U.S. Army Corps of Engineers
Northwestern Division

Statement of Decision
Modification to Summer Spill Operations for Fish Passage in 2004

Introduction

This Statement of Decision (2004 SOD) provides the basis of the U.S. Army Corps of Engineers' (Corps) decision for modifying summer spill operations in 2004 consistent with the recommendations in the Biological Opinion issued by National Marine Fisheries Service (hereinafter referred to NOAA Fisheries) on December 21, 2000 on the *Reinitiation of Consultation on Operation of the Federal Columbia River Power System, Including the Juvenile Fish Transportation Program, and 19 Bureau of Reclamation (Reclamation) Projects in the Columbia Basin* (NOAA Fisheries 2000 BiOp).

The Corps, Bonneville Power Administration (BPA), and the U.S. Bureau of Reclamation (Reclamation), entered into ESA Section 7 consultation with NOAA Fisheries on the operation of the Federal Columbia River Power System (FCRPS) in 1999. The FCRPS projects subject to this consultation included fourteen Federal projects on the Columbia River and its major tributaries, including the Snake, Clearwater, Pend Oreille, Flathead, and Kootenai rivers. The Corps and Reclamation are authorized by Congress to operate these projects for multiple uses including flood control, navigation, hydropower, water supply, water quality, fish and wildlife, irrigation, and recreation. BPA markets and transmits the power produced at these projects. The Corps adopted the NOAA Fisheries 2000 BiOp in the Record of Consultation and Statement of Decision (2001 ROCASOD) on May 15, 2001.

In April 2003, the Northwest Power and Conservation Council (Council) passed the Mainstem Amendments (Amendments) to their 2000 Fish and Wildlife Program, recommending that the operators of the FCRPS projects evaluate the effectiveness of summer spill and assess whether similar benefits can be provided at less cost. Working with regional stakeholders, the Corps, BPA, and NOAA Fisheries explored ideas for sustainable solutions to achieve this objective. The Corps established several principles to evaluate modifications to summer spill operations including: supportable biological analysis, concurrence of NOAA Fisheries that the modified summer spill operations are consistent with the NOAA Fisheries 2000 BiOp, and consistency with the Corps' treaty and trust responsibilities. As a result of the regional effort to reach an outcome that met these principles, the Corps and BPA developed a modified summer spill operation. This document addresses the considerations used in reaching the decision to modify summer spill operations for 2004 and the offsets designed to address the biological impacts to fish. This decision document incorporates the 2001 ROCASOD and is intended to modify only the 2004 summer spill operations recommended in the NOAA Fisheries 2000 BiOp.

Background

The Council noted that the Amendments to their Fish and Wildlife Program were consistent with the NOAA Fisheries 2000 Biological Opinion, and focused on the Opinion's performance standards and adaptive management framework. The Amendments recognized the flexibility inherent in the Opinion's framework to modify actions commensurate with their biological performance for adult and juvenile fish survival and the ability to meet these performance standards in the most cost effective manner. To this end, the Amendments included provisions for "evaluation of the biological effectiveness and costs of spillway passage at each project...The goal of this evaluation should be to determine if it is possible to achieve the same, or greater, levels of survival and biological benefit to migrating fish as currently achieved while reducing the amount of water spilled, thus decreasing the adverse impact on the region's power supply."

The four Northwest Governors endorsed the Council's Fish and Wildlife Program and the Mainstem Amendments in their June 2003 document *Recommendations of the Governors of Idaho, Montana, Oregon and Washington for Protecting and Restoring Columbia River Fish and Wildlife and Preserving the Benefits of the Columbia River Power System.*

In August of 2003, executives of NOAA Fisheries, the Corps, and BPA issued a joint statement on the regional interest in evaluating summer spill, identifying the agencies' objective to investigate an approach to summer spill "that is less costly while maintaining the ability to achieve the biological objectives for salmon and steelhead."

Given the interest of the Governors, the Council, and the federal agencies to meet biological objectives while achieving cost efficiencies in FCRPS operations, the Corps and BPA began collaborative efforts to identify options with regional interests. Under the leadership of the Council's staff and with the assistance of the Columbia Basin Fish and Wildlife Authority (CBFWA) staff, a series of meetings began in September 2003 to develop summer spill options, identify and consider related science questions, e.g. research potential, and evaluate potential impacts of spill reductions. The group developed a conceptual approach for a system-wide study of spill and reach survival; however, after further evaluation, the group determined that it was not feasible to expand the study concept into a detailed proposal. The Corps and BPA, with the benefit of this collaborative process and information that was developed, issued a series of proposals based on iterative analyses of impacts and the potential value of various offsetting actions.

An initial proposal to curtail summer spill at the three lower Columbia River projects for the month of August, and at Ice Harbor beginning on July 15 and continuing through August was issued on March 30, 2004. This proposal specifically acknowledged the need for additional offsetting actions and requested regional input on proposals for offsets. Also, through the continued work on the impact analyses, it was recognized that, given the commitment to use various conservative modeling parameters, the duration of spill curtailment would need to be shortened. The amended proposal released for public

review on June 8, 2004 reflected the more conservative analysis and corresponding reduction in the number of days spill would be curtailed, and also included new offset actions including Brownlee flow augmentation and funding for habitat and hatchery actions.

Consideration was given to ending spill at all projects in August because of the significantly lower number of ESA-listed Snake River fall Chinook in the river in August. Many of these fish are collected and transported at Lower Granite, Little Goose, Lower Monumental and McNary – further reducing the numbers of fish migrating in the lower river in August. Over the last several years, the federal agencies have implemented many improvements at lower river dams to increase juvenile fish survival. In the lower Columbia River the difference in project survival with and without spill at The Dalles and Bonneville is 4.68 % and 2.50 % respectively, while it is 11.4% at John Day. Hence, the modeling analysis and considerations associated with that analysis, addressed the sensitivity of overall project survival impacts to listed and non-listed stocks at each dam under various combinations of spill. Given regional comment and continued refinement and improvement of the analysis of impacts and the estimated benefit of the offsets, the proposed spill curtailment was further modified to the operation identified below.

Summer spill operations for 2004

The NOAA Fisheries 2000 BiOp calls for summer spill at Bonneville, The Dalles, John Day and Ice Harbor dams through August 31. The modification in summer spill operations for 2004 is to end fish passage spill at Bonneville and The Dalles dams as of the beginning of August 1, and at Ice Harbor and John Day dams as of August 26. The modification also includes actions to offset potential adverse impacts to listed and non-listed salmonids in order to achieve similar or better biological benefits than those anticipated in the NOAA Fisheries 2000 BiOp. The offsets are as follows: 1) providing 100,000 acre feet (100 kaf) of water from Idaho Power Company's (IPC) Brownlee Reservoir to augment flows in the lower Snake River above IPC's planned flow operation during July; 2) implementing an enhanced Northern pikeminnow management program to reduce predation related mortality; 3) providing long-term anti-stranding operations in the Columbia River's Hanford reach; and, 4) implementing hatchery and habitat improvements to address estimated impacts to non-listed salmon not otherwise benefited by the Hanford reach anti-stranding or pikeminnow control efforts. The hatchery and habitat actions will accrue benefits in future years to offset the impacts occurring in 2004. Specific details of the modified summer spill operations are provided in the "Final Proposal for FCRPS Summer Juvenile Bypass Operations," dated June 22, 2004, and the *Amendment to the 2004/2004-2008 Implementation Plan for the FCRPS Biological Opinion Remand,* dated June 2004, and referenced materials to those documents.

Evaluation Criteria and Assessment

The overall objective is to provide equivalent biological outputs, or level of biological benefit, to those identified in the NOAA Fisheries 2000 BiOp while achieving cost-efficiencies in FCRPS operations. The Corps set forth the following five criteria to use in evaluating proposed spill operations and offset actions: 1) supportable assessment of biological impacts; 2) offsets that provide same or better biological benefits; 3) concurrence of NOAA Fisheries that the modified spill operations are consistent with the NOAA Fisheries 2000 BiOp; 4) consistency with the Corps' treaty and trust responsibilities; and, 5) regional support of states and Tribes.

1. Supportable assessment of biological impacts – This criterion requires the use of the best available scientific information in identifying the species impacts, risks to ESU populations, and statistical uncertainties of reduced spill on juvenile and adult salmon and steelhead. Technical input of Tribes, states, and stakeholders was solicited and considered in the analysis.

- Impact Analysis for Juvenile Fall Chinook Salmon

The assessment of the impacts to ESA listed and non-listed juvenile fall Chinook was performed using NOAA's SIMPAS model. This model was developed by NOAA Fisheries to evaluate potential FCRPS actions for consideration in the development of biological opinions. Since then, SIMPAS has been used regularly to estimate survival of juvenile salmon and steelhead for various measures. NOAA conducted the SIMPAS analysis for various spill modification scenarios, and discussed input parameters and results with the regional salmon managers, including the states and tribes.

The analysis was conducted for juvenile fall Chinook salmon, the only species that migrate out of the Columbia River system in substantial numbers during July and August. Depending on regional weather and Columbia River flow conditions and fish behavior, these fish can have varying seasonal migration patterns. The analysis considered three migration scenarios: early, mid, and late migration timing. Expected results for survival differ with modified spill operations, depending on the timing of the outmigration. In addition to the SIMPAS analysis, other analyses were performed including the University of Washington's CRiSP model, which yielded similar results to the SIMPAS analyses.

The data used in the SIMPAS model is current empirical information available from work funded through the Corps' Anadromous Fish Evaluation Program (AFEP) and the Council's Fish and Wildlife Program. Conservative data and inputs were used to ensure that results of reductions in fish passage spill reflected the maximum adverse impact that could occur to the populations of both ESA listed and non-listed species. When data was not available for a specific location, best professional judgment was used to apply data from a different location.

The results of the impact analysis conducted by NOAA Fisheries and reported in their Findings Report dated July 1, 2004, indicated that on the high end, 930 ESA listed Snake

River juvenile fall Chinook would be impacted by this modified summer spill operation. That impact level, if unmitigated, represents 0.25 percent of the total population expected to arrive below Bonneville Dam. The high end of estimated impact (unmitigated) to non-listed Upper and Lower Columbia and Snake River Bright fall Chinook is 377,000 based on most recent analyses conducted by BPA, which represents 0.14 percent of an estimated 27,000,000 fish expected to arrive below Bonneville Dam.

- Impact Analysis for Adult Fallback

Adults migrate upstream utilizing the adult fish ladders to pass the dam. Fallback occurs when an adult fish goes back below the dam by either swimming back down the fish ladders, entering the juvenile bypass facility, going over the spillway or passing through the turbines or navigation lock. Scientists believe adult downstream passage occurs for a variety of reasons: spawned steelhead (kelts) purposefully return to the ocean; adult salmon and steelhead may have passed their natal streams and return downstream to spawn in those tributaries; some adult salmon and steelhead naturally migrate back downstream; and, the operations of the dams. Fallback has been shown to have a negative impact to the overall adult migration because it is believed that there is a greater potential for injury or delay in migration to their spawning areas. Concerns were raised during the evaluation of spill reduction scenarios that adult fallback in the absence of the spillway option, would result in fish passing through a less benign route, thereby encountering higher mortality, which could negatively impact the runs of adult fall Chinook and steelhead.

Because of the concerns about adult fallback, the Corps performed an analysis; however, existing adult passage data for comparing the effects on adult fallback with spill versus no spill during the summer months is extremely limited. Researchers from the University of Idaho, who have collected radiotelemetry data under the Corps' AFEP program, provided the Corps with the best information available. The Corps performed its analysis comparing the existing adult escapement (adult fish which return to their spawning areas) data from 2000 and 2002, normal flow years in which spill operations occurred, versus the 2001 drought year in which there was limited to no spill. The results of this analysis were shared and discussed with the regional salmon managers including the states and tribes.

The Corps concluded that although there could be negative impacts to adults associated with removing the spillway as a fallback route, there is no evidence to support that the cessation of spill in July and August would affect overall survival of steelhead and fall Chinook adults to spawning areas. Fallback routes and survival rates with spill versus no-spill routes varies at different projects; and, overall system escapement rates for years with spill, 2000 and 2002 versus year 2001 with limited or no-spill operations were similar.

2. Offsets that provide same or better biological benefits – The Corps considered whether: 1) estimates of biological value of offset actions were reasonable and

supportable with the best available information; 2) the proposed offset actions are feasible; and, 3) there is a commitment to implement the offset action.

The Corps and BPA worked with the states and Tribes to develop a list of potential offset actions and evaluate their benefits and feasibility. Based upon regional input, there are four offset actions: Brownlee flow augmentation, anti-stranding operations for Hanford reach fall Chinook, pikeminnow program enhancement, and habitat and hatchery measures. The Brownlee flow augmentation offset is to mitigate for impacts to ESA-listed fall Chinook; the remaining offsets provide benefits to listed and non-listed fish.

The results of the analysis indicates that any impacts to ESA listed fish by the reduction in summer spill would be offset with the proposed operation of the Brownlee project, yielding no net impact to the ESA listed stocks under any of the possible run timing scenarios. The additional flow will also provide benefit, which has not been quantified, to non-listed fish.

For non-listed fish, the effects of the combined offset actions are estimated to exceed the aggregated adverse impacts. As noted in the Proposal, the range of overall benefit in terms of juvenile fish exceeds the range of impact to non-listed stocks of Chinook that would be impacted as a whole. On an individual stock basis, however, the Hanford reach anti-stranding and the pikeminnow control do not provide complete offsets. Therefore other actions, *i.e.* BPA funding habitat and hatchery measures, are targeted at mitigating for those stocks that are not addressed by the Hanford reach anti-stranding action and the enhanced pikeminnow program. Together these are expected to fully offset impacts to non-listed fish.

- Brownlee flow augmentation

An agreement has been secured by BPA for IPC to provide 100 kaf of water from IPC's Brownlee Reservoir to augment flows in the lower Snake River above IPC's planned flow operation during July. NOAA Fisheries estimated the survival effects for listed juvenile fall Chinook with the Brownlee flow augmentation under a range of migration scenarios. The analyses include considerable uncertainty, however, the survival estimates represent the best available scientific information. NOAA Fisheries estimates that the 100 kaf of additional flow augmentation volume from Brownlee Reservoir during the month of July would increase the survival of listed juvenile Snake River fall Chinook salmon that are present upstream of Lower Granite Dam in July, and offset the estimated adverse effects of the modified summer spill operations.

The Corps' determination that the additional water provided from Brownlee Reservoir will be an offset for the modified summer spill operation is based on the understanding that BPA has a contractual commitment from IPC to provide an additional 100 kaf from Brownlee in July, above what would have been provided in the absence of the agreement.

- Anti-stranding operations for Hanford reach fall Chinook

Non-listed mid-Columbia fall Chinook salmon (hatchery and natural) rear near the shorelines of the unimpounded Hanford reach of the Columbia River. BPA signed a long-term agreement in March 2004 with Grant County Public Utility District (PUD) to limit the fluctuations of discharge to reduce the incidence of stranding, including weekend operations. Protocols to limit the water surface fluctuations due to power generation have been put in place to reduce the stranding potential for those fish. The new agreement reflects a long-term commitment (10-year minimum) to this operation and provides protection for four weekends not included in previous annual agreements.

As a result of this offset action, there has been an improvement in limiting river fluctuations relative to previous years. In June 2004, Grant PUD reported that this year they operated within the fluctuation limits more than 89% of the days in 2004 (March 21 - June 12), as compared to 74% of the days in 2002 and 2003. The benefit of this action over any one year varies, but with a 10-year commitment, it is expected there will be a sustained number of days meeting the fluctuation constraint. This offset action provides mitigation for both the Hanford reach wild fall Chinook and the Priest Rapids hatchery fish. Other upriver brights from the mid-Columbia will also benefit from this action.

The Corps' determination to rely on this action as an offset is based on estimates developed by Bonneville Power Administration that there would be 1,094,870 to 1,287,981 additional non-listed fall Chinook surviving in the Hanford reach. These benefits are one-half of the total estimated benefit of this operation. Grant County PUD will accrue the remaining half for its purposes of meeting flow fluctuation constraints.

- Pikeminnow Program Enhancement

Pikeminnow removal has been used as a tool to reduce predation on juvenile salmonids in the Columbia River Basin for many years. In recent years BPA reduced funding of this program. In 2004, BPA modified contracts necessary to implement the Northern pikeminnow management program augmentation to significantly increase pikeminnow catch to further reduce predation related mortality on migrating smolts. It is estimated that the offset of the pikeminnow program enhancement will increased the removal rate by 5-20% (up to 40,000 individual predators) over previous years' programs.

Survival benefits to non-listed stocks have been projected to range from 0.16 % for Snake River brights to 0.33 % for Mid-Columbia brights. This offset is also believed to benefit hatchery releases above Lower Granite Dam (including Lyons Ferry Hatchery, Nez Perce Hatchery, and other hatchery releases at Hells Canyon Dam), Deschutes, Klickitat, Umatilla River fall Chinook, and Upper Columbia summer Chinook.

The Corps is relying on BPA's commitment to continue funding the enhancement of this program in 2004.

- Habitat and Hatchery Measures

A plan is in place to use the Council's processes to fund future habitat and hatchery projects with the explicit intent to address impacts to non-listed salmonids, particularly those not benefiting from the other offset actions. BPA has committed to provide $4 million for hatchery and habitat measures to address impacts to non-listed salmon affected by spill reductions as stated in the Proposal and subsequently confirmed by BPA Administrator Steve Wright on July 1, 2004.

A plan to use the Council's process for identifying and selecting habitat and hatchery proposals and projects was proposed by representatives of the Council at the June 14, 2004 meeting with the regional executives and the public, and an approach consistent with this recommendation was subsequently included in the plan to modify summer spill operations. Further discussion with the Council members and staff led to agreement that project proposals addressing impacts to non-listed salmon identified in the modified spill operation, and that have been previously reviewed by the Council and its Independent Scientific Review Panel, will be priority candidates for implementation using the additional funds provided by BPA. The Council will oversee the review process in coordination with Tribes, states, CBFWA, BPA, the Corps and regional players, and will solicit input on priority projects from these entities. Funds for these actions will be administered separately from other BPA programs. BPA will monitor and account for funds obligated and expended on projects selected for implementation and provide periodic reports on implementation of these projects to the Council, Tribes, the Corps and other interested parties.

The Council provided a list of projects on June 24 that were developed through its Provincial Review process and that were rated as fundable by the Independent Science Review Panel, and ranked as high priority by CBFWA. Council staff indicated their belief that there are a number of candidate projects that would qualify as offsets to the stocks impacted by the modified spill operations, including water rights exchanges, riparian buffer protection, side channel restoration and passage improvements. The Council plans to invite the fisheries co-managers to determine priorities for existing proposed tributary projects or potential consideration of new projects to address fish impacted by the modified spill proposal.

The Corps is relying on information provided by BPA and the Council that funding will be in place and there are projects that will provide benefits to stocks that other offset actions are not fully addressing.

3. Concurrence of NOAA Fisheries that the plan is consistent with NOAA Fisheries 2000 BiOp - Pursuant to the NOAA Fisheries 2000 BiOp, the Corps, BPA and Reclamation, annually issue one-year and five-year Implementation Plans, which identify the agencies plans for meeting requirements of the 2000 Biological Opinion's Reasonable and Prudent Alternative. These plans include a water management component that addresses operation of the FCPRS, including fish passage spill. The 2004/2004-2008 Implementation Plan was issued in November 2003. On June 23, 2004, the Corps and BPA requested NOAA Fisheries review an amended 2004/2004-2008 Implementation

Plan with the proposed modification of summer spill operations in 2004 at Bonneville, The Dalles, John Day, and Ice Harbor dams. NOAA Fisheries responded in their Findings Report dated July 1, 2004. NOAA found that the flow and spill modifications contained in the Amended 2004 Implementation Plan "provide the same or greater biological benefits to Snake River fall Chinook salmon as the Opinion's RPA." NOAA also concluded that "the amended Implementation Plan, including spill and flow modifications, is consistent with the determinations, assumptions, and analyses of the 2000 Federal Columbia River Power System Biological Opinion's reasonable and prudent alternative." The Corps concurs and incorporates NOAA's Findings Report as to the impacts on listed fish.

4. Consistency with the Corps' treaty and trust responsibilities – The United States government recognizes the sovereign status of Native American tribes. Treaties between the U.S. and some Columbia Basin Tribes document agreements reached between the federal government and the Tribes. In exchange for ceding most of their ancestral land, the government established reservation lands and guaranteed that the government would respect the treaty rights - including fishing and hunting rights. The treaties provide, in part, the exclusive right of taking fish in the streams running through and bordering the reservations and at all other usual and accustomed stations in common with citizens of the U.S. The federal government has a trust responsibility to protect the tribal rights under these treaties.

The government's trust responsibility is an obligation under which federal officials consult with Tribes on management and use of resources, and preserving and maintaining the trust asset. In carrying out its fiduciary duty, it is the Corps' responsibility to ensure that Indian treaty rights are given full effect.

Presidential executive orders were used to reserve lands for other Columbia River Basin Tribes, and the federal government has extended rights to hunt and fish to the executive order Tribes as well.

The process to develop the modification of summer spill in 2004 has included efforts to obtain tribal views of this action, in accordance with provisions of treaties, laws, and executive orders. The Corps has communicated with designated points of contact to facilitate information exchange with the Tribes. On several occasions, the regional federal executives met with Tribal government representatives from the four lower river Tribes: Confederated Tribes of the Umatilla Indian Reservation; Confederated Tribes and Bands of the Yakama Reservation; Confederated Tribes of the Warm Springs Reservation of Oregon; and, Nez Perce Tribe of Idaho. Additionally there have been several teleconferences with a number of the Tribes. Tribal chairmen and members attended or participated in meetings where the regional federal executives discussed the proposed modification of spill operations. Senior staff also met with tribal representatives throughout the proposal development and review period.

The Corps has considered tribal information and scientific analysis expressed throughout the development of this modification to the summer spill operations in 2004. The federal

agencies invited the Tribes to recommend offsets to mitigate for impacts to the Tribal fishery. The federal agencies developed offsets to address impacts including the anti-stranding operations for Hanford reach fall Chinook, and the pikeminnow program enhancement. The additional funding provided by BPA for hatchery and habitat actions to offset impacts to the tribal fishery will provide further mitigation. The Council has committed to including the Tribes in the process for allocating the additional funding with the objective of providing additional offsets to their fisheries.

5. Regional Support of States and Tribes - Beginning with the Council's amended Fish and Wildlife Program in April 2003 and continuing throughout the past year, the Corps and BPA have engaged the states and Tribes in numerous meetings, discussions and exchanges of information on technical and policy issues related to the proposed modification of spill operations. The Corps has sought the support of the states and Tribes in implementing the spill plan.

In March 2004, the Corps and BPA formally requested comments from states, Tribes and regional interests on a preliminary proposal for reducing summer spill including offset actions. In developing the preliminary proposal, numerous meetings were held by regional federal executives, senior policy representatives, and technical staff with Tribal and state representatives, to discuss policy issues and address technical matters associated with impact analyses and biological concerns, including the value of offsetting actions. In response to comments on the March preliminary proposal and in order to better address methods of offsetting impacts to listed and non-listed salmon, an amended proposal was released in June 2004. On June 14, 2004, executive level meetings were held with Tribes, states and interested parties to explain the proposal and receive comment. Over 1,000 comments were received on the preliminary and amended proposals. Further analysis and consideration of comments received from the Tribes, states and regional interests led to the final proposal, which was released to the public on June 23, 2004.

Compliance with Environmental Statutes

The Corps reviewed its compliance with applicable laws, executive orders, and relevant agreements. These laws include, but are not limited to: National Environmental Policy Act (NEPA), Archaeological Resources Protection Act; National Historic Preservation Act; Native American Graves Protection and Repatriation Act; Clean Air Act; Federal Water Pollution Control Act (Clean Water Act (CWA)); ESA; Fish and Wildlife Coordination Act; Pacific Northwest Electric Power Planning and Conservation Act (Northwest Power Act); Magnuson-Stevens Fishery Conservation and Management Act. As discussed above, the Corps has evaluated and concludes this modification of summer spill operations in 2004 is consistent with the ESA. The following discusses NEPA, CWA and Northwest Power Act.

- NEPA

The Corps has evaluated the effects of the modified spill operations for 2004 utilizing existing NEPA documents. These NEPA documents include prior project and system

Environmental Impact Statements (EIS) of which the last was the *System Operation Review EIS* (SOR EIS) completed with the issuance of a Record of Decision in 1997. The Corps believes that the effects of the modified summer spill operations are within the range of the analysis conducted in the SOR EIS. These effects include impacts to salmonid species including the tribal fishery, resident fish, and improved hydropower generation, and are consistent with impact analyses from the various system operation strategies evaluated in the SOR EIS and the 1997 ROD. The Corps has determined that the effects of the modified spill operations are addressed in the analysis contained in the existing NEPA documentation. This SOD adopts, incorporates, and reaffirms the following NEPA and decision documents: the *1992 Columbia River Salmon Flow Measures Options Analysis/EIS*; the *1993 Interim Columbia and Snake Rivers Flow Improvements Measures for Salmon Supplemental EIS*; and, the SOR EIS and the Record of Consultation and Statement of Decision on Effects to Listed Species from Operation of the Federal Columbia River Power System issued by the U.S. Fish and Wildlife Service on December 20, 2000 and Reinitiation of Consultation on Operation of the Federal Columbia Power System, Including the Juvenile Fish Transportation Program, and 19 Bureau of Reclamation Projects in the Columbia Basin Biological Opinion issued by National Marine Fisheries Service on December 21, 2000.

- CWA

The Corps has considered the effects of the modified summer spill operations in 2004 on state water quality standards for total dissolved gas (TDG) and water temperature. The NOAA Fisheries 2000 BiOp calls for spill for fish passage up to 120% TDG. Under the modified spill operations, there will be a reduction in TDG levels at the four dams and some reduction in overall system levels. While the reduction in spill will not affect water temperatures, the Corps' analysis of the flow augmentation from IPC's Brownlee project concluded the temperature effects of the Brownlee release in July would be a de minimis increase of 0.1-0.2 degrees C above background at the Lower Granite tailrace for some water conditions. The Corps provided the results of this analysis to the U.S. Environmental Protection Agency, Idaho Department of Environmental Quality, Oregon Department of Environmental Quality, and Washington Department of Ecology. The Corps has considered the CWA requirements in making this decision to modify summer spill operations in 2004 and determined the modification of summer spill in 2004 is consistent with our responsibilities under the CWA.

- Northwest Power Act

Under the Northwest Power Act, the Corps is required to exercise its responsibilities for operating the FCRPS in a manner that provides equitable treatment for fish and wildlife with other purposes for which the Corps facilities are operated and managed, and to take into consideration in its decision making the Council's Fish and Wildlife Program to the fullest extent practicable. The modified spill operations for 2004 are consistent with the Council's Amendments, and the Corps has worked with BPA and the region to provide mitigation for impacts to both ESA-listed and non-listed fish.

Additional Considerations

Among other recommendations for spill management and evaluation, the Council's Fish and Wildlife Program Amendments "call for NOAA Fisheries, the federal operating agencies, and salmon managers to immediately implement tests to examine the benefits of the current summer spill program for outmigrating juvenile fall Chinook, and to determine whether the biological benefits can be achieved in a more effective and less costly manner." In response, the federal agencies and Council worked with the CBFWA in the fall of 2003 to develop spill proposal options with state, tribal, federal and Council staff members. The group developed a conceptual approach for a system-wide study of spill and reach survival; however, they determined that it was not feasible to expand the concept into a detailed proposal. System-wide studies require marking of large numbers of fish and monitoring over many years in order to distinguish among many factors affecting fish and to garner a reasonable confidence level in the results. An alternative approach that provides information within a practical period of time, is that the Corps and BPA have planned or have in-place a number of project-specific studies, and monitoring and evaluation to assess both the summer spill operation and the effectiveness of the offset actions.

Project survival studies are planned at Bonneville, The Dalles, and Ice Harbor dams. These studies will occur during the early part of the summer spill season. Project specific studies are not feasible during the late summer when the proposed operation includes no spill due to higher river temperatures and resulting fragile fish condition. In addition, routine annual juvenile fish sampling occurs at Bonneville, John Day, McNary, Lower Monumental, Little Goose, and Lower Granite dams. This provides almost daily information to enumerate species, general condition, signs of gas bubble disease, and other injuries.

In addition to the regular smolt monitoring program with PIT tagging juvenile outmigrants throughout the Columbia River Basin or more specific research studies, BPA is funding additional studies. Hatchery subyearling fall Chinook salmon will be PIT tagged and released above Lower Granite Dam to estimate their survival through the Snake River. River-run subyearling fall Chinook salmon (mostly wild Hanford stock) will be PIT tagged and released at McNary Dam to estimate their survival through the lower Columbia River. This will provide additional information on the relationships among survival, travel time, environmental variables, and dam operations using the expanding database generated by this study.

Statement of Decision

I have taken into consideration the environmental consequences, the socioeconomic costs and the biological data supporting the modified spill operations in 2004 discussed in this

SOD and determined that there is adequate authority, NEPA documentation, and biological rationale to implement these operations.

I have determined that the modified summer spill operation in 2004 with the commitment by BPA to provide the offset actions is consistent with the NOAA Fisheries 2000 BiOp and Incidental Take Statement. Further, I find that this operation meets my responsibilities under the Endangered Species Act and is not likely to jeopardize the continued existence of listed Snake River fall Chinook or adversely modify critical habitat.

I have taken into account the effect of the modified summer spill operations on state and Tribal water quality standards for total dissolved gas and water temperature and have determined the operation is consistent with the Corps' responsibilities under the CWA.

In making this decision, I have given serious consideration to my treaty and trust responsibilities as a representative of the U.S. government. I understand my obligation to ensure the treaty rights are protected and to act in a manner consistent with the trust responsibility. Throughout the process of analyzing the potential impact of modifying summer spill operations on the Columbia Basin tribal fisheries and pursuing offsetting actions, I have been particularly mindful of concerns expressed by the Tribes that spill is the preferred means of juvenile fish passage, and that there is potential for adverse biological effects with reduced spill. I conferred with Tribal government representatives on numerous occasions to discuss those concerns and have sought means to address potential adverse effects.

The modified spill operation and offsets included in this decision were consciously and deliberately chosen taking into account the concerns expressed by Tribal representatives and are designed to provide similar or better benefits to ESA listed and non-listed salmon species. Specifically, I chose to ensure the impacts and offset technical analyses erred on the side of fish protection, and I have received a commitment from BPA that funding will be provided for habitat and hatchery offset actions targeting non-listed fish populations that are important resources for the Tribes and others. I will continue to engage in matters pertaining to execution of the modified summer spill operation and commit the Corps to continue to work with the Tribes, BPA, states, the Council and other regional interests to implement offset actions to ensure my intent is met.

The best available scientific information was used to analyze the modified summer spill operations and offset actions. Information was provided for public review and comment. In addition to the comments from the Tribes and other regional interests, the Governors of Idaho, Montana and Washington expressed their support for the modified summer operations and offset actions. The comments received were considered in my decision.

I have determined that this decision is consistent with the Corps' responsibilities under the Northwest Power Act and I have taken into account, at each relevant stage of the decision-making on the modified summer spill operation for 2004 the Council's Fish and Wildlife Program Amendments. The Corps will continue to exercise its responsibilities in

a manner to protect, mitigate and enhance fish and wildlife, including spawning grounds and habitat affected by the Corps projects in a manner that provides equitable treatment for fish and wildlife affected by the projects and their operation.

In making this decision, I have reviewed and considered BPA's 2004 Federal Columbia River Power System Juvenile ByPass Operations Statement of Decision in which BPA has committed to fund and implement the offset actions discussed in this SOD.

I consider the 2004 modified summer spill operations and the identified offset actions an initial step in addressing the region's interest as expressed by the Northwest Governors and Council to find sustainable solutions to recover salmon and steelhead species at less cost. I find that the determinations made in this SOD are sufficient for the Corps to implement the modified summer spill operations in 2004.

Issued in Portland, Oregon, on July 6, 2004.

William T. Grisoli
Brigadier General, U.S. Army
Division Engineer