Fed. Reg. 19618 (April 11, 2000).

Recalcitrance Adjustment Factor: The "recalcitrance" adjustment factor may be used to increase[32] the penalty based on a violator's bad faith, or unjustified delay in preventing, mitigating, or remedying the violation in question. As distinguished from culpability, which relates to the violator's level of knowledge of the regulatory program and responsibility for a given violation, recalcitrance under this policy relates to the violator's delay or refusal to comply with the law, to cease violating, to correct violations, or to otherwise cooperate with regulators once specific notice has been given and/or a violation has occurred. If a violator is, or has been, recalcitrant, the case development team may increase the penalty settlement amount accordingly. This factor applies, for example, to a person who continues violating after having been informed of his violation, fails to provide requested information, or physically threatens government personnel. If the defendant has violated either an Army Corps of Engineers' cease and desist order or an EPA administrative order, or failed to respond to an EPA Section 308 information request, staff may account for this violation by using this factor.[33] The more serious the bad faith demonstrated or unjustified delay engendered by the violator, the higher the recalcitrance adjustment should be. Applying the recalcitrance factor may result in a recalcitrance gravity adjustment of up to 200 percent (200%) of the preliminary gravity amount. This factor is applied by multiplying the total preliminary gravity amount by a percentage between 0 and 200.

Quick Settlement Adjustment Factor: In order to provide an extra incentive for violators who make efforts to achieve an efficient and timely resolution of violations, and in recognition of a violator's cooperativeness, EPA may reduce the preliminary gravity amount by 10 percent (10%) in administrative enforcement actions. This factor may only be applied if the case development team expects the violator to settle promptly and if the violation(s) at issue have or will be fully remediated. As a general rule, for purposes of this penalty reduction, in Class I administrative enforcement actions, a "quick settlement" is one in which the violator signs an administrative penalty order on consent within four months of the date the complaint was issued or within four months of when the government first sent the violator a written offer of settlement, whichever is earlier. For Class II administrative cases the controlling time period is six months. If the violator does not sign the administrative consent agreement within this time period, the adjustment generally should not be made available. If this reduction has been taken but the violator fails to settle quickly, this reduction should be withdrawn and the settlement penalty increased accordingly.

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[32] Once a violator has been informed of a violation, a prompt return to compliance is the minimum response expected, therefore, no downward adjustment is provided for by this policy for efforts made to come into compliance after being informed of a violation. (As discussed above, a prompt restoration of the violation would be a basis for lowering the gravity amount by reducing the Environmental Significance of the violation). Where a violator has made "good faith efforts to comply with the applicable requirement" prior to being given notice of the violation by the government, see Section 309(d), this fact may be taken into account by providing a lower value for the "Degree of Culpability" factor.

[33] In the alternative, a separate gravity calculation may be performed for such violations.

Other Factors as Justice May Require: This consideration encompasses factors that operate to reduce a penalty settlement amount, as well as factors that operate to increase a penalty settlement amount. Not every relevant circumstance can be anticipated ahead of time. An example of a mitigating factor is a circumstance where a violator has already paid a civil penalty for the same violations at issue in a case brought by another plaintiff. These costs may be considered when determining the appropriate penalty settlement.[34] Of course, the remaining settlement figure should be of a sufficient level to promote deterrence. Litigation considerations should not be double counted here.

C. Additional Reductions for Settlements

Inability to Pay: If the violator has raised the issue of inability to pay the proposed penalty, the Region should request whatever documentation is needed to ascertain the violator's financial condition.[35] Any statements of financial condition should be appropriately certified.[36] In order to promote settlement, EPA personnel should employ the Agency's ability to pay computer programs: ABEL, INDIPAY and MUNIPAY. [37] ABEL analyzes ability to pay claims from corporations and partnerships; INDIPAY analyzes claims from individuals; and MUNIPAY analyzes such claims from municipalities, towns, sewer authorities and drinking water authorities. Where the violations are egregious, or the violator refuses to comply with the law, the team may consider a bottom line that could affect the economic viability of the violator.

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[34] If the defendant has previously paid civil penalties for the same violations to another plaintiff, this factor may be used to reduce the amount of the settlement penalty by no more than the amount previously paid for the same violations.

[35] For a discussion of what financial documents the Agency should seek, see Guidance on Determining a Violator's Ability to Pay a Civil Penalty, December 16, 1986, codified as General Enforcement Policy Compendium document PT.2-1. For further guidance on this issue and model interrogatories, contact the Financial Issues Helpline at (888) 326-6778.

[36] E.g., tax returns must be signed, and as a precaution, the litigation team should have the defendant/respondent fill out IRS form 8821, which authorizes the IRS to release tax information directly to the EPA. In that way, the Agency can verify the information in the tax returns.

[37] These models are available on the Agency's web site at http://www.epa.gov/oeca/datasys/dsm2.html. Because ABEL, MUNIPAY, and INDIPAY are limited in their approach, many entities that fail the analysis may still be able to afford to achieve full compliance and pay the entire penalty. Therefore, it is essential to examine the violator's other potential resources, such as from liquidation of certificates of deposit and money market funds, before reducing a bottom line penalty for inability to pay. It is recommended that a financial analyst/economist be contacted to review financial information to determine if a violator truly has an inability to pay a penalty. For further guidance in this area, contact the Agency's Financial Issues Helpline at (888) 326-6778.

Litigation Considerations: Certain enforcement cases may have mitigating factors that could be expected to persuade a court to assess a lower penalty amount. The simple existence of weaknesses or limitations in a case, however, should not automatically result in a litigation consideration reduction of the bottom line settlement penalty amount.[38] EPA may reduce the amount of the civil penalty it will accept at settlement to reflect weaknesses in its case where the facts demonstrate a substantial likelihood the government will not achieve a higher penalty at trial.

Adjustments for litigation considerations may be taken on a factual basis specific to the case. Before a complaint is filed, the application of certain litigation considerations may be premature, as the Agency may not have sufficient information to fully evaluate litigation risk including evidentiary matters, witness availability, and equitable defenses. Reductions for these litigation considerations are more likely to be appropriate after the Agency obtains an informed view, through discovery and settlement negotiations, of the strengths and weaknesses in its case. Pre-filing settlement negotiations are often helpful in identifying and evaluating litigation considerations, especially regarding potential equitable defenses, and thus reductions based on such litigation considerations may be appropriately taken before the complaint is filed.

Possible Litigation Considerations: While there is no universal list of litigation considerations, the following factors may be appropriate in evaluating whether the preliminary settlement penalty exceeds the penalty the Agency would likely obtain at trial:

- Troublesome facts and/or uncertain legal arguments such that the Agency faces a significant risk of not prevailing in the case or obtaining a nationally significant negative precedent at trial;

- Known problems with the reliability or admissibility of the government's evidence proving liability or supporting a civil penalty;

- The credibility, reliability, and availability of witnesses;[39]

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[38] In many situations, the circumstances of a particular case are already accounted for in the penalty calculation. For example, the gravity calculation will be less in those circumstances in which the period of violation was brief, the exceedances of the limitations were small, the pollutants were not toxic, or there is no evidence of environmental harm. The economic benefit calculation will also be smaller when the violator has already returned to compliance, because the period of violation will be shorter. Such mitigating circumstances should not be double counted as reductions for litigation considerations.

[39] The credibility and reliability of witnesses relates to their demeanor, reputation, truthfulness, and impeachability. For instance, if a government witness has made statements significantly contradictory to the position he is to support at trial, his credibility may be impeached by the respondent or the defendant. The availability of a witness will affect the settlement bottom-line if the witness cannot be produced at trial.

- The informed, expressed opinion of the judge assigned to the case, after evaluating the merits of the case;

- The record of the judge in any other environmental enforcement case presenting similar issues;

- Statements made by federal, state or local regulators that may allow the respondent or defendant to credibly argue that it believed it was complying with federal requirements;

- The development of new, relevant case law;

- Penalties awarded in the same judicial district in other Section 404 enforcement cases.

Not Litigation Considerations: In contrast to the above potential litigation considerations, the following factors should not be considered litigation considerations:

- A generalized view to avoid litigation or to avoid potential precedential areas of the law;[40]

- A duplicative use of elements included or assumed elsewhere in the penalty policy, such as inability to pay, "good faith"[41], lack of recalcitrance, or a lack of demonstrated environmental harm;[42]

- Off-the-record statements by the court, before it has had a chance to evaluate the specific merits of the case;

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[40] A generalized desire to minimize litigation costs is not a litigation consideration.

[41] The efforts of the violator to achieve compliance or minimize the violations after EPA or a state has initiated an enforcement action do not constitute "good faith" efforts. If such efforts are undertaken before the regulatory agency initiates an enforcement response, the settlement penalty calculation already includes such efforts. This penalty policy assumes all members of the regulated community will make good faith efforts to both achieve compliance and remedy violations when they occur. See also f.n. 32.

[42] Courts have considered the extent of environmental harm associated with violations in determining the "seriousness of violations" pursuant to the factors in Section 309(d), and have used the absence of any demonstrated or discrete identified environmental harm to impose less than the statutory maximum penalty. Proof of environmental harm, however, is neither necessary for liability nor for the assessment of penalties.

- The fact that the water of the United States in question is already polluted or that the water can assimilate additional pollution.[43]

[43] See, e.g., Natural Resources Defense Council v. Texaco Refining and Mktg., 800 F. Supp. 1, 24 (D. Del. 1992).

IV. SUPPLEMENTAL ENVIRONMENTAL PROJECTS

Supplemental Environmental Projects ("SEPs") are defined by EPA as environmentally beneficial projects that a violator agrees to undertake as part of a settlement, but is not otherwise legally obligated to perform. Favorable penalty consideration is given because the SEP provides an environmental benefit above and beyond what is required to remedy the violation(s) at issue in the enforcement action. In determining whether a proposed SEP is acceptable under Agency policy, as well as the appropriate penalty offset for a SEP, Agency enforcement staff should refer to the "EPA Supplemental Projects Policy."[44] Use of SEPs in a particular case is entirely within the discretion of EPA in administrative cases, and EPA and the Department of Justice in judicial cases. In determining the real cost of a SEP to a violator, the litigation team should use the PROJECT model.[45]

SEPs are particularly encouraged in the Section 404 program if the SEP results in protection of a wetland resource or other special aquatic site. For example, purchase and dedicated use of buffer land around a wetland helps ensure the survival of wetland resources, and is an appropriate and valuable SEP, as is upland land acquisition lying in wetland mosaics. In addition, deeding over wetlands in perpetuity for the purpose of conservation promotes program interests and the goals of the Clean Water Act. It should be noted that restoration of any area of the violation, or any mitigation in the form of injunctive relief to remedy such violations (including mitigation for the temporal loss of wetlands functions and values), does not constitute a SEP.

V. DOCUMENTATION, APPROVALS, AND CONFIDENTIALITY

Each component of the minimum settlement penalty calculation (including all adjustments), as well as subsequent recalculations, should be clearly documented in the case file along with supporting materials and written explanations. In any case not otherwise subject to Headquarters concurrence, in which a settlement penalty in a Section 404 enforcement action may not comply with the provisions of this policy or where application of this policy appears inappropriate, the penalty must be approved in advance by Headquarters.

Except as provided in Section II, documentation and explanation of a particular penalty calculation constitute confidential information that is exempt from disclosure under the Freedom of

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[44] See "Issuance of Final Supplemental Environmental Projects Policy," Memorandum from Steven A. Herman to Regional Administrators (April 10, 1998). This policy is also available on the Internet at: hhtp://www.epa.gov/oeca/sep/sepfinal.html.

[45] This model is very similar to the BEN computer model, and like the other models, it is available on the Agency's web site at http://www.epa.gov/oeca/datasys/dsm2.html. For further information on the model and guidance in its use, contact the Financial Issues Helpline at (888) 326-6778.

Information Act, is outside the scope of discovery, and is protected by various privileges, including the attorney-client and attorney-work product privileges. While individual settlement penalty calculations under this policy are confidential documents, this policy is a public document that may be released to anyone upon request. In the conduct of settlement negotiations, the Agency may choose to release portions of the case-specific settlement calculations. Such information may only be used for settlement negotiations in the case at hand and may not be admitted into evidence in a trial or hearing, as provided by Rule 408 of the Federal Rules of Civil Procedure.

The policies and procedures set forth in this document and the accompanying attachment are intended for the guidance of government personnel. They are not intended, and cannot be relied on, to create any rights, defenses or claims, substantive or procedural, enforceable by any party in litigation with the United States. The policies set forth in this document do not have the force of law and are not legally binding on Agency personnel. The Agency reserves the right to act at variance with these procedures and to change them at any time without public notice.

ATTACHMENT 1 TO CWA SECTION 404 SETTLEMENT POLICY

Case Name _____ **Date**_____

Prepared by _____

SETTLEMENT PENALTY CALCULATION WORKSHEET

STEP			AMOUNT
1.	Calculate the Economic Benefit (attach BEN printouts, and provide written explanation of calculations)		
2.	Calculate the Preliminary Gravity Amount (sum of A + B factors) x M		
3.	Additional Gravity Adjustments		
	a. Recalcitrance (add 0 to 200% x line 2)		
	b. Quick Settlement Reduction (subtract 10% x line 2)		
	c. Other Factors as Justice May Require		
	d. Total gravity adjustments (negative amount if net gravity reduction) (3.a + 3.b + 3.c)		
4.	Preliminary Penalty Amount (Lines 1 + 2 + 3d.)		
5.	Litigation Considerations (if any)		
6.	Ability to Pay Reduction (if any)		
7.	Reduction for SEPs (if any)		
8.	**Bottom-Line Cash Settlement Penalty** (Line 4 less lines 5, 6, and 7)		

附錄四

Economic Benefit:
EPA's BEN Model

Presentation for TEPA Water Pollution Enforcement Training Course (IA7 – Activity 14)
August 11-12, 2009

Delivered by USEPA, Pacific Southwest Region

Background

Major components of penalties sought by EPA in civil enforcement cases:

1. Economic benefit reaped by the violator while out of compliance
2. Punitive penalty based on the seriousness of the offense

What is Economic Benefit?

Economic benefit can arise in three ways:

1. Benefit from delayed costs (e.g. install the equipment 2 years late)延迟支出产生收益;
2. Benefit from avoided costs (e.g. skipping all the operation and maintenance expense on that equipment for those two years) 避免支出产生的收益; or
3. Violator gains an illegal competitive advantage during the period of noncompliance.

EPA has developed a model to calculate the economic benefit of non-compliance.

Delayed Costs

Delayed costs can include:

- capital investments in pollution control equipment;
- remediation of environmental damages; and/or
- one-time costs of complying with regulations.

Avoided Costs

Avoided costs can include:

- operation and maintenance costs; and/or
- other continuing, annually recurring costs.

Gained Advantage

- BEN currently does not calculate the economic benefit gained from illegal competitive advantage.
- If economic advantage includes profits on increased sales or increased productivity:
  - EPA examines the facts of each case and estimates the changes in streams of revenue and/or production costs as well as delayed or avoided compliance costs (if any).

Underlying Financial Theory
背后的经济理论

- A violator that delays installation of pollution control equipment saves money by delaying purchase of equipment and avoids annually recurring costs of operating and maintaining equipment.
- 违法者延迟安装污控设备可以在违法期内节省设备购置支出、可变成本支出。
- When violator delays or avoids spending money on pollution control, it can use the money it saves for other revenue-producing activities and thereby gain an economic benefit.
- 当违法者延迟守法，他可以使用将节省支出用于其它生产收入活动从而获得经济收益。

Preparing to Use BEN

- There is no minimum amount triggering the use of the BEN model.
- The benefit should be calculated from the first date of noncompliance, but EPA generally does not go back more than five years from the date the complaint could have been filed.
- Best evidence of what the violator should have done to prevent the violations is what it eventually does (or will have to do) to achieve compliance.

Additional Factors

- **Cash Flow Analysis**
  - BEN focuses on the real "out-of-pocket" cash effects from an expenditure. Non-cash expenditures (such as depreciation) are considered only if they affect cash income or expenses.
- **Taxation**
  - BEN calculates the effect on after-tax cash flows. Delaying expenditures can actually cost a company money because they likely paid higher income taxes.
- **Inflation**
  - BEN uses the inflation rate to adjust the current or future cost of compliance into dollars from the year non-compliance began.
- **Time Value of Money**
  - BEN uses a discount/compounding rate to adjust the cash flows to account for the time value of money.

- BEN must make certain assumptions about current inflation and taxation rates, but has a built-in updater to obtain more current rate information.

Economic Benefit Example
经济收益的例子

- ABC Company began an industrial process in January of Year 0.
- ABC should have made a one-time, non-depreciable expenditure of $1.0 million (after-tax) in January of Year 0 to install pollution control equipment.
- ABC did not install the equipment until January of Year 5.
- ABC will not pay a penalty until January of Year 7.

ABC公司应该在0年的1月进行一项100万元的税后支出，但是直到5年的1月，还没有进行这笔支出，预计将在7年的1月进行。

Adjust for Inflation:
第一步是调整通货膨胀率

- Cost of complying on-time (in January of Year 0) is $1 million.
- 按时守法成本（第0年1月）是100万，假设估计成本已经按0上货币表示。
- BEN used an assumed inflation rate of 2.0%.
- Cost of complying late (in January of Year 5) is approximately $1.1 million.
- 延迟守法的成本大约为110万，按第5年货币表示。

Present Value Adjustments
现值调整

- We also need to account for ABC's time value of money, and therefore adjust the separate costs from on-time and delay scenarios to a common present value, as of a common date (i.e., January of Year 0 noncompliance date)
- On-time scenario cost of $1 million is already expressed at January of Year 0, but we need to discount delay scenario cost of $1.1 million back to January of Year 0 (from January of Year 5). With a 9.5% rate, the present value of delay scenario is only $700,000.
- Economic benefit at January of Year 0 is the difference between on-time and delay scenario present values: $1,000,000 minus $700,000, which equals $300,000.
- 第0年1月的经济不是按时守法与延迟守法两种情境下现值的差：100万减70万，等于30万。

Compounding
复利加息

- We need to calculate economic benefit as of date the violator will pay a penalty, which is January of Year 7 (not Year 0)
- 我们还需要计算违法者到第7年1月支付罚款时的收益。
- Using the same 9.5% rate, we compound the initial economic benefit of $300,000 forward from Year 0 to year 7, to arrive at a final economic benefit of $567,000

  同样使用9.5%的利率，我们可以将初始30万的违法收益从第0年按复利加息到第7年，得到最终经济收益为56.7万。

ABC: Economic Benefit Results

Run Name =	Example
Present Values as of Noncompliance Date (NCD),	09-Aug-2004
A) On-Time Capital & One-Time Costs	$45,986
B) Delay Capital & One-Time Costs	$39,579
C) Avoided Annually Recurring Costs	$0
D) Initial Economic Benefit (A-B+C)	$6,407
E) Final Econ. Ben. at Penalty Payment Date,	
01-Jan-2010	**$10,153**
C-Corporation, w/ AVG tax rates	
Discount/Compound Rate	8.9%
Discount/Compound Rate Calculated By:	BEN
Compliance Date	09-Aug-2009
Capital Investment:	
Cost Estimate	$0
Cost Estimate Date	N/A
Cost Index for Inflation	N/A
Consider Future Replacement (Useful Life)	N/A (N/A)
One-Time, Nondepreciable Expenditure:	
Cost Estimate	$100,000
Cost Estimate Date	09-Aug-2009
Cost Index for Inflation	PCI
Tax Deductible?	y
Annually Recurring Costs:	
Cost Estimate	$0
Cost Estimate Date	N/A
Cost Index for Inflation	N/A
User-Customized Specific Cost Estimates:	N/A
On-Time Capital Investment	
Delay Capital Investment	
On-Time Nondepreciable Expenditure	
Delay Nondepreciable Expenditure	

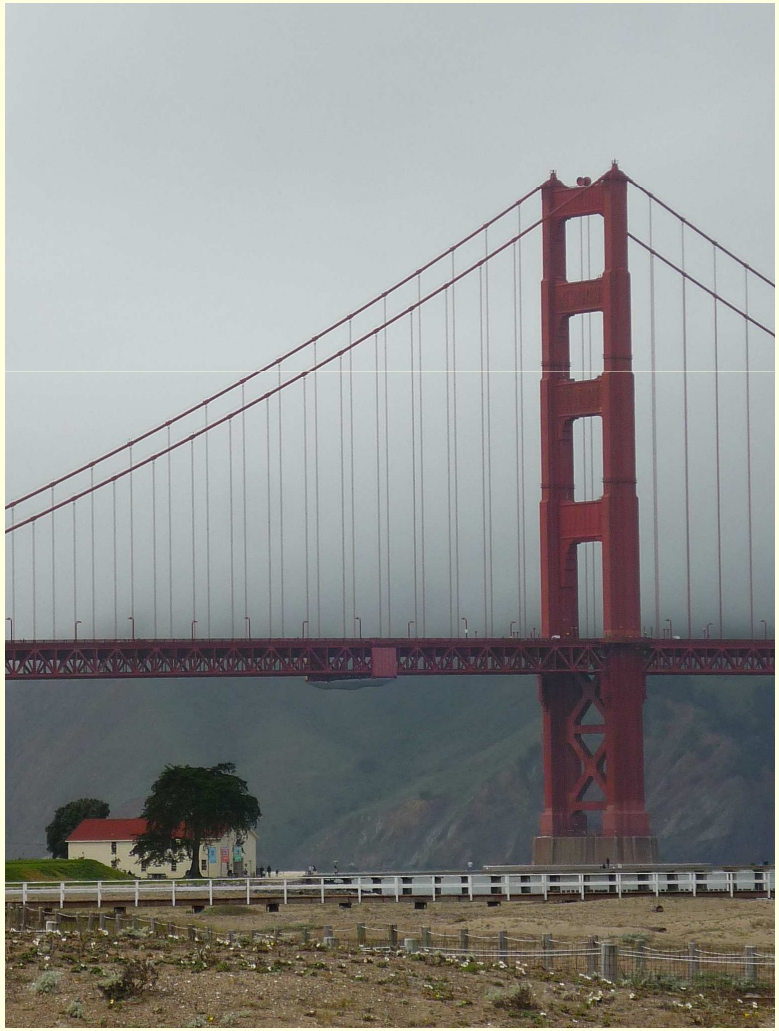
Use Limitations of BEN

- EPA uses BEN to calculate the value of the economic benefit gained by a violator. BEN does not calculate the competitive advantage gained by a violator.

- EPA uses BEN for civil settlement, not for civil trials. In those situations, EPA typically brings in an expert to give an independent financial analysis of the economic benefit gained by the violator.

Real World BEN Examples

- POTW
- Private Industry



附錄五

EPA Clean Water Act Penalty Policy

Presentation for TEPA Water Pollution Enforcement Training Course

(IA7 – Activity 14)

August 11-12, 2009

Delivered by USEPA, Pacific Southwest Region

Penalty Policy Goals

- Penalties should be large enough to deter non-compliance.
- Penalties should generally be consistent across the country.
- Settlement penalties should be based on a logical calculation methodology to promote swift resolution.

Background

Major components of penalties sought by EPA in civil enforcement cases:

1. Economic benefit reaped by the violator while out of compliance
2. Punitive penalty based on the seriousness of the offense (the Gravity component)

Settlement Penalty Formula

Penalty = Economic Benefit + (Gravity +/- Gravity Adjustment Factors - Litigation Considerations) - Ability to Pay - Supplemental Environmental Projects

Gravity

- 4 gravity factors for each month of violation.
  - Monthly Gravity = (1+A+B+C+D) x $1000
- Calculation generally starts from the first date of violation and ends the date the violations ceased or the date the complaint is expected to be filed.
- For continuing violations, we revise the gravity calculation periodically to include additional months of violations.

Gravity Factor Overview

- Monthly Gravity = (1+A+B+C+D) x $1000
  - A: Significance of the Violation
  - B: Health and Environmental Harm
  - C: Number of Effluent Limitation Violations
  - D: Significance of Non-effluent Limit Violations

“A” Factor: Significance

- A = the degree of exceedance of the most significant effluent limit violation in each month.
- Values are from 0-20 and are selected from a matrix.
- Matrix considers:
  - How often the limit was exceeded
  - What type of pollutant is involved

“B” Factor: Harm

- A value is selected for each month in which one or more violations present either actual or potential harm to human health or to the environment.
- Values are from 0-50. The more certain and serious the harm, the higher the number.

“C” Factor: Permit Effluent Limits (EL) Violations

- C = the total # of EL violations each month
- Count all EL violations to quantify the gravity.
  - Violations of different parameters at the same outfall are counted separately
  - Violations of the same parameter at different outfalls are counted separately.
- Values range from 0-5.
- Select values by comparing # of EL violations with # EL in permit. Examples:
  - 100% EL violations in a month = 5
  - 50% EL violations in a month = 2 or 3

“D” Factor: Non-EL Violations

- Factor based on severity and # of non-EL violations each month.
- Six types of non-EL violations: 1) monitoring & reporting; 2) pretreatment program implementation; 3) sludge handling; 4) discharges without a permit; 5) permit milestone schedules; and 6) others.
- Value ranges from 0-70 and is based on a matrix of type and extent of the violation.
- Monthly D value = the sum of the highest value for each type of non-effluent limit violation.

Gravity Adjustment Factors

- Penalty = Economic Benefit + (Gravity **+/- Gravity Adjustment Factors** - Litigation Considerations) - Ability to Pay - Supplemental Environmental Projects
- The total monthly gravity amount may be adjusted by:
  - **flow reduction** factor for small facilities (to reduce gravity);
  - **quick settlement** reduction factor (to reduce gravity); and
  - **history of recalcitrance** (to increase gravity).

(Downward) Adjustment Factor: Flow Reduction

- Gravity may be reduced based on the flow because smaller facilities are generally less sophisticated and may have less potential to cause harm.
- Reductions are not given to small facilities that are part of large corporation (employing more than 100 individuals).

(Downward) Adjustment Factor: Quick Settlement

- EPA can reduce the gravity amount by 10 percent to encourage the violator to settle early.

(Upward) Adjustment Factor: Recalcitrance

- Focus on violator's conduct
- Examples of recalcitrance:
  - Bad faith or unjustified delay in addressing the violation
  - Failure to comply with an EPA order or information request, or with a state or local enforcement order
  - History of violations
- This factor is applied by multiplying the total gravity component by a percentage between 1 and 150.

Litigation Considerations

- Penalty = Economic Benefit + (Gravity +/- Gravity Adjustment Factors - **Litigation Considerations**) - Ability to Pay - Supplemental Environmental Projects
- Focus on the legal and evidentiary strengths and weaknesses of the case
- For municipalities, EPA has created the National Municipal Litigation Consideration Criteria:
  - Matrix based on economic benefit, environmental impact, duration, and population served.

Violator’s Inability to Pay

- Penalty = Economic Benefit + (Gravity +/- Gravity Adjustment Factors - Litigation Considerations) - **Ability to Pay** - Supplemental Environmental Projects
- A violator who claims inability to pay has the burden of proof, such as by submitting tax returns and other financial records.
- EPA typically doesn’t seek a penalty if the penalty, when combined with the cost of the necessary injunctive relief, is clearly beyond the violator’s financial ability.
- One way to address inability to pay is to use installments.

Violator's Inability to Pay (continued)

- EPA computer models use economic principles to assess inability to pay a penalty.
- These models are:
  - Businesses (ABEL Model)
  - Individuals (INDIPAY Model)
  - Municipalities (MUNIPAY Model)

Real World Examples

- POTW
- Private Company