United States General Accounting Office

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Report to the Chairman, Committee on Energy and Commerce, House of Representatives

March 1988

# ENERGY REGULATION

# Opportunities for Strengthening Hydropower Cumulative Impact Assessments

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GAO

**United States**
**General Accounting Office**
**Washington, D.C. 20548**

**Resources, Community, and**
**Economic Development Division**

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March 10, 1988

The Honorable John D. Dingell
Chairman, Committee on Energy
and Commerce
House of Representatives

Dear Mr. Chairman:

As you requested in your February 3, 1987, letter, we have examined the Federal Energy Regulatory Commission's (FERC) responsibilities under the Federal Power Act for assessing the cumulative impact of hydroelectric power projects on natural resources. Our review focused primarily on (1) FERC's plans for using an alternative to the Cluster Impact Assessment Procedure (CIAP)—the River Basin Environmental Impact Statement procedure—to assess the cumulative impact of hydroelectric projects and (2) deficiencies cited by interested parties in how FERC carries out cumulative impact assessments and whether the development of comprehensive river basin plans can help address these deficiencies.

A principal difference between CIAP and the River Basin Environmental Impact Statement procedure (EIS) is their methods for involving the public in determining the scope of the assessment and the resources to be evaluated. In CIAP, FERC holds a series of public meetings and workshops during the initial phases of the assessment, whereas the River Basin EIS calls for only one public meeting.

In summary, we found that before authorizing the use of CIAP in 1985, FERC formally announced its plans for using the procedure and requested public comment on their appropriateness. FERC has since used the River Basin EIS procedure in lieu of CIAP and apparently plans to use it to carry out future assessments. However, FERC has yet to publicly announce its plans for using the River Basin EIS and to request public comment on them, as it did before adopting CIAP. We also found that the preparation of comprehensive river basin plans can help resolve disagreements between FERC and other federal and state agencies about the way in which FERC carries out cumulative impact assessments. We are recommending that FERC publicly announce its plans for conducting future assessments and request public comment on their appropriateness. We are also recommending that FERC take an active role in encouraging and facilitating the development of comprehensive river basin plans by states and federal agencies.

discuss how FERC would evaluate the cumulative impact of hydropower projects in other basins.

## FERC Uses an Alternative Procedure in Place of CIAP

While CIAPs in the Owens, Salmon, and Snohomish basins were in progress, FERC began to carry out assessments in two other basins—the Ohio and Snake basins—using an alternative to CIAP. Originally, in late 1985, FERC Chairman Raymond J. O'Connor authorized the use of CIAP in the Ohio River Basin. A news release was issued on November 20, 1985, advising the public of this decision.

CIAP was, however, not implemented in the Ohio River Basin. Shortly after the November 1985 news release was issued, three FERC Commissioners requested that the Chairman take no action to implement CIAP in the Ohio Basin, or any other basin, because they believed that additional CIAPs should be undertaken only as a result of formal action by the Commission, rather than the Chairman. Although FERC's Associate General Counsel for Enforcement and Criminal Law advised in January 1986 that the Chairman had the authority to initiate additional CIAPs,[2] Chairman O'Connor resigned that same month, and according to FERC's Environmental Analysis Division Director, neither the Commission nor Chairman O'Connor's successors specifically authorized the staff to proceed with the Ohio Basin CIAP or other CIAPs. The Director said that it was primarily for this reason, and because FERC needed to take action on pending applications, that in 1986 FERC decided to use an alternative procedure in the Ohio Basin and also in the Snake Basin. Specifically, it decided to use the River Basin EIS procedure in the Snake River Basin and a slightly different version of the procedure in the Ohio Basin.

## Public Involvement Differs

The River Basin EIS procedure is intended to be used in basins where FERC believes the potential for significant adverse cumulative impacts is high. CIAP and the River Basin EIS use different procedures for involving the public in determining the scope of the assessment and the resources to be evaluated. CIAP was designed to obtain the early and extensive involvement of state and federal resource agencies in (1) defining the scope of the assessment, (2) analyzing the cumulative impact of the hydropower projects being evaluated, and (3) developing a record to

[2]Counsel's January 7, 1986, memorandum stated that the Chairman could authorize CIAP in the Ohio River Basin so long as his action was not inconsistent with the Commission's regulatory policy. Since the Commission had previously authorized the use of CIAP in other river basins, the memorandum said that a decision to apply the CIAP in the Ohio River Basin would be consistent with the Commission's regulatory policy.

and future land and water uses such as logging, road building, and agriculture could adversely affect resources that are also affected by proposed hydropower projects; and (2) insufficient data exist on resources and project impacts for FERC to carry out a reasoned evaluation.

FERC officials generally disagreed with these assertions. For example, FERC believes that it has considered impacts of other land and water uses when they were directly relevant to FERC's hydropower analysis. Appendix II presents in greater detail the deficiencies cited by resource management agencies and public interest groups and FERC's responses to these assertions. Regardless of which view is correct, the continuing existence of disagreements between FERC, other agencies, and interested parties about FERC cumulative impact assessments can potentially result in increased expenditures of staff resources, delays in processing hydropower applications, and litigation.

## Comprehensive Planning Could Help Resolve Disagreements

On the basis of our discussions with state and federal resource management agencies and interested parties and our review of the comments that they filed in FERC proceedings, we believe that the development of comprehensive river basin plans that FERC could use in carrying out its cumulative impact assessments could help address deficiencies that these parties identified. Such plans could, among other things, be used to develop baseline data on natural resources in the river basin, set aside certain areas in the river basin as being protected from additional hydropower development, and rank hydropower sites in terms of their potential effect on resources.

The Congress' commitment to coordinated study and comprehensive planning along an entire river system before hydropower projects are authorized is a central element of the Federal Power Act. Section 10(a)(1) of the act specifically requires that hydropower projects approved by FERC "shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways. . . ." However, there is disagreement about whether FERC is specifically required to prepare a document describing a comprehensive river basin plan prior to making licensing decisions in the basin.

## Future Plans for Cumulative Impact Assessments

The issue of how to conduct cumulative impact assessments will continue to face FERC. To handle the increase in hydropower applications it received in the early 1980s, FERC decided to give priority to approving those projects that had the greatest probability of receiving a license. This resulted in the issuance of 270 licenses during the period from fiscal year 1984 through 1986, but it also created a pending workload with a disproportionate number of complex and controversial projects.

According to a January 1987 FERC analysis, 59 percent of 442 pending license applications were in basins either where FERC has recognized the issue of cumulative impacts or where the issue has been raised by interested parties but not recognized by FERC. While many of these may be disposed of without the need for an environmental impact statement, FERC staff have identified 25 impact statements that may be necessary to support FERC action. FERC plans to initiate approximately six cumulative impact statements in fiscal year 1988 and three more in 1989. FERC has made no public announcement about what procedures it will use to prepare these impact statements, but on the basis of our discussions with FERC staff, it appears likely that the River Basin EIS will be used instead of CIAP.

## Conclusions

In conducting CIAP, FERC attempted to involve federal and state agencies and other parties in the process in order to obtain their cooperation and establish a record to support FERC decisions. However, in 1986 FERC decided to use an alternative to CIAP—the River Basin EIS. FERC also apparently intends to use this alternative process in lieu of CIAP to carry out future assessments. However, FERC has yet to make a public announcement describing its plans for using the new procedure and requesting public comment on their appropriateness, as it did before adopting CIAP.

Numerous disagreements have arisen between FERC and federal and state agencies and other interested parties regarding the way in which FERC has carried out cumulative impact assessments. Such disagreements can potentially result in increased expenditures of staff resources, delays in application processing, and litigation.

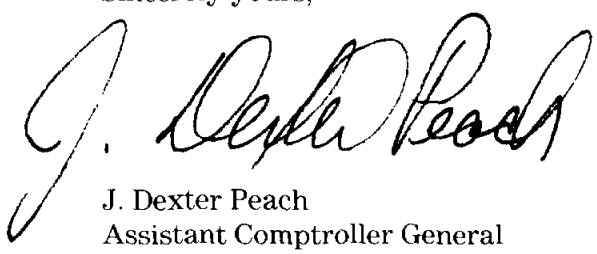
In our view, the development of comprehensive river basin plans by states or federal agencies can help resolve such disagreements and help FERC satisfy its comprehensive planning responsibilities under the Federal Power Act. However, on the basis of our discussions with FERC staff, it appears likely that few existing plans prepared by states and federal

views of agency officials on our conclusions and recommendations, nor did we request official agency comments on a draft of this report.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time we will send copies to the Chairman, FERC, and other interested parties.

This work was performed under the direction of Flora H. Milans, Associate Director. Major contributors are listed in appendix III.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General

## Cumulative Impact Report

The Cumulative Impact Report is performed in a river basin that (1) has a low potential for cumulative impact, (2) is not complex in terms of number of projects and resources, and (3) is not expected to require a cumulative EIS. FERC uses the Cumulative Impact Report in a basin for which it believes that it already has sufficient information from other sources, including public hearing records, comments, and testimony, for it to determine the significance of cumulative impacts without further public input. The process differs from the Modified CIAP in that FERC does not place a notice in the Federal Register requesting public comment on the potential for cumulative impacts when using the Cumulative Impact Report. However, FERC staff may solicit comments from state and federal agencies, applicants, and interest groups by telephone.

The Cumulative Impact Report is expected to result in a finding of no significant cumulative impact, which is documented in an environmental assessment. However, if the assessment results in a finding of significant impact, then the projects will be assessed using a CIAP or River Basin EIS. The Cumulative Impact Report is carried out by FERC staff without contractor assistance and takes between 3 and 5 months to complete.

## Internal Determination

According to FERC staff, in some instances when FERC is conducting its initial review of a basin, it becomes apparent that a particular project will not contribute to cumulative impacts. At that point an "Internal Determination" is made that the project has no potential for cumulative adverse impacts on important resources. This determination is documented in an environmental assessment. The process takes approximately 1 to 2 months to complete.

## FERC Position

FERC maintains that the CIAP analysis considers impacts of past, present, and future hydroelectric development, including synergistic effects. Other land-use impacts have been included in FERC cumulative impact assessments to the extent possible where they were directly relevant to the hydroelectric analysis. The staff notes that the National Environmental Policy Act and the Council on Environmental Quality specifically direct lead agencies to limit the scope and length of their assessments and that other basin activities and land uses have been incorporated accordingly. FERC maintains that to quantify precisely the existing impacts from forestry and other land-use practices in a basin is unrealistic and beyond the scope of the EIS.

# Preliminary Permits Are Excluded From the Assessment

Resource management agencies and public interest groups have stated that proposals under preliminary permits[2] are excluded from the assessments, effectively excluding most pending projects from the CIAP.[3]

## FERC Position

According to FERC staff, the issue of what type of applications to include in a CIAP is one of the most commonly expressed concerns it has encountered. The April 24, 1985, Commission directive authorizing a CIAP in three basins states that, in determining the geographic scope, CIAP will include pending license applications, exemption applications, and amendments to existing licenses. The Council on Environmental Quality's National Environmental Policy Act regulations (40 C.F.R. 1508.7) define cumulative impact in terms of "past, present, and reasonably foreseeable future actions." Preliminary permits are not viewed as reasonably foreseeable future actions and are therefore not included in determining the scope of a CIAP. FERC records show that only 27 percent of all preliminary permits eventually become license applications. In addition, preliminary permit applications do not contain sufficient information to support a study of the environmental impacts of the development.

[2]The Federal Power Act authorizes preliminary permits for the purpose of enabling applicants for licenses to obtain the data and perform the acts needed to obtain a license. Preliminary permits give permittees a "priority of application for a license" and thus encourage them to expend the resources necessary to prepare license applications.

[3]The issue of FERC's not considering preliminary permits in assessing hydropower development in the Salmon River Basin was also brought before the U.S. Court of Appeals in National Wildlife Federation v. FERC, 801 F.2d 1505 (9th Cir. 1986). The Court held that FERC had not presented an adequate record to support its decision for excluding preliminary permits.

FERC staff also noted that FERC's regulations were recently revised to include a provision designed to improve and document prefiling consultations between applicants and resource management agencies on data requirements.[1]

## Reliance on Mitigation to Minimize Impacts

Resource management agencies and public interest groups have stated that FERC staff relies to a great extent on mitigation techniques (for example, revegetation, construction of new recreation areas, and actions to reduce the impact of construction) to moderate the predicted damage of projects in order to make them environmentally benign. FERC assessments assume these techniques will be implemented and 100-percent effective in reducing the adverse impacts of projects to an acceptable level.

## FERC Position

The FERC staff maintains that it is required by the National Environmental Policy Act to "include appropriate mitigation measures not already included in the proposed action or alternatives." The Council on Environmental Quality suggests 5 approaches to mitigation: (1) avoiding the impact altogether, (2) minimizing the impact, (3) rectifying the impact, (4) reducing or eliminating the impact over time, and (5) compensating for the impact. The mitigation goals of various resource agencies are discussed in the EIS.

According to FERC staff, FERC applies a complete and relatively uniform set of mitigative measures to each project (where appropriate) in order to ensure a comparable level of protection of target resources and to be able to compare the potential impacts to target resources from different development scenarios. Furthermore, the staff assumes that mitigative measures required by state or federal law or routinely recommended by federal agencies are effective in reducing impacts to negligible levels. Other types of mitigation for which no standard prescription is available can be highly effective, but they require an appropriate and site-specific design, as well as monitoring for effectiveness.

[1]Applications for License, Permit or Exemption from Licensing for Water Power Projects, 50 Fed Reg. 11,658 (Mar. 25, 1985); 50 Fed. Reg. 23947 (June 7, 1985) (Order No. 413). See FERC Stats. and Regs. Regulations Preambles, 1982-1985, para. 30,632

## Need for the Development of Comprehensive Plans

Resource management agencies view the central issue in CIAPs as the cumulative impact on the natural resources in a river basin that is caused by the incremental development of hydropower projects. Within this context, they have recommended that the most appropriate way to address these problems is to develop a comprehensive plan for river basins, as required by section 10 of the Federal Power Act, within the framework of a full environmental analysis as required by the National Environmental Policy Act.

## FERC Position

FERC holds that CIAP is not intended to be a substitution for comprehensive planning. Rather, CIAP is just one component of the comprehensive review given to hydropower projects under section 10(a) of the Federal Power Act. A goal of CIAP, however, is to determine if, or to what extent, hydropower development is compatible with the existing resource management and land-use objectives of the region. According to FERC staff, it is within this framework that CIAP will take a "comprehensive look" at potential hydropower sites within a defined area. This "look" is to include sites with pending applications and, as part of the analysis of alternatives, other reasonable alternative sites that have no current pending license or exemption applications before FERC.

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The staff reevaluates the proposed mitigation for its effectiveness based on comments submitted on the draft EIS, and mitigation recommendations are revised where appropriate. Mitigation proposed by the staff is recommended to be incorporated into licenses that are issued.

## Lack of Criteria to Evaluate the Significance of Impacts

Resource management agencies and public interest groups have asserted that no goals or criteria against which to measure significance are established in the assessment and, without such criteria, significance cannot be reasonably determined.

### FERC Position

The Council on Environmental Quality does not give a specific definition for significance, but recommends that many factors be weighed in considering the significance of impacts. The staff has attempted to do this by using the available information to develop impact criteria and an impact-ranking system for the various resource components. Although any environmental change not in complete compliance with interagency goals may be defined as "significant," FERC staff believes that there would be no biological, ecological, or statistical basis for that definition of significance, especially given the dynamic nature of ecosystems and the uncertainties of measurement.

## No Need for Power in the Northwest

Resource management agencies and public interest groups have asserted that the Northwest currently has an energy surplus. FERC defines optimizing development as "the greatest energy development at the least environmental cost." Resource management agencies believe that this is an inappropriate decision rule, that the task in economic terms is to maximize the net present value of all of the varied uses within a river basin over time, and that it is unlikely that maximizing one use, without regard to the values of the other uses, will produce optimum results.

### FERC Position

FERC staff agrees that additional power is not needed at this time, but concludes that some of the environmentally acceptable projects are economically feasible to construct in 1989 to meet the future need for power as it develops.

## Insufficient Data for Assessment

Resource management agencies and public interest groups have expressed the view that insufficient data exist on resources and project impacts on resources to make a reasoned evaluation and that insufficient time is provided for the collection of additional data. They hold that FERC relies heavily on professional judgment to predict effects when actual data do not exist. In the absence of empirical data, numbers used in the analysis are assigned on the basis of qualitative assessments and used in statistical analyses that provide the basis for predicting effects.

## FERC Position

FERC staff stated that pending projects under study in a CIAP have had applications that FERC found to be in compliance with its regulations existing at the time of review. Therefore, it considers the information provided by these applications to be adequate for FERC's decision-making process. Additional information, however, is included in a CIAP. In some cases, data may be supplemented by professional judgment based on the experience of managers or consultants who are familiar with the area and its resources. Where data are incomplete and cannot be further supplemented by the judgment of field personnel, FERC staff will utilize a reasonable, or most probable, worst-case approach. "Reasonable" in this case means that staff will not ignore existing data and automatically assume the total loss of a resource if the existing data indicate otherwise. The justification for a worst-case analysis in a CIAP is the exorbitant cost of the process if it were delayed for the completion of new studies. New studies may be requested, however, if they will not create significant delays. FERC staff further maintains that the lack of data for some resource components has been understood from the beginning of the formulation of CIAP and is reflected in the anticipated, and fully documented, use of worst-case analysis and in the required development of impact criteria using the staff's best professional judgment. For example, for the Salmon and Snohomish river basins, FERC considered the cost of developing data within the CIAP framework that was necessary to reduce dependence on professional judgment to be exorbitant in terms of the time required to provide these data. Additional data requirements would have added at least a year to the process. Ultimately, all environmental impact analyses require the use of professional judgment; it is just a matter of when one exercises that judgment.

# Issues Related to Cumulative Impact Assessments and FERC's Position on Them

Resource management agencies and public interest groups[1] are concerned that continued incremental hydropower development will result in further degradation of the environment, especially the reduction of water quality and the loss of scarce and irreplaceable natural resources providing recreation areas and wildlife habitat. Comments regarding CIAP focus on the scope of the assessment and the data needed for an informed decision. In addition, other issues separate from the actual impact assessment itself, but of no less importance, have been raised, such as the manner in which FERC evaluates the need for power in areas with energy surpluses. FERC, however, does not agree with these criticisms and has proceeded with its assessments without their resolution. A brief description of some of the comments by the resource management agencies and public interest groups on the CIAP are provided, followed by FERC staff's position on the issues.

## Not All Impacts Are Adequately Considered in the Assessment

Resource management agencies and public interest groups have asserted that FERC determinations regarding the significance of cumulative impacts consider only the additive impacts of hydropower projects without allowing for off-site effects, synergistic effects, or threshold situations that could result from past, present and reasonably foreseeable future actions. Other past, present, and future land and water uses in the basin—including logging, road building, and agriculture—that affect resources such as water quality, recreation, and wildlife habitat are not adequately considered. To the extent that cumulative effects have already occurred in the basin, even minor additional impacts can be significant. They believe that CIAP does not adequately address the issue of such incremental development in its definition of significant impact. Rather, CIAP proposes to treat hydropower licensing as a series of snapshots in time (that is, projects are evaluated in the context of the condition of the resource base existing at that time). Impacts that may be individually insignificant will be allowed to occur, resulting in some decline in the resource base. When new projects are proposed, the process would repeat with the assessment using a new baseline with lower environmental values to measure impact. Over time, these low-level impacts could have a cumulative impact that is significant. For example, if existing conditions are near a threshold beyond which impacts will rapidly occur, even a low level of further impact may be highly significant.

[1]We spoke with or reviewed comments filed by representatives of the following organizations, among others: the U.S. Environmental Protection Agency, the U.S. Department of Interior, the Northwest Power Planning Council, state agencies involved in fish and game management, public interest groups, and hydroelectric project developers.

# Other FERC Cumulative Impact Assessment Procedures

FERC has used both CIAP and the River Basin EIS in river basins that it considered to have a high potential for significant adverse cumulative impacts and to be complex in terms of the number of hydropower projects and the resources present.[1] However, where FERC staff believes these conditions are not met, but some potential for cumulative impacts exists, FERC staff will use an abbreviated assessment procedure selected on the basis of the situation and its information needs. These procedures are the Modified CIAP, the Cumulative Impact Report, and the Internal Determination.

FERC staff decides which type of assessment to use after completing an initial review of the river basin. The results of each assessment are generally documented in an "environmental assessment" rather than in an "environmental impact statement." FERC regulations require that FERC place a notice of availability for some environmental assessments in the Federal Register.[2] However, the regulations do not require FERC to obtain public comment on them.

## Modified CIAP

The Modified CIAP is used in a river basin that (1) has an unknown, but suspected low-to-moderate potential for cumulative impacts, (2) is not complex in terms of the number of projects and affected resources, and (3) is not expected to require a cumulative EIS. Following a preliminary review of the river basin, FERC places a notice in the Federal Register requesting comments and documentation on the probability of cumulative impacts. FERC staff told us that in some cases staff may also visit the river basin and meet with interested parties. They then analyze the comments and documentation received, develop a technical record that defines the nature of the cumulative impacts, and prepare an environmental assessment. If the environmental assessment finds no significant cumulative impacts, the assessment is placed in FERC's public files. However, if the assessment concludes that there are significant cumulative impacts, the assessment would continue, using the CIAP or River Basin EIS procedure. The Modified CIAP takes approximately 5 months to complete and is performed by FERC staff without contractor assistance.

[1] In a few situations FERC may address the issue of cumulative impacts as part of a "major project EIS." This would occur in cases where a single large hydropower project dominates the environmental concern and would require an EIS on its own, but a few other projects in the basin complicate the concern with regard to the issue of cumulative impacts.

[2] FERC regulations implementing the National Environmental Protection Act of 1969, Federal Register, Vol. 52, No. 242, pp. 47897-47914, December 17, 1987

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**Abbreviations**

| | |
|---|---|
| CIAP | Cluster Impact Assessment Procedure |
| EIS | Environmental Impact Statement |
| FERC | Federal Energy Regulatory Commission |
| GAO | General Accounting Office |
| RCED | Resources, Community, and Economic Development Division |

agencies will be considered by FERC as meeting the Federal Power Act section 10(a)(2) requirements, primarily because they do not consider and balance all relevant uses of the river basin. Furthermore, the 1986 amendments, which established section 10(a)(2), do not set forth any specific requirements concerning how FERC should implement the section. FERC has made a good start in implementing the section by defining the elements of comprehensive plans and reviewing existing plans to see if they meet the section 10(a)(2) criteria. However, it has no further plans for implementing the section. We believe that FERC can continue to play an important role in implementing the section by encouraging and facilitating the development of such plans by states and federal agencies.

## Recommendations

We recommend that the Chairman, FERC,

- formally announce FERC's plans for using CIAP, River Basin EIS, or some other procedure to carry out future assessments and provide interested parties with an opportunity to comment on such plans and
- direct FERC staff to take an active role in implementing section 10(a)(2) of the Federal Power Act by encouraging and facilitating the development of comprehensive plans prepared by states and federal agencies. Such action could involve, among other things, (1) providing timely information to states and agencies on whether plans that they submitted meet the requirements of section 10(a)(2) and how they can be modified so as to meet the requirements and (2) holding workshops with state and federal agencies on how comprehensive plans can be prepared.

To carry out your request, we reviewed applicable laws, regulations, and court decisions. We interviewed officials in FERC's Office of Hydropower Licensing and Office of General Counsel and examined pertinent FERC orders, documents, and records. We also reviewed comments filed by interested parties in connection with cumulative impact assessments that FERC carried out in the Owens, Salmon, Snake, and Snohomish river basins and interviewed individuals who participated in the Salmon and Snake river basin assessments. (See app. II.) Our work was performed between May 1987 and December 1987 in accordance with generally accepted government auditing standards.

We discussed our findings with FERC officials and included their comments where appropriate. However, as requested, we did not obtain the

## The Congress Adds New Comprehensive Planning Requirements

In October 1986, the Congress amended the comprehensive planning provisions contained in section 10(a) of the Federal Power Act. The 1986 amendments did not directly address the issue of what specific action FERC must take to satisfy the comprehensive planning provisions of section 10(a)(1). However, the amendments added a new section to the act, section 10(a)(2), that requires FERC to consider the extent to which hydropower projects are consistent with comprehensive plans (where they exist) that have been prepared by (1) agencies established by federal law that have the authority to prepare such plans or (2) states in which a proposed hydropower facility is to be located. The 1986 amendments to the Federal Power Act did not specifically discuss what actions FERC is expected to take to implement section 10(a)(2).

In 1987 FERC undertook two primary actions aimed at implementing section 10(a)(2). On October 20, 1987, FERC issued a rule setting forth requirements for comprehensive plans developed by states and federal agencies (FERC Order No. 481, Final Rule). In the rule, FERC said that a state plan will be considered comprehensive if it is prepared and adopted pursuant to a specific act of the state legislature and is developed, implemented, and managed by the proper state agency. A state or federal plan must also "reflect the preparers' own balancing of the competing uses of a waterway. . . ." According to the rule, plans that do not meet those requirements will still be considered by FERC but will not carry as much weight in FERC's review of hydropower project applications.

Additionally, FERC sent letters to state governors and federal agencies requesting a listing of any comprehensive plans as described in section 10(a)(2). As of December 1987, FERC was still in the process of reviewing plans that it had received from 24 states. However, on the basis of our discussions with FERC staff, it appears that few of the plans that it received will meet the section 10(a)(2) requirements, primarily because they do not consider and balance all relevant uses of the river basin.

An Office of Hydropower Licensing official told us that FERC does not plan to make an overall public announcement of which plans meet the section 10(a)(2) requirements once it completes its review, but will instead rule on them as hydropower applications in the river basin are considered for licensing. He also said that FERC has no plans for taking additional actions to implement the section.

support FERC decisions. This is done, in part, through public meetings and workshops held during the initial phases of the assessment. However, the River Basin EIS calls for only one public meeting. In the River Basin EIS, FERC staff both define the geographic area of assessment and identify the affected resources from information in license applications and informal discussions with resource management agencies and others. They then prepare a document identifying what they believe to be the appropriate geographic area and target resources. The document is sent to interested parties at least 10 days prior to a public meeting in which the public is given an opportunity to comment. FERC staff then revise the initial document to incorporate the comments to the extent they believe necessary and proceed with the analysis.

## Public Input Not Requested on Use of the River Basin EIS

Before using the River Basin EIS, FERC did not issue a notice to the public describing the River Basin EIS procedure, stating its plans for using it and requesting comments on their appropriateness, as it did before adopting CIAP. The senior legal advisor to FERC's Chairman and FERC's Deputy General Counsel told us that because the staff directive authorized use of the CIAP process in only three river basins, it did not establish a policy for using CIAP in other basins. Accordingly, they believed that FERC was not required to notify the public if it decided to use a different procedure elsewhere. FERC did send a letter to the Ohio River Valley Water Sanitation Commission announcing its intention to carry out an EIS in the Ohio Basin. However, the letter did not state that FERC had decided to abandon the use of CIAP in the basin. An internal FERC memorandum indicates that in planning a news release about the Ohio Basin, it was decided not to refer to FERC's earlier plans to use CIAP.

In our view, FERC was not legally required to formally notify the public of its decision to use the River Basin EIS in lieu of CIAP. However, such action could be perceived by interested parties as a withdrawal by FERC from its earlier efforts to involve them in cumulative impact assessments. This is particularly true since the River Basin EIS procedure may be viewed as affording less opportunity for public involvement than does CIAP.

## Deficiencies Identified in FERC Cumulative Impact Assessments

Persons we spoke with concerning the River Basin EIS and those filing comments on CIAPS that FERC has conducted have identified what they believe to be deficiencies in how FERC carries out cumulative impact assessments. They identified the following deficiencies, among others: (1) FERC has not adequately considered the extent to which other current

## FERC's Development of CIAP

Subsequent to the enactment of legislation in 1978 and 1980 to encourage energy development, FERC received a greatly increased number of applications for hydroelectric projects. With these applications came filings from government and public interest groups asserting that the development of multiple projects could collectively, if not individually, cause significant adverse environmental impacts and that these impacts should be evaluated before FERC took action on any individual project.

FERC is required by the Federal Power Act (16 U.S.C. 803(a)) and the National Environmental Policy Act (42 U.S.C. 4321 et seq.) to consider the environmental consequences of its licensing actions, including possible cumulative environmental impacts, and to evaluate reasonable alternative courses of action. However, the way in which FERC is to examine potential cumulative impacts is generally left to its discretion.

In response to the filings it received and in order to carry out statutory requirements, FERC began to take action to develop an approach for assessing the cumulative effects of multiple hydroelectric projects on natural resources. This work ultimately led to the development of CIAP in December 1984.

CIAP is designed for use in a river basin where the potential for significant adverse environmental impacts from clustered hydropower projects is high and important natural resources exist.[1] A cumulative environmental impact statement is prepared when significant cumulative adverse impacts are possible. The results of CIAP are used by FERC in deciding whether proposed hydropower applications should be approved, modified or rejected.

Before deciding whether to use CIAP to carry out cumulative impact assessments, FERC placed a notice in the Federal Register inviting written comments on, among other things, whether CIAP was an appropriate methodology to study clustered hydropower license applications and where CIAP should be used. After considering these comments, on April 24, 1985, the Commission issued a staff directive that concluded that CIAP appeared to be a reasonable methodology. The directive called for the use of CIAP in three basins—the Salmon Basin in Washington, the Snohomish Basin in Idaho, and the Owens Basin in California. It did not

[1]FERC has also developed other assessment procedures for use in basins where the potential for cumulative impacts is considered lower. (See app. I.)