

**CUMULATIVE IMPACT SCOPING AND ASSESSMENT PROCEDURES
FOR
HYDROELECTRIC PROJECT RELICENSINGS
December 15, 1999**

INTRODUCTION

This paper presents Chelan PUD's approach for addressing cumulative impacts assessments for the Lake Chelan and Rocky Reach Project Relicensings. The procedures described were developed by reviewing guidance documents issued by the President's Council on Environmental Quality (CEQ)¹ and past FERC practice and precedent in addressing cumulative impacts during past hydropower relicensings².

Cumulative impacts are the effects of multiple activities that add up incrementally to affect resources of regional or national significance associated with the proposed project relicensing, regardless of who is responsible for the other identified activities. Cumulative impact assessments consider and assess the effects of past, present, and reasonably foreseeable future activities in relation to the proposed project relicensing on the significant resources of concern identified during consultation.

Cumulative impact assessments are conducted by considering the affects of the proposed project relicensing, the alternatives considered, and the resultant effects. This is done by evaluating both the direct and indirect effects of each relicensing alternative defined during the consultation process and then by comparing them to the no-action alternative. By regulation, the no-action alternative is the environmental baseline against which cumulative impacts are evaluated. For hydropower project relicensings, the court has consistently upheld FERC's long-held policy of defining the no-action alternative as the reissuance of a new operating license under the same terms and conditions as the expiring license.³

¹ Considering Cumulative Effects Under the National Environmental Policy Act, Council on Environmental Quality, January 1977 (<http://ceq.eh.doe.gov/nepa/nepanet.htm>)

² Scoping Documents 1 (June 1997) and 2 (December 1997) for Idaho Power Company's Snake River Projects, Federal Energy Regulatory Commission

³ American Rivers V. FERC, US Court of Appeals for the Ninth Circuit, Case No. 98-70079, August 11, 1999

The CEQ admits that cumulative impact analyses necessarily involves assumptions and uncertainties, but they also emphasize that decisions must be supported by the best data that is in hand or that can be collected at the time of the assessment. To address this level of uncertainty, the CEQ notes that adaptive management provisions can be incorporated into the chosen alternative for future flexibility.

PRINCIPLES FOR SCOPING AND ASSESSING CUMULATIVE IMPACTS

There are eight general principles that are recommended by the CEQ for consideration when managing cumulative impact analysis during environmental assessments. Consistent with CEQ guidance to federal agencies, FERC has adapted the approach it uses when performing cumulative impact assessments to fine-tune this process to address the types and scopes of issues that routinely arise in hydropower project relicensings. One of the specific approaches successfully employed by FERC in the past involves focusing on “target resources” rather than the more generic “resources” term used by the CEQ in their guidance documents. FERC defines target resources as those resources singled out for special consideration because of their regional or national significance. Furthermore, target resources can also be defined as both larger ecosystems and human communities as well as the more traditional single species definition. FERC is also careful to separate out project-specific measures that can address the problems identified for a particular target resource before elevating their analysis to multi-project cumulative impacts when performing their environmental review. FERC promotes this approach because it helps focus analysis on those effects that can be evaluated meaningfully during the environmental review process for hydropower project relicensings.

When applied by FERC to the specifics of a hydropower relicensing, the eight CEQ principles can be expressed as follows:

1. Cumulative impacts are the result of past, present and reasonably foreseeable future activities on the identified target resources.
2. Cumulative impacts are the total effects (including both direct and indirect effects) on a given target resource, regardless of who is responsible.

3. Cumulative impacts need to be analyzed in terms of the target resource under consideration.
4. It is not practical to analyze cumulative impacts of the proposed relicensing on the universe; the list of environmental effects must focus on those that are truly meaningful.
5. The boundaries for assessing cumulative impacts during hydropower project relicensings are defined by natural features rather than political or administrative boundaries.
6. Cumulative impacts associated with a proposed hydropower project relicensing can result from the accumulation of similar effects from other activities that similarly affect the target resources of concern.
7. Cumulative impacts may last for many years beyond the issuance of the new project license.
8. Each affected target resource must be analyzed in terms of its capacity to accommodate additional effects based on its particular characteristics and ability to adapt to change.

One of the most important considerations for successfully scoping cumulative impacts analysis during the environmental review process is to carefully consider the recommendations framed above in item 4:

It is not practical to analyze cumulative impacts of the proposed relicensing on the universe; the list of environmental effects must focus on those that are truly meaningful.

This concept is repeatedly emphasized by the CEQ in their guidance to limit scoping to effects that can be evaluated meaningfully. The geographic and temporal boundaries should only be expanded to the point at which the target resources are no longer significantly affected or where the effects are no longer of any interest. This is an important step that helps focus the effort on resources that can be analyzed and incorporated into a scientifically-supportable environmental assessment of the proposed project relicensing and identified alternatives.

SCOPING CUMULATIVE IMPACTS FOR ENVIRONMENTAL ASSESSMENTS

The CEQ presents a structured approach to incorporating cumulative impacts analyses into the environmental assessment process as follows:

Table 1

Steps in cumulative impacts analysis to be addressed in each component of environmental impact assessment ⁴	
Process Components	Cumulative Impact Analysis Steps
Scoping	<ol style="list-style-type: none"> 1. Identify the significant target resources associated with the proposed project relicensing and define the assessment goals. 2. Establish the geographic scope for the analysis. 3. Establish the timeframe for the analysis. 4. Identify other activities that may be similarly affecting the target resources identified.
Describing the Affected Environment	<ol style="list-style-type: none"> 5. Characterize the target resources identified in scoping in terms of their response to change and ability to withstand stress. 6. Characterize the stresses affecting these target resources and their relation to established laws and regulations. 7. Define a baseline condition for the target resources identified.
Determining the Environmental Consequences	<ol style="list-style-type: none"> 8. Identify the important cause-and-effect relationships between human activities and the identified target resources. 9. Determine the magnitude and significance of the cumulative impacts associated with the proposed project relicensing. 10. Modify or add alternatives to avoid, minimize or mitigate significant cumulative impacts on the target resources. 11. Monitor the cumulative impacts of the selected alternative and adapt management as needed across the term of the new license.

Scoping

The best way to manage this phase of the environmental assessment process is to carefully scope out the range of issues listed under items 1 through 4 in the above table early in the process and to revisit these issues periodically. The CEQ warns against scoping processes that result in

⁴ Paraphrased from Table 1-5 on page 10 of Considering Cumulative Effects Under the National Environmental Policy Act, CEQ, January 1997.

superficial analysis of a long laundry list of issues that have little relevance to the effects of the proposed action or the eventual decisions. FERC addresses this caution by focusing its cumulative impact assessment on “target resources”, as discussed above.

At the end of the scoping process there should be a listing of target resources to be addressed, a geographic boundary and timeframe assigned for each target resource identified, and a list of other activities that could potentially affect each of the target resources. Additionally, information and data needs should be clearly identified that will be needed to scientifically define the existing, affected environment, and to support the assessment of the predicted environmental consequences of cumulative impacts on the identified target resources (such as resource capabilities, thresholds, standards, guidelines and agency planning goals).

Appendix A presents detailed information on how to use steps 1-4 of during the scoping cumulative impacts during environmental assessments and Appendix B presents a short summary of how FERC has applied this methodology for Idaho Power Company’s Snake River Projects.

APPENDIX A

**BACKGROUND INFORMATION ON SCOPING
CUMULATIVE IMPACTS DURING ENVIRONMENTAL
ASSESSMENTS**

This Appendix presents an in-depth discussion about how FERC addresses scoping of cumulative impacts:

1. *Identify the significant target resources associated with the proposed project relicensing and define the assessment goals.*

To identify the major cumulative impacts of the proposed hydropower project relicensing, participants in the scoping process must define the following:

- the direct and indirect effects of the proposed project relicensing;
- which target resources are affected by the proposed project relicensing; and
- which effects on these target resources are important from a cumulative impacts perspective.

The CEQ admits that in a broad sense, all identified impacts on a target resource are probably cumulative, but that it is critical to narrow the focus of the cumulative impacts analysis to important issues of national or regional significance (again, FERC's definition of "target resources" addresses this directive). The CEQ recommends against including potential cumulative impacts issues identified during scoping that are irrelevant or inconsequential to decisions about the proposed action or alternatives. Successfully completing Step 1 largely defines the study goals for the cumulative impact analysis.

2. *Establish the geographic scope for the analysis.*

After the study goals have been established, the appropriate geographic boundary for the cumulative impact analysis needs to be defined. These boundaries are usually defined by geographic features rather than by the more artificial political boundaries. The CEQ recommends beginning by defining the project impact zone using the following procedure:

- Determine the area that will be directly affected by the proposed project relicensing – this is the project impact zone;
- Make a list of the target resources that could be affected by the proposed project relicensing;
- Determine the geographic areas occupied by these target resources outside the direct impact zone – generally the largest of these areas is the appropriate area for bounding the cumulative impacts analysis; and
- Determine the affected institutional jurisdictions, both from FERC’s perspective and for any other resource agencies and groups.

The CEQ recommends evaluating geographic boundaries by considering the distance an effect can travel. For hydroelectric projects the appropriate geographic boundary is usually defined as the appropriate portion of the associated watershed basin.

3. *Establish the timeframe for the analysis.*

This aspect of scoping is often one of the most troublesome and difficult to define. To determine how far into the future to analyze cumulative impacts for hydropower project relicensings, FERC generally considers the time frame covered by the likely term of the next license and then attempts to identify activities that could reasonably be expected to occur within that period. FERC then attempts to limit the timeframe to the period when the project-specific impacts – in combination with other identified activities – drop below a level determined to be significant for the identified target resources.

As for assessing past activities that may be cumulatively affecting target resources today and into the future, FERC’s policy has been to use existing information about past impacts to the extent it exists, but to avoid doing any speculative science in an attempt to define these impacts after the fact. The CEQ also supports this approach by noting that the “availability of data often determines how far back past effects are examined”⁵ – going on to note that because data describing past conditions is usually scarce, the

⁵ IBID – Page 17

analysis of past effects is often qualitative. Most collaborative hydropower relicensings in process today are focused on incorporating existing information on past impacts into the development of future management programs – looking forward towards opportunities for future management and resource enhancement rather than attempting to “assign” responsibility for past impacts. This approach is also consistent with the way FERC handles cumulative impact assessments when they manage the environmental assessment process for traditional relicensings.

4. *Identify other activities similarly affecting the identified target resources identified.*

The final step in the environmental assessment scoping process for cumulative impacts involves close coordination with other jurisdictional agencies and groups within the defined geographic boundary regarding their future development and management plans. In order to frame this portion of the NEPA scoping, the CEQ recommends developing guidelines early in the process as to what constitutes “reasonably foreseeable future activities” based on the current planning processes within each involved agency. They warn that including all known proposals ever considered would likely overestimate the future effects of cumulative impacts on the target resources and that an attempt to predict what future activities might be reasonably expected as a result of the proposed project needs to be completed at this stage.

The CEQ also provides guidance on which future activities can be excluded from cumulative impacts analysis as follows:

- if the activity is outside the geographic boundaries or time frame established for the cumulative impacts analysis;
- if the activity will not affect target resources that are the subject of the cumulative impacts analysis; or
- if including the future activity would be arbitrary.

At the end of the environmental assessment scoping process there should be a listing of target resources to be addressed, a geographic boundary and timeframe assigned for each target resource identified, and a list of other activities that could potentially affect each of the target resources. Additionally, information and data needs should be clearly identified that will be needed to scientifically define the existing, affected environment, and to support the assessment of the predicted environmental consequences of cumulative impacts on the identified target resources (such as resource capabilities, thresholds, standards, guidelines and agency planning goals).

APPENDIX B

SUMMARY OF FERC'S METHODOLOGY FOR SCOPING OF CUMULATIVE IMPACTS FOR IDAHO POWER COMPANY'S SNAKE RIVER PROJECTS

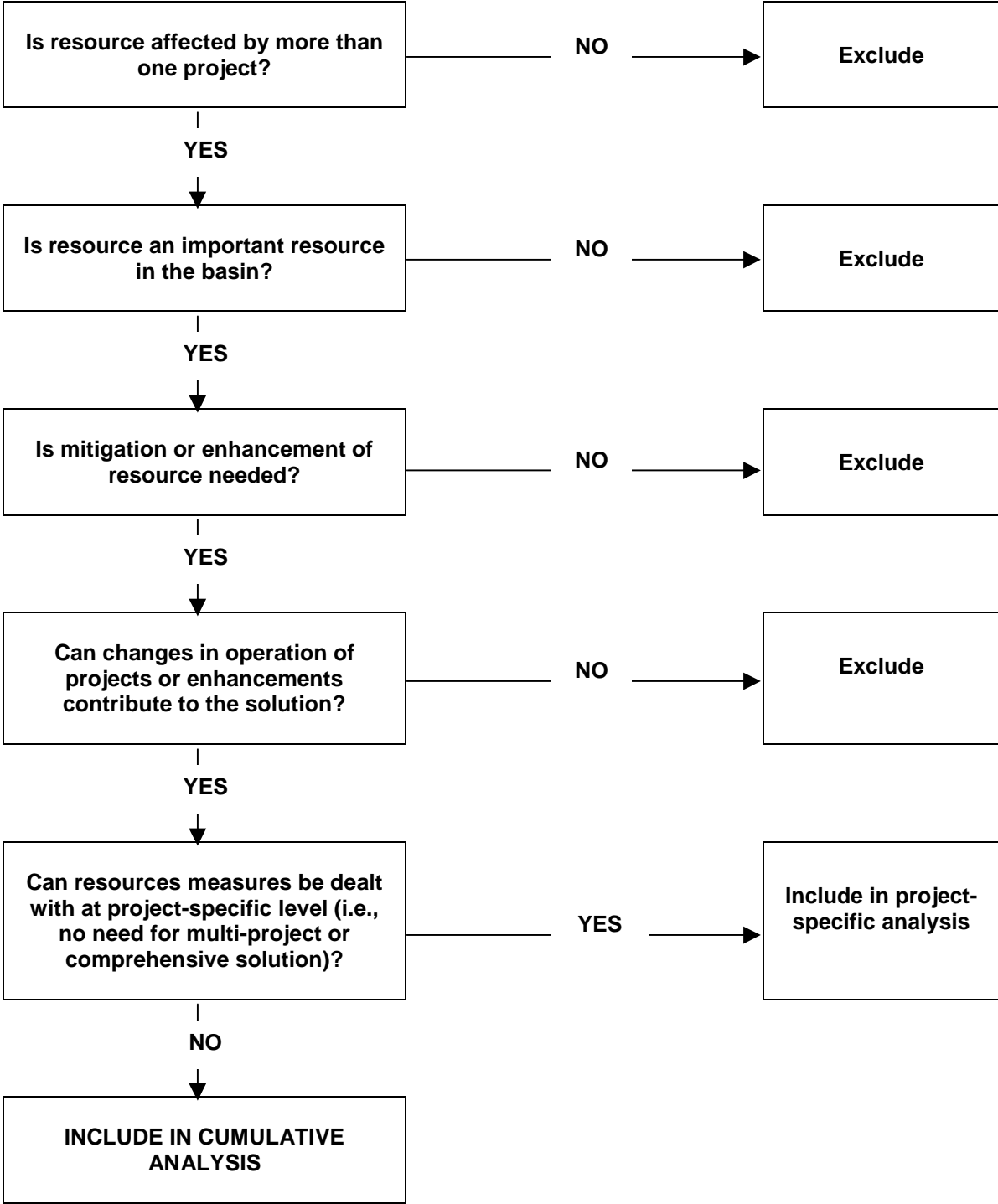
Idaho Power filed the license applications for the continued operation of Bliss (1975), Lower Salmon Falls (2061), Upper Salmon Falls (2777) and Shoshone Falls (2778) on May 27, 1997 – all located on a 57-mile stretch of the Snake River. FERC decided to do a multi-project EIS for these four projects and issued Scoping Document 1 in June 1997 and Scoping Document 2 in December 1997. FERC framed the major steps for scoping cumulative impact issues in Section 3.0 of Scoping Document 2 as follows:

1. Identifying Cumulatively Affected Target Resources – target resources were selected based on:

- Whether the resource has been cumulatively affected or is likely to be affected by multiple projects or other activities in the basin;
- The economic, ecological, recreational and cultural value of the resource;
- The national, regional, or local significance of the resource;
- The degree of agency/public concern; and
- Basin-wide management plans.

FERC used the following flowchart to determine whether a resource would be considered a target resource for the purposes of cumulative impacts analysis:

SHOULD RESOURCE/ISSUE BE INCLUDED IN THE CUMULATIVE ANALYSIS?



2. Determining the Geographic Scope – FERC defined the geographic scope for the cumulative impact assessment as the mainstem Snake River from Milner Dam to the confluence with the lower Granite Reservoir.
3. Determining the Temporal Scope – here FERC posed a series of questions about how to define the time limits or boundaries that will be considered in the analysis. They decided to look at past impacts to the degree that information is available and necessary in establishing the value or uniqueness of the resource. Into the future, they set the timeframe as 45 years into the future, concentrating their focus on target resources that could be affected by reasonably foreseeable future activities within the defined geographic scope.
4. Identify other Activities Similarly Affecting the Identified Target Resources – the past and ongoing developmental activities considered included constructions of dams for hydropower, irrigation, and flood control; irrigation, industrial, and municipal water diversions and discharges; agricultural development; grazing; logging; aquaculture; and recreational development. For ongoing and future activities they assess a range of plans which included the Bureau of Reclamation’s Snake River Resources Review; NMFS’ Biological Opinion on Operation of the Federal Power System and future opinions; NMFS’ proposed recovery plan for the Snake River Salmon; NWPC’s Columbia River Basin Fish and Wildlife Program; the Forest Service and BLM’s Interior Columbia Basin Ecosystem Management Project; and Idaho’s total daily maximum load plans for the Middle Snake River.

Using the above procedures and the resultant decisions from the NEPA scoping conducted, FERC defined the following target resources as being identified for inclusion in the cumulative impact analysis in the EIS:

- Water Quality
- Sediment Transport
- Resident Fish
- Anadromous Fish
- Federally Listed Aquatic Molluscs

- Riparian and Wetland Habitat
- Terrestrial RTE Species
- Native Grasslands and Shrublands
- Recreational Use Patterns
- Developmental Resources
- Air Quality

Complete copies of these scoping documents are available for downloading on FERC's Commission Issuance Posting System (CIPS) website at www.ferc.fed.us under docket number P-503.