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**INTERAGENCY CONSULTATION PROCESS
FOR ENVIRONMENTAL REVIEW OF
HYDROELECTRIC DEVELOPMENTS**

Prepared for

His Majesty's Government of Nepal
Ministry of Water Resources
Electricity Development Center

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Executive Summary

Acres International Corporation (Acres), under the USAID funded Private Electricity Project (PEP), has conducted an assessment of current Nepalese regulations, guidelines, and experience with the agency consultation process for licensing hydroelectric projects, with the objective of determining if any improvements could be made to the process. The existing Electricity Regulations, Environment Conservation Rules, and Environmental Impact Assessment (EIA) Guidelines were reviewed, EIA documents for existing and proposed hydroelectric projects in Nepal were examined, and interviews were conducted with project management personnel, government agencies, and NGO's. The U S Federal Energy Regulatory Commission (FERC) regulations were also reviewed, for reference, as an example of a "mature" set of regulations used to administer thousands of hydroelectric projects in the U S.

This comprehensive review indicated that existing Nepalese guidelines and regulations do include general requirements for interagency and public consultations during the EIA and licensing process for hydro projects, but specific procedures are not provided. From experience to date with existing and proposed projects, the consultation process has been applied with varying degrees of effort. Generally, for more recent projects proposed by more experienced developers, such as the Nepal Electricity Authority (NEA), the consultation process has been better designed and executed. Because of the variability in application, and the potential confusion that foreign developers may face in trying to follow the Nepalese guidelines and regulations, it is recommended that specific guidelines for interagency consultations be developed. These guidelines should be distributed by EDC through the RFQ/RFP process for new projects, or whenever EDC receives inquiries or statements of interest from potential developers. An initial draft of these guidelines is included in this report.

Another objective of this regulatory review was to assess whether smaller hydroelectric projects in the range of just over 5 MW could be exempted from the full EIA requirements, which may be onerous to potential developers of these smaller projects. The Environment Conservation Rules state that all projects greater than 5 MW must conduct the full EIA process. Although the legal implications of an EIA exemption process were beyond the scope of this assessment, Acres has presented preliminary criteria and a potential process for exempting projects up to 15 MW from the full EIA process. These projects would still be required to conduct an environmental review under the IEE process. Additional legal analysis of this potential exemption process, however, must be conducted before further development of the process could proceed.

As a result of this regulatory review, Acres identified two additional regulatory provisions that should be included in EDC's administration of hydroelectric project licenses. These are (1) procedures for the amendment of existing licenses, and (2) the relicensing of projects (in the future). Of more immediate concern is the need to develop procedures for amending licenses, for the development of additional capacity. This could occur in the near future, due to the usually better economics and environmental acceptability of adding generating units to existing projects. Relicensing of existing projects will not be faced for decades so is a less critical regulatory issue. Development of license amendment procedures should be part of the next phase of the PEP.

1 Introduction

The USAID funded Private Electricity Project (PEP) has been assisting HMG/N in its quest to establish sustainable hydropower projects through private participation. Part of this work has involved the review of institutional and regulatory arrangements for the development of private power projects in Nepal, under the "one window" policy, and a review of the environmental assessment process under current laws and regulations of Nepal. This work has been reported in previous PEP reports dated September 1995 and April 1996. These reports summarized the current environmental review process for new hydroelectric development in Nepal, and made recommendations on ways that the Electricity Development Center (EDC) could be institutionally strengthened to deal with future hydroelectric development proposals. Based on the current undeveloped hydroelectric capacity in Nepal, and the recent interest shown by international developers, the number of future proposals is expected to increase significantly. If this occurs, EDC must be able to effectively quantify the positive and negative aspects of future proposals, and must have an established and efficient licensing process that allows a fair and timely review of these future proposals. This phase of the work under PEP will focus more precisely on institutional procedures that should be adopted by EDC to provide this effective review and licensing process, and to allow HMG/N to encourage the development of hydroelectric resources, while at the same time protecting the unique environmental resources of Nepal.

HMG/N currently has draft guidelines for the Environmental Impact Assessment (EIA) process for water resources projects in Nepal (published in 1994), and this process includes recommendations for interagency consultations and scoping. This EIA process was previously reviewed under the current PEP contract, but prior to the release of new Environment Conservation Rules on September 7, 1997. This previous work also did not specifically examine the mechanics of the interagency consultation process, and how this process could be made more efficient. This phase of the work will build upon the results of the previous review, and in consideration of how the existing process has worked to date, will focus on whether the mechanics of the process could be improved.

A secondary objective of this report is to review, based on a request from EDC, whether smaller-sized hydroelectric projects, in the range of 5 to 15 MW, could be exempted from the current full EIA process, which is now required for all hydro projects greater than 5 MW. The concept would be to shorten the environmental review process for these smaller projects that have fewer environmental impacts, to allow the projects to proceed more expeditiously to construction. These smaller projects often benefit isolated communities, through electrification, and EDC's objective is to produce a regulatory climate that will not discourage private developers from proposing these smaller projects.

Parts of this draft report were further developed by the Environmental Specialist in the following draft reports:

- ▶ Interagency and Public Consultation Guidelines for Application for Production License, June 1998
- ▶ Review of Potential for Exempting Smaller Hydroelectric Projects from the Full EIA Process, June 1998
- ▶ Summary of Existing Guidelines and Regulations for Hydropower Licensing in Nepal, June 1998

2 Review Methodology

2.1 Existing Nepalese Guidelines and Regulations

The initial step was to review the current Nepalese regulations and guidelines to identify requirements for interagency consultations, particularly for hydroelectric and water resources projects. This step is important, to identify the process that hydro developers currently must deal with, and to determine how well the current regulations and guidelines are coordinated. In addition, any procedural improvements later considered during the review can be appropriately viewed as to whether they would require amendment of the current regulations, or simply revisions to existing guidelines.

The following existing guidelines and regulations were reviewed:

- ▶ The Electricity Regulation, 2050, promulgated pursuant to the Electricity Act, 2049 (1993)
- ▶ The National Environmental Impact Assessment (EIA) Guidelines (published in 1993)
- ▶ Draft Environmental Impact Assessment Guidelines for the Water Resource Sector (Power and Irrigation) (1994)
- ▶ Environment Conservation Rules, 1997 (published September 7, 1997)

Further background information on the above regulations and guidelines were obtained by reviewing:

- ▶ The Nepal Hydropower Development Policy, 2049 (1992)
- ▶ The Water Resources Act, 2049 (1992)
- ▶ The Electricity Act, 2049 (1992)
- ▶ The Nepal Environmental Policy and Action Plan – Integrating Environment and Development, by HMG/N Environmental Protection Council (1993)

As part of this review of governmental requirements, the World Bank Environmental Assessment Guidelines were also reviewed. Although the World Bank has no legal authority in Nepal, many of the private hydroelectric projects that may be developed in Nepal may be assisted by World Bank financing. In addition, the World Bank environmental review process is a standard used throughout the developing world.

Previous environmental review documents prepared under the PEP contract were also reviewed, including:

- ▶ Review of Institutional and Regulatory Arrangements for Private Investment in Nepal's Power Sector (September 1995)
- ▶ Strengthening EDC's Capacity for Environment Review and Management of Power Sector Projects (April 1996)

2.2 EIA Documents for Existing and Proposed Hydroelectric Projects

Several hydroelectric projects have already been through the environmental approval and licensing process in Nepal, and are either in operation or under construction. Others are currently in the planning stage. Available EIA documents or other environmental study reports were reviewed, for a description of the consultation process that occurred for these projects, or that is proposed. These reports also provided insight as to the types of issues that have been the subject of the consultations, and whether the issues have been successfully resolved through the consultation process.

EIA and other environmental documents from the following projects were reviewed

- ▶ Jhimruk Project, on the Jhimruk Khola and Madi Khola
- ▶ Modi Khola, on the Modi Khola
- ▶ Chulme, on the Bhote Koshi River
- ▶ Ilam, on the Puwa Khola
- ▶ Kali Gandaki "A", on the Kali Gandaki River
- ▶ Upper Bhote Koshi, on the Bhote Koshi River
- ▶ Khimti Khola, on the Khimti Khola
- ▶ West Seti, on the West Seti River
- ▶ Dudh Koshi 1, on the Dudh Koshi River
- ▶ Tamur Project, on the Tamur River
- ▶ Upper Karnali Project, on the Karnali River

Of the various documents reviewed, the most comprehensive EIA's were available for the Ilam, Kali Gandaki "A", Upper Bhote Koshi, and Upper Karnali Projects. One of the most comprehensive EIA Reports was for Kali Gandaki, which is the largest hydroelectric project currently under construction in Nepal (144 MW). The Terms of Reference (TOR) for the West Seti EIA were reviewed, and the EIA will likely be comprehensive due to the size of the project (750 MW), but the EIA is not yet available. The Dudh Koshi 1, Tamur, and Upper Karnali Projects are part of the Medium Hydropower Study Project (MHSP) conducted by the Nepal Electricity Authority (NEA). The Draft EIA for Upper Karnali was a comprehensive report.

2.3 Interviews with Project Proponents, Government Officials, Consultants, and Non-Governmental Organizations (NGO's)

As part of the investigation of the experience to date in Nepal with the agency consultation process, interviews were made with project developers, government officials, consultants to the power development organizations, and NGO's who have participated in the review and licensing process. Included in these interviews were environmental and project managers for some of the projects already operational or under construction.

As part of this interview process, the Environmental Specialist, along with the locally-hired Stakeholder Analyst and a hydropower engineer from EDC, conducted a four-day field trip to three projects west of Kathmandu, and a four-day trip to three projects south and east of Kathmandu. The purpose of the trips was to review issues associated with the six projects, and to interview project personnel on the primary stakeholder issues that arose during the project licensing, as well as the extent of agency consultations that occurred. From February 5 through 8, 1998, the team visited the existing 69-MW Lower Marsyangdi Project (NEA), the existing 14-MW Jhimruk Project (Butwal Power Corp - BPC), and the 144-MW under construction Kali Gandaki "A" Project (NEA). From March 11 through 14, the existing Kulekhami I and II stations (NEA)(total of 92 MW), the under construction Upper Bhote Koshi Project (Bhote Koshi Power Company Private Ltd - BKP)(36 MW), and the under construction Khimti Project (Himal Power Limited - HPL)(60 MW) were visited. The six project sites were toured, and project site personnel were interviewed. Prior to and following the trips, the Environmental Specialist and Stakeholder Analyst also interviewed BPC, NEA, BKP, and HPL personnel in Kathmandu.

The purpose of the interviews, regarding the interagency consultation process, was to solicit the views of individuals from the power development organizations, government agencies, and private NGO's as to

- ▶ Whether the existing process was efficient, and effective in fully informing all parties as to the project design, schedule, and potential impacts
- ▶ Whether environmental and social concerns were adequately addressed under the current process

- ▶ Whether the power development organization found the process adequate from a scheduling and planning perspective
- ▶ Whether the various organizations have had any constraints that affected their participation in the current process
- ▶ Whether any changes or improvements could be made to strengthen the consultation process

The following HMG/N ministries and departments, and NGO's were also interviewed in Kathmandu

- ▶ Electricity Development Center, Ministry of Water Resources
- ▶ Department of Fisheries, Ministry of Agriculture
- ▶ Department of Forest, Ministry of Forest and Soil Conservation
- ▶ Ministry of Population and Environment
- ▶ Water and Energy Commission Secretariat
- ▶ King Mahendra Trust for Nature Conservation (NGO)
- ▶ IUCN - The World Conservation Union (NGO)

2 4 Review of Pertinent U S Regulations

The U S Federal Energy Regulatory Commission (FERC) is responsible for the regulation and licensing of private hydroelectric projects in the U S FERC has established procedures for licensing and relicensing, which have been developed over the nearly 70 years that the agency has been in existence These procedures are codified in the U S Code of Federal Regulations (Chapter 18), and include detailed requirements for conducting interagency consultations during project licensing These requirements were developed over time by FERC, as a means to facilitate and improve the licensing process FERC found that as environmental and social concerns became larger issues during licensing, a more efficient and step-wise interagency consultation process, which includes NGO and public participation, was required As a result, FERC developed the current Three-stage Consultation Process, which is described in Parts 4 38 and 16 8 of the FERC regulations, for original licensing and relicensing, respectively

These regulations were reviewed, along with specific Acres' experience with the licensing of hydroelectric projects, both major, unconstructed and for relicensing, in the U S This review was made in consideration of the Nepalese environment for hydroelectric development, to determine whether similar procedures to the FERC consultation regulations would be applicable for use in licensing in Nepal

3 Summary of Existing Nepalese Consultation Guidelines and Regulations

3.1 Electricity Regulation, 2050

These regulations were established in 1993, pursuant to Section 40 of the Electricity Act, 2049. The Electricity Act was passed to encourage the development of electrical generation facilities in Nepal, to provide better electrical service and economic development in Nepal, as well as to encourage development of power facilities for export of power to other countries. The Act also established the EDC within the Ministry of Water Resources (MOWR), which would function as the electricity development unit under the MOWR. EDC would serve as the "one window" agency for the approval (licensing) of private hydropower development within Nepal by both domestic and foreign investors. The Electricity Regulations define the licensing process for hydroelectric developments, and specify the information that must be included in the application for license and associated filings. Licenses are required only for hydroelectric projects greater than 1,000 kW in capacity. For projects less than 1,000 kW, the developer is only required to file a notice with EDC/MOWR before starting construction. No licensing or notification requirements apply to projects less than 100 kW.

The process for filing for a license to construct a hydroelectric project is illustrated in Figure 3-1. The two stages of licensing are the Survey License and the Production License. The Survey License allows the licensee to investigate a specific hydroelectric site for a period specified by the license (maximum of five years). During the term of the Survey License, the licensee has the sole right to study that site, without the possibility of another applicant filing a license application on the same site. As stated in the Electricity Regulations, under the terms of a Survey License, the licensee must

1. Begin survey work within three months after the license issuance date
2. Submit six-month progress reports to EDC during the term of the license
3. Submit a report to EDC on the results of the investigations, within 30 days after the completion of studies under the license

A Production License (Figure 3-1, Sheet 2) is required for actual construction of a hydroelectric project. Under the Electricity Regulations, the licensee must

1. Begin construction work within 12 months after the license issuance date
2. Submit six-month progress reports to EDC until construction is completed
3. Comply with any other requirements of the license

The production license must be renewed one year prior to the expiration date, as set in the original license. No other relicensing provisions, however, are described in the regulations. The maximum term for a production license is 50 years.

The Electricity Regulations spell out the overall process for applying for a Survey License and a Production License as described above. The Regulations, however, do not provide any guidelines or specifications for interagency consultations or public participation other than the 35-day public notice period provided under the Production License application process. License applications are required to contain an analysis of environmental

effects and a description of mitigative and enhancement measures proposed by the applicant, but the specifications for license applications do not contain any provisions for agency consultations

3 2 Environmental Impact Assessment (EIA) Guidelines

Two major guidelines for conducting EIA's in Nepal have been issued in recent years. These are

- 1 National Environmental Impact Assessment Guidelines, published in 1993 by the National Planning Commission, HMG/N, in collaboration with IUCN – The World Conservation Union
- 2 Environmental Impact Assessment Guidelines for the Water Resource Sector, published in Final Draft in 1994 by the National Planning Commission and Ministry of Water Resources, HMG/N, in collaboration with IUCN – The World Conservation Union

The guidelines are similar in content, and spell out a relatively detailed process for conducting an environmental review of proposed development in Nepal, using a two-tiered process of an Initial Environmental Examination (IEE) and the full EIA. For this report, the Draft Guidelines for the Water Resource Sector were reviewed in greatest detail. This is the most recent guidelines document, and the one that applies specifically to hydropower development. Figure 3-2 illustrates the overall EIA process for hydropower development in Nepal. The following general criteria also apply, based on the capacity of the proposed project and the type of activity proposed.

Type of Activity	No Requirement for IEE or EIA	Requires IEE	Requires Full EIA
Master Plan or Basin wide Studies	NA	Applies	NA
Feasibility Study Not Under License	Applies For Projects Up To 5.0 MW	Applies For Projects Greater Than 5.0 MW	NA
Feasibility Study/Detailed Design Under License	Applies For Projects Up To 1.0 MW	Applies For Projects From 1.0 to 5.0 MW	Applies For Projects Greater Than 5.0 MW

The Guidelines state that both interagency and public consultations should occur throughout the EIA process, and should begin as early as possible in the process (Figure 3-2). The stated advantages are that, for the public, their participation in the process will give a sense of ownership, will allow the opportunity for inclusion of traditional wisdom, and may be valuable for rallying public support for the project. For government agencies, their participation in the process will allow for the early identification of significant environmental issues, which may be more easily mitigated through project design and planning. Early agency involvement will also allow the agencies to be fully informed about a proposed project, avoiding any "surprises" that may act to later erode agency support for the project. Another aspect of the agency consultation process that is recommended by the Guidelines, is scoping of the EIA studies to focus the studies on the most important, potentially significant issues. The ultimate objective of scoping is to produce Terms of Reference (TOR) for the EIA studies that are focussed on the important issues, and are acceptable to the government agencies and other interested groups.

Although the importance of interagency and public consultations are described in the Guidelines, and it is stated that these consultations should occur throughout the EIA process, the Guidelines do not provide any specific recommendations on how or when specific steps should be taken in this consultation process. In addition, the

Guidelines do not outline how the EIA process in general, and the consultation process in particular, should relate to the hydro licensing process set out in the Electricity Regulations

3 3 Environment Conservation Rules, 1997

These are the most recent national environmental regulations implemented in Nepal, having been officially published on September 7, 1997. These rules were implemented pursuant to Section 24 of the Environment Conservation Act, 2053 (1997). Similar to previous EIA guidelines, these new rules also set out a two-tiered environmental assessment process using the IEE and the EIA. These rules, however, apply to all types of potential development in Nepal, including forest management and utilization, industrial development, mining, road construction, water resources and energy development, tourism, drinking water supply, garbage management, and agriculture (which includes all types of food production, processing, and fish farming). Since these rules cover such a wide range of business sectors, they are somewhat general, and require some interpretation for applicability to the hydroelectric licensing process.

Figures 3-3 and 3-4 summarize the environmental approval process under the new rules. Comparison of these figures with Figure 3-2, the 1993 EIA Guidelines, indicates many similarities between the two processes. The categories of projects for which an IEE or EIA apply are also the same (as described in Section 3.2). An area where the 1997 Rules are more specific is the requirement for public notices and providing the public and other interested parties the opportunity to review draft IEE's or EIA's prior to their submittal to the regulatory agency. Under the IEE process, the Applicant must issue a 30-day notice to local agencies and groups on the proposed project as the first step in the process. Later the Applicant must also provide the draft IEE to local groups for a 30-day review period, prior to filing the project application with the regulatory agency (Figure 3-3). Similarly, two public comment periods are provided within the EIA process (Figure 3-4). The Applicant is required to provide the draft EIA to interested parties, before filing the application. Under the EIA process, the Ministry of Population and Environment (MOPE) must approve the project, and will issue a public notice (30-day notice period) after it receives the application and final EIA. Under the new Rules, the MOPE may also establish an interagency committee to review the EIA, before the final approval is given on the project.

The Environment Conservation Rules also include specific requirements for the post-licensing period. Once the Licensee begins construction, the licensing agency (EDC in the case of hydroelectric developments) must monitor the Licensee's compliance with license terms, and continually evaluate the ongoing mitigative measures (Figure 3-5). If the ongoing mitigation is considered to be inadequate, EDC may require the Licensee to implement additional measures. In addition, MOPE is charged with conducting its own evaluation of project impacts and mitigative measures, two years after the start of construction. Although it is not specifically stated in the Rules, the implication is that MOPE may also require additional mitigation if it believes that ongoing measures are insufficient. The rules do not specify any other consultations with other agencies during the post-licensing period.

Thus, although the new Rules do require consultations during the approval process and during the post-licensing period (on a more limited basis), as noted above, the new Rules must be examined in relation to the current licensing regulations, and draft EIA Guidelines (1994), to ensure that a single, coordinated licensing and environmental review process is available for hydroelectric development in Nepal. The current situation, with multiple regulations and guidelines, may be somewhat confusing, especially for foreign investors with an interest in developing hydroelectric projects in Nepal. Large foreign investors who have contracted the services of experienced international consulting firms, who are more familiar with the EIA process in Nepal and other countries, may be less affected. Smaller investors, however, who may not be able to afford the more experienced consultants, may have more difficulty with the current regulations.

3 4 The World Bank Guidelines

The World Bank Guidelines for Environmental Assessment of Energy and Industry Projects were reviewed. These guidelines were prepared in 1991, and have served as the basis for many other EIA guidelines prepared around the world. The Nepalese EIA guidelines prepared in 1993 and 1994, discussed in Section 3 2, are very similar to the World Bank Guidelines. Regarding interagency consultations, the World Bank Guidelines also stress that such consultations are very important in the EIA process, and recommend that they begin early, and continue throughout the process. The Guidelines provide some additional detail on the recommended structure for interagency consultations, including an initial scoping meeting, "mid-term" meetings, and circulation of draft reports to the agencies for comment. Recommendations are also made for community involvement and consultation with NGO's, devoting an entire chapter to this subject. The following table generally summarizes the World Bank suggested process for interagency and community consultations, throughout the life of a project.

Table 3-1

The World Bank General Guidelines for Interagency Consultations

Project Stage	Consultation Step	Typical Duration (years)*
Initial Planning	Initial Information Meetings & Request for Comments	0.5
Pre-feasibility Study	Begin EIA Scoping & Conduct Scoping Meeting(s)	0.5
Feasibility Study Begins	Select EIA Studies Conduct Further Meetings	0.5
Conduct EIA Studies/Feasibility Study Continues	Periodic Progress Meetings/Interim Reports	1.0 – 1.5
Prepare Draft/ Final EIA/Complete Feasibility Study	Draft EIA Issued for Comment/Review Meeting(s)	1.0
Licensing/Permitting	Public Notices/Further Community Meetings	0.5 – 1.0
Construction	Agency/Community Input to Ongoing Mitigation	5.0
Operation	Agency/Community Input to Ongoing Monitoring	30.0+

* Estimated duration for medium to large projects

These guidelines provide a valuable model for the interagency consultation process, and were considered in the development of the recommendations in Section 6 of this report.

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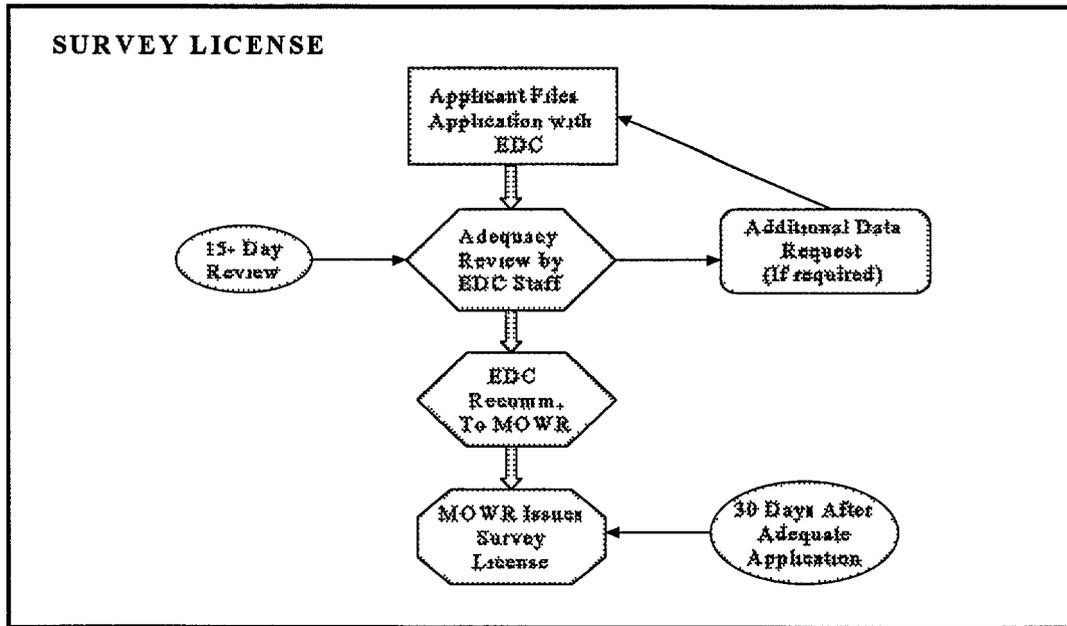


Figure 3-1 License Application Process in Nepal Sheet 1 of 2

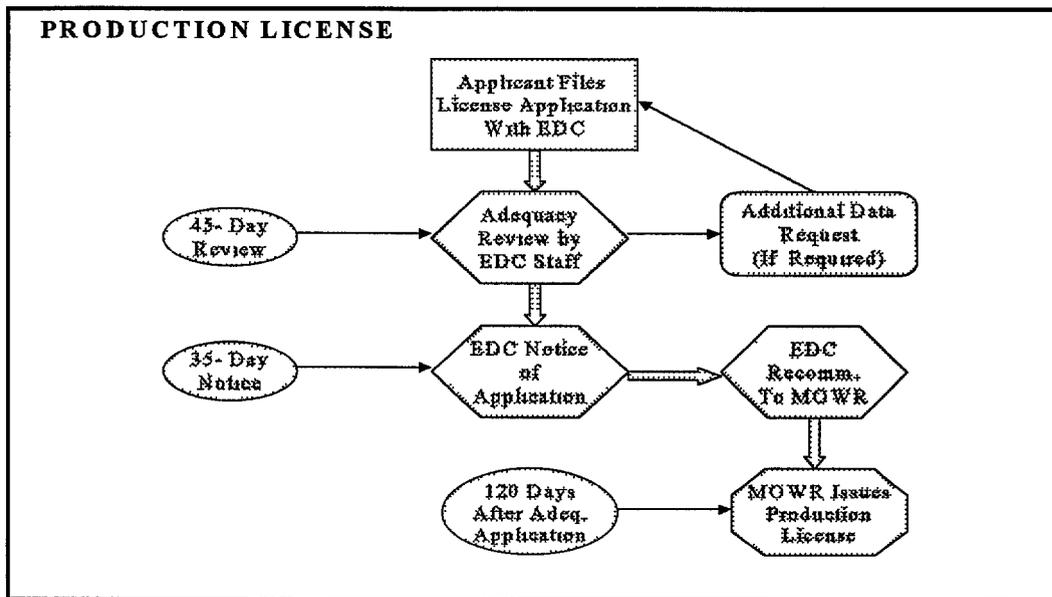
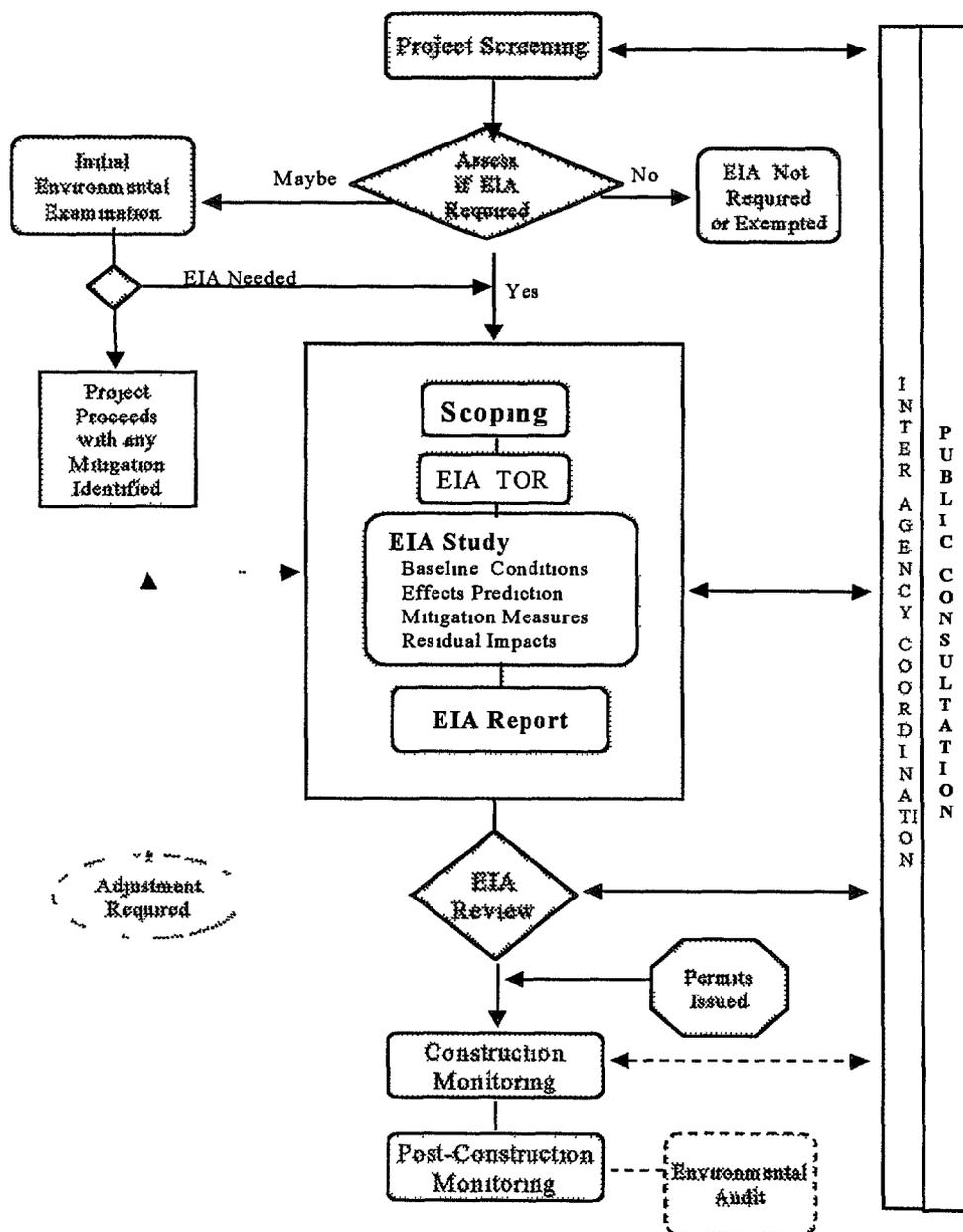


Figure 3-1 License Application Process in Nepal Sheet 2 of 2

Figure 3-2 EIA Process in Nepal
(EIA Guidelines, 1993)



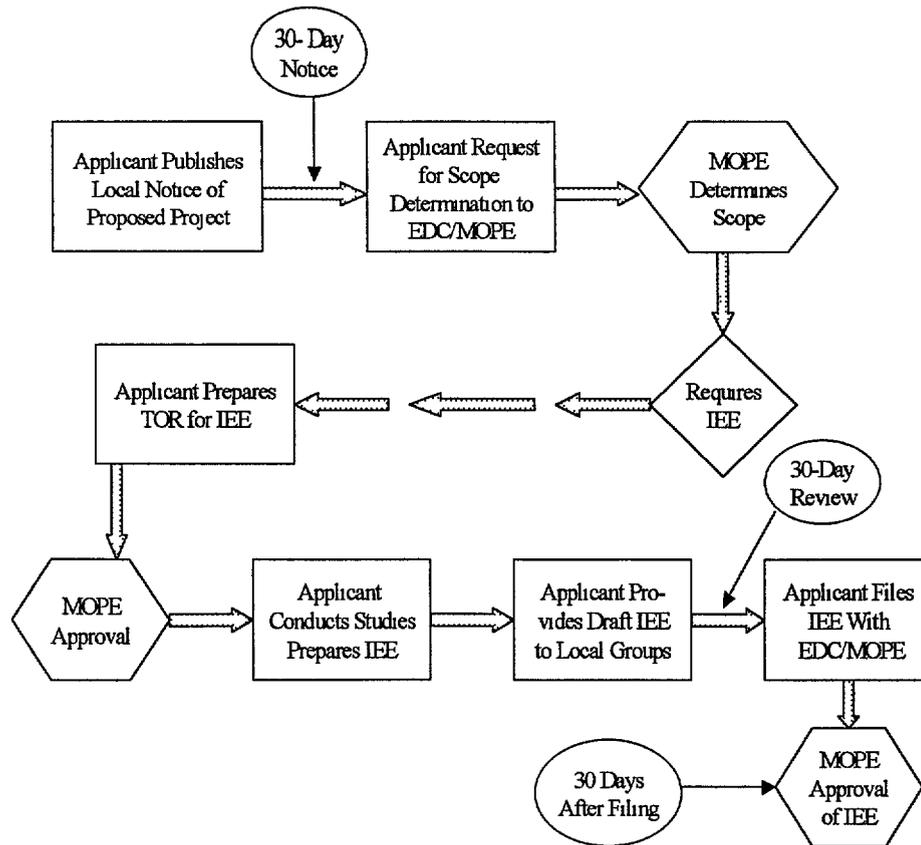


Figure 3-3 IEE Approval Process, Environment Conservation Rules, 1997

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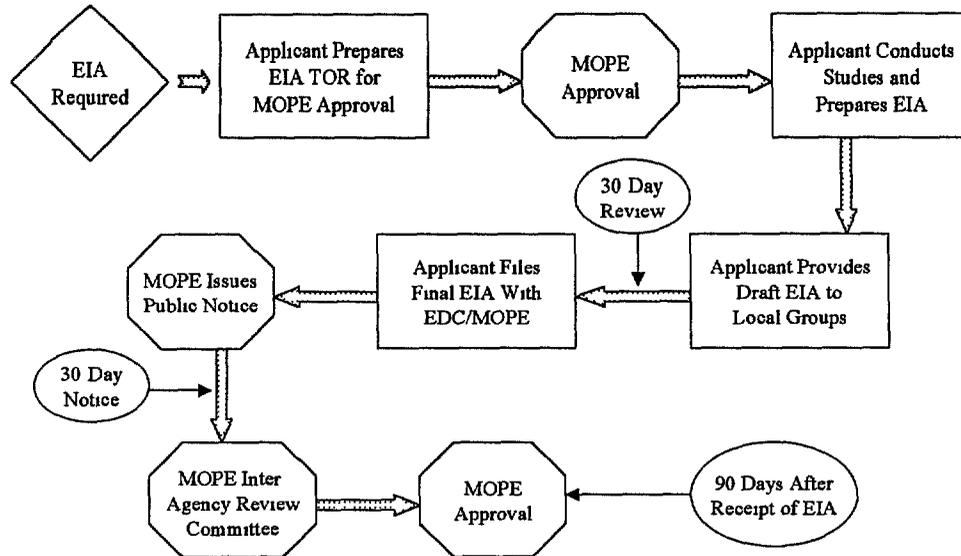


Figure 3-4 EIA Approval Process, Environment Conservation Rules, 1997

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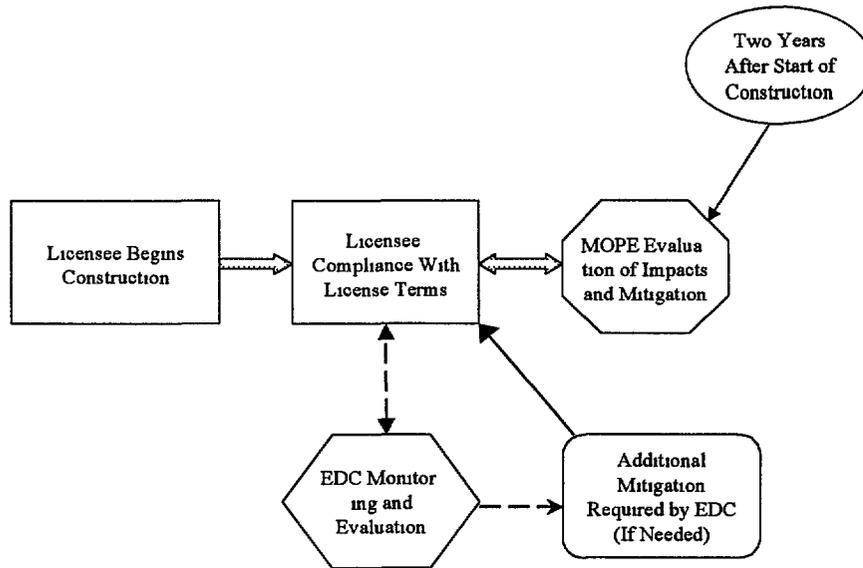


Figure 3-5 Post-Licensing Compliance, Environment Conservation Rules, 1997

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4 Consultation Experience to Date

After reviewing the EIA and other environmental documents from the 11 projects noted in Section 2, and interviewing project personnel, it is apparent that the major focus of the environmental review and agency consultation process for projects in Nepal is on the social aspects of hydropower development. The concerns and needs of the people living in the proximity of the project are generally the most important issues that will affect the construction and operation of the project. Thus, most of the consultations are with the local Village Development Committees (VDC's) and other local government organizations, and less with the HMG/N Ministries, on issues related to the biological and physical impacts of the project. Project personnel, however, indicated that consultations with the Ministries are still important, in that some, such as Public Works and Transport, are very interested in some aspects of the project, such as access roads. In many cases, the project access road may be the first road constructed through an area, and will serve as the primary transportation route to the area long after project construction is completed.

Many of the EIA and other documents reviewed for the 11 projects did not describe in detail the agency consultation process that had occurred or will occur on each project. Exceptions were the Kali Gandaki, Upper Bhote Koshi, and Upper Karnali Projects, which did describe the process in some detail. The Khimti Khola Project also provided some description of their consultations with affected parties, and the West Seti TOR described the initial scoping meeting, and plans for additional consultations. For projects in the planning stage, the MHSP EIA scoping reports for the Tamur and Dudh Koshi 1 Projects provided a good description of the proposed consultation process, and the Draft EIA for Upper Karnali included an adequate description of completed and proposed consultations. The description of the public and local agency consultations that occurred for the Kali Gandaki Project was the most detailed, listing nine separate steps or actions taken by the Nepal Electricity Authority (NEA) during this program, which will continue for the life of the project.

The environmental report reviewed for the Jhumruk Project, which was a summary of the environmental aspects of the project, prepared after the project was constructed, suggested that several of the major social issues associated with the project were at least partially due to the lack of consultations during the early planning phase of the project. The report concluded that early consultations may have prevented some of the issues from becoming problems later in the development of the project.

This section further summarizes the experience of the project proponents, government agency personnel, and NGO's in the consultation and environmental review process for hydroelectric projects to date in Nepal.

4.1 Project Proponent Viewpoint

Most of the project proponent personnel interviewed agreed that the interagency and public consultation process was important during the planning phase for a hydroelectric project, and that these consultations should occur early in the process. Most also understood that the project will be expected to provide mitigation for project impacts, and that mitigation for social impacts will likely be the priority for most projects. Several managers, however, did express the need for improvements to the consultation process. Suggestions were that the process should be formalized and better organized, so that project proponents are not "surprised" by new groups or individuals who come onto the scene later in the process. Some managers complained that the public consultation process, in particular, is never ending, with new issues continually arising throughout the planning, construction, and operational phases of the project.

Consultation with other government agencies and ministries during the environmental review process was not identified, by any of the managers interviewed, as a particular "problem", and as noted above, appeared to be secondary in importance to consultations on the local level. Some managers indicated, however, that there still was a need for a more coordinated approach to consultations with government ministries. Suggestions were that a "committee" of all the relevant ministries should be formed early in the process, to review and comment on the project, and provide coordinated recommendations for mitigation. Experience to date has indicated that agency recommendations may also be made throughout the planning, construction, and operational phases of the project, making it more difficult for project proponents to properly plan and budget their projects.

4 2 Government Agency Viewpoint

Interviews with government ministries presented a significantly different perspective on the interagency consultation process, than was obtained by reviewing EIA documents and by interviewing personnel from the power development sector. Agencies in general were not satisfied with the process as it now occurs, believing that inadequate consultations have generally occurred during the implementation of many hydroelectric projects in Nepal.

The Department of Fisheries (Ministry of Agriculture) stated that the agency is seldom consulted on an "official" basis, although there are some individual "personal" contacts between fisheries personnel and personnel from power development organizations. There is seldom any contact or request for assistance, however, regarding the design of mitigative measures, which the Department believes is an important function that it could serve. The Department stated that it is not opposed to the development of hydropower in Nepal, but would like to ensure that project impacts are adequately mitigated. The Department believes that more recent developments, such as the Kali Gandaki "A" project, have been attempting to provide appropriate mitigative measures, but the best way to ensure this is to have the involvement of the Department from the beginning of project planning.

The Ministry of Population and Environment (MOPE), which is responsible for the review of EIA's submitted by project developers, also believes that there should be better institutionalized mechanisms for agency consultations from the beginning of project planning. This would ensure proper agency involvement in the process, as opposed to the present system, in which personal contacts often serve as the primary means of coordination among the agencies and developers. MOPE reported that some formal interagency coordination now occurs, but it will vary from project to project. Personal contacts may work in some circumstances, but this system breaks down if key personnel change jobs or retire, leaving a gap in the communication chain. This system may also be more difficult for foreign developers, who may not have sufficient contact personnel within the Nepali Government ministries.

The Department of Forest, Ministry of Forest and Soil Conservation, reiterated the views of the Department of Fisheries, in that the Department of Forest is generally not consulted during the planning and licensing of hydroelectric projects. The Department has reviewed EIA's for some power developments, but only on an intermittent basis. Likewise, the Department is seldom asked to assist in the development of mitigative measures for forest and soil protection, associated with hydropower development, and provide its expertise on these matters. The Department believes that it would be beneficial to power developers, and to meet the objectives of environmental protection, for the agency to be consulted during the planning, licensing, and implementation of hydroelectric projects.

An interview with the Water and Energy Commission Secretariat (WECS) provided an overall view of the interrelationships among the various government ministries, related to implementation of hydroelectric projects.

WECS agreed that the interagency consultation process, as laid out in the Environment Conservation Rules, 1997, has not yet been fully implemented by any hydroelectric project. Several projects currently in the planning stage under the Medium Hydro Study Project, however, are following the new rules, and will likely become the "test cases" for the new rules, which have only been in effect for about three months. WECS also believes, however, that there are some vague areas in the Environment Conservation Rules, and it is not clear how some provisions of the rules will be implemented, particularly related to interagency coordination. A primary issue is the exact responsibility and capabilities of MOPE to serve as the overall environmental protection ministry for the government of Nepal.

The overall consensus of agency personnel interviewed was that the interagency consultation process for hydroelectric project licensing and development, although perhaps only in its "formative" stages, should be better institutionalized, to ensure that agency input to project planning is in place as early as possible in the process. The agencies support the objective of developing Nepal's hydropower resources, but believe that adequate mitigative measures should be incorporated into project planning and development.

4.3 NGO Viewpoint

Both a national (King Mahendra Trust for Nature Conservation - KMTNC) and an international (IUCN-The World Conservation Union) NGO were interviewed. Both NGOs believe that the interagency consultation process has not been adequately applied during most hydroelectric developments to date in Nepal. The record of consultations with NGOs is somewhat inconsistent. IUCN has been consulted on a more regular basis, since it has been a major player in developing the EIA guidelines for Nepal, and has a large database of information on Nepal that is useful to developers and consultants. IUCN has also served as a consultant on some projects, the Upper Bote Koshi Project being the most recent example. For KMTNC, even though they were a major player in the Arun III Project, are not regularly consulted for other projects, either by developers or by government agencies. Some contacts do occur on a personal basis, but there are few "institutional" contacts.

Both NGOs believe that government ministries and NGOs with valuable expertises should be consulted early in the EIA and licensing processes, and that a standardized system be provided so that all pertinent players can have access to the process. In addition, this process should be coordinated by a lead agency, so that other players can remain fully informed about the process. Similar to the government ministries that were interviewed, the NGOs' primary interest in recommending a better interagency consultation process is to ensure that adequate mitigative measures are incorporated into project planning as early as possible.

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5 Review of U.S. Interagency Consultation Process for Hydropower Licensing

5.1 U.S. FERC Interagency Consultation Requirements

As noted previously, the FERC regulations (Title 18 of the Code of Federal Regulations – 18 CFR), have very specific requirements for Applicant consultations with state and Federal agencies, Indian tribes, NGO's, and the public, prior to filing the license application with FERC (the Three-Stage Consultation Process). This process was adopted in 1985, during the time when FERC was receiving thousands of applications per year for small hydroelectric projects. This was in response to U.S. legislation (the Public Utility Regulatory Policies Act – PURPA – passed in 1978) that encouraged the development of domestic hydropower, to decrease reliance of the U.S. on imported energy supplies. Because of the heavy volume of licensing actions, the concerns of many agencies, NGO's, and other stakeholders were not being adequately addressed through the consultation process that was required by FERC at that time. Many issues were not identified early in the process, when these issues could be more easily resolved through project design or planning. Surfacing of these issues later in the process often resulted in regulatory delays, and in many cases, delays in the implementation of the project, with resulting economic impacts.

The focus of the Three-Stage Consultation Process (TSCP) is to identify, as early in the process as possible, those environmental, social, and economic issues that could affect the feasibility of the project. In addition, the information developed through the TSCP should provide sufficient data, in order for FERC to make an informed decision on whether or not the project should be licensed, based on technical, economic, and environmental grounds. Figure 5-1 illustrates the major activities required under the TSCP, based on the latest regulations. This process has been refined through the years, with the latest changes occurring in 1997. The 1997 changes combined the TSCP with the environmental assessment (EA) or environmental impact statement (EIS) process, which previously began after the license application was filed with FERC.

In the First Stage of Consultation (Figure 5-1, Sheet 1), the Applicant is required to notify all relevant state and Federal agencies and Native American Indian tribes that occur in the vicinity of the project, that it intends to file for a license application for a specific project. Included in this initial notification (the First-Stage Consultation Package) will be as detailed information as possible on the proposed project, along with the Applicant's proposed environmental mitigation and enhancement measures known at that time. This is followed by an interagency scoping meeting, which also must be open to the participation of the public, to identify the major issues associated with the proposed project, and primary studies that should be conducted. The summary of the meeting will be issued by the Applicant in the form of a scoping document, which the agencies and other interested parties will then have 60 days to comment on, and to provide final recommendations on studies. In the event that the Applicant and agencies disagree on what studies must be conducted, FERC staff will act in a dispute resolution role to determine what are the critical studies.

The Second Stage of Consultation (Figure 5-1, Sheet 2) is the most time-consuming, in that the Applicant conducts most of the environmental studies during this stage, and prepares the draft license application and initial draft of the EA or EIS (depending on the scope of the project). Once these draft documents are issued to the agencies and other interested stakeholders, these groups will have 90 days to review and comment on the documents, and to make recommendations to the Applicant on proposed measures to mitigate the impacts of the project. If disagreements remain between the Applicant and agencies regarding expected project impacts, or proposed mitigation, the Applicant and agencies will meet to attempt to resolve these issues. If agreement can

be reached, the Applicant and cooperating parties normally will sign a settlement agreement, which will be included in the final license application. If agreement can not be reached, the opposing positions will be outlined in the license application, for resolution by FERC.

During the Third Stage of Consultation (Figure 5-1, Sheet 3), the Applicant will finalize the license application and the EA or EIS, and file this package with FERC. At the same time, this package must also be provided to those agencies and other parties that participated in the consultation process. The final application must include a documented record of all the consultations that occurred, since FERC normally is not an active participant in most of the projects being proposed. After receiving the final application, FERC will issue a public notice that the application has been filed, allowing any agency or other party to file further comments or recommendations on the project during the 60-day notice period. FERC may also request additional information from the Applicant, after its initial review of the application, to correct any deficiencies or information gaps. The Applicant is given a reasonable time period to provide this additional information (normally 90 days). When the Applicant files this additional information with FERC, it must also be provided to the agencies and other parties that participated in the consultation process.

Once this information is filed with FERC, the staff can begin the final processing of the application, which will include releasing the final EA or EIS. Depending on the size, complexity, or controversy of the proposed project, additional public comment periods or hearings may be included in the FERC processing period, before the license is issued. The entire FERC process, including that conducted by the Applicant during the pre-filing period, offers the agencies and other stakeholders multiple opportunities to participate in the licensing process.

5.2 Potential Applicability of FERC Type Consultation Requirements to Nepal

There are similarities between some of the Nepali environmental guidelines and regulations discussed in Section 3, to the FERC regulations described in Section 5.1. This is particularly true for the most recent (1997) Environment Conservation Rules, and the most recent draft EIA guidelines. Multiple public notice periods are provided, and interested agencies and other parties are given the opportunity to comment on draft IEE and EIA documents. The primary observation about Nepali rules and guidelines at this point in time, is that because there are several such rules and guidelines, it is somewhat unclear about which guidelines an Applicant for a hydroelectric project should follow. The Environment Conservation Rules (1997) obviously apply to hydroelectric projects (and most other types of projects), but it would be appropriate to develop environmental consultation guidelines specifically tailored to the hydroelectric licensing process in Nepal. These guidelines should be provided to potential hydro developers by EDC, as part of the "one-window" concept of hydro licensing processing, once approved by MOPE and MOWR.

Some of the FERC type regulations may be adaptable for use in Nepal, although there are also some limitations. One of the major limitations is that the FERC regulations have been promulgated in a highly developed industrialized country, with a high literacy rate, a wide range of communications systems (telephone, radio, television, e-mail, newspapers, magazines, newsletters, etc.), and a modern transportation system (highways, railroads, airline transport). When a public notice is issued by FERC or by an Applicant, that notice reaches literally millions of people within hours or up to a few days at the most. If a member of the public wishes to attend a public meeting, that person may simply drive to the meeting in a matter of minutes or hours. In Nepal, communications and transportation systems are much less developed, and any guidelines developed for agency and public consultations must take that into consideration. Any guidelines must also consider the importance of

social and human issues in Nepal, which are generally the most difficult issues to address, based on the review of case studies of hydro projects constructed to date or proposed in Nepal

Section 6 presents recommendations and preliminary draft guidelines for agency consultations that could be adopted by EDC, to strengthen the institutional process for licensing hydroelectric projects in Nepal

FIRST STAGE OF CONSULTATION

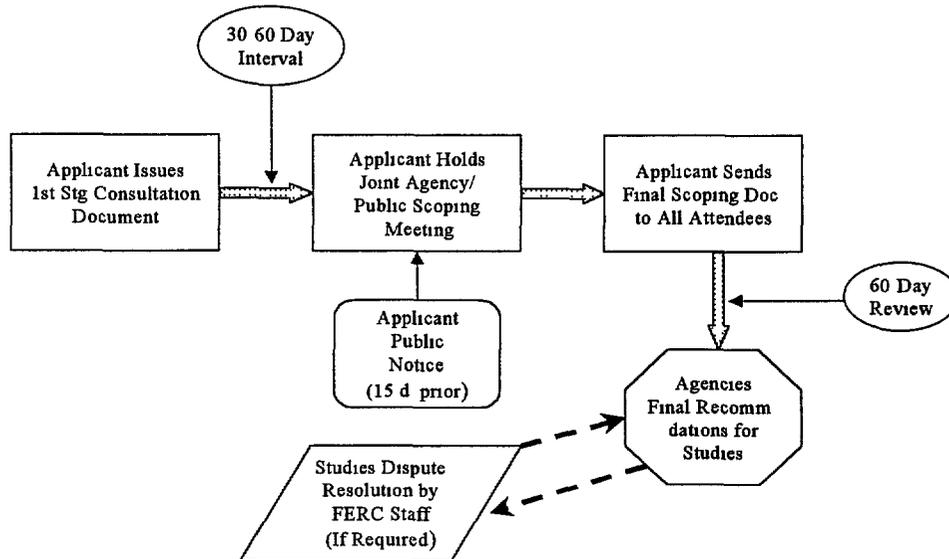


Figure 5-1 FERC Pre-filing Consultation Process, Sheet 1 of 3

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SECOND STAGE OF CONSULTATION

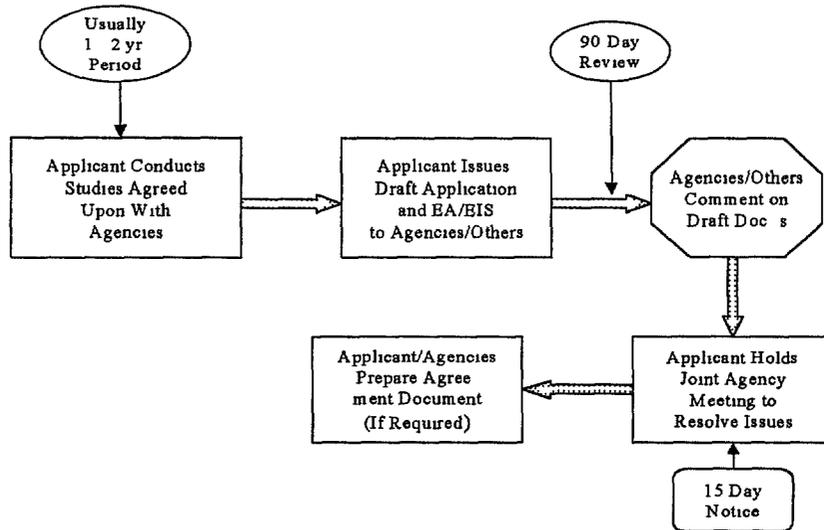


Figure 5-1 FERC Pre-filing Consultation Process Sheet 2 of 3

THIRD STAGE OF CONSULTATION

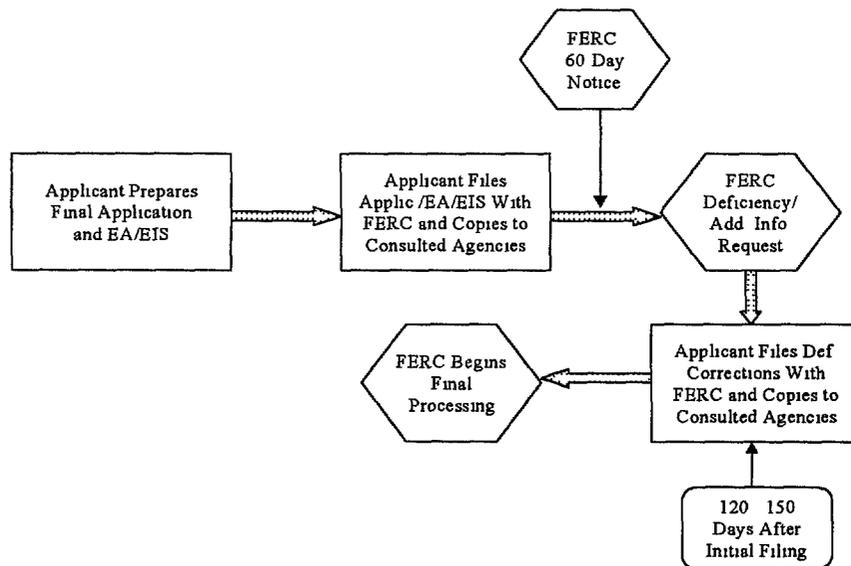


Figure 5-1 FERC Pre-filing Consultation Process, Sheet 3 of 3

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6 Recommendations for Strengthening Regulatory Procedures in Nepal

This review of the existing regulations and guidelines for agency consultations in Nepal, as well as the general experience to date, indicates that although there are some guidelines available, agency consultations on hydroelectric projects has varied depending on the particular project proponent or consultant. Generally, for the larger projects recently proposed and implemented by NEA, the agency and public consultation program was well planned and executed. Those more experienced in the implementation of hydroelectric projects, and in the associated regulatory procedures, appeared to conduct the "better" agency and public consultation procedures. This review indicated that EDC should issue guidelines for agency and public consultations for hydroelectric project licensing, providing more standardized and clear-cut procedures for project proponents to follow for all projects. This would assist developers in proceeding through the regulatory process, as well as provide EDC reviewers a "checklist" to ensure that an Applicant has conducted an adequate consultation process.

6.1 Coordinated Licensing and Interagency Consultation Process

After reviewing the guidelines, regulations, and consultation experience to date in Nepal, as described in Sections 3, 4, and 5, preliminary guidelines for conducting a coordinated hydropower licensing and interagency coordination process were prepared. These guidelines apply only to the application for a production license, since no environmental assessment is required for a survey license. A survey license only authorizes an Applicant to study a hydroelectric site, and conduct field investigations. No construction activities are authorized by a survey license.

These preliminary guidelines are a blend of existing rules under the Electricity Regulations, 2050, and the Environment Conservation Rules, 1997, previously issued Nepalese EIA guidelines, the World Bank EIA guidelines, and the U.S. FERC interagency consultation regulations. The guidelines are presented in three stages, similar to the U.S. FERC regulations, primarily for the ease of presentation and understanding. These preliminary guidelines meet the minimum requirements of both the Electricity Regulations and the Environment Conservation Rules, but include other provisions that better define the consultation process. The objective is to provide a logical progression of steps that license applicants would be able to follow in applying for a production license.

Table 6-1 outlines the proposed interagency consultation guidelines. These proposed guidelines have not been subjected to any legal analysis, which is beyond the scope of the present Acres' terms of reference. These are based, however, on Acres' previous regulatory and environmental assessment experience, and should be workable from these viewpoints. As previously noted, the guidelines are divided into three stages of consultation. The first stage is essentially the request for scope determination under the IEE/EIA process outlined in the Environment Conservation Rules, 1997. Under the proposed guidelines, a scoping meeting and additional opportunities for agency comment are provided, including on the Applicant's request for scope determination from EDC.

The second stage of consultation is when the Applicant finalizes the terms of reference (TOR) for the IEE or EIA studies, conducts the studies, and prepares the draft and final IEE/EIA. Again, agencies are provided multiple opportunities to comment. This stage, however, is divided into two "tracks", one for the preparation of an IEE (Track "A") and one if an EIA is required (Track "B") (Table 6-1). Track "B", for preparation of an EIA, requires a longer time interval and is more involved, since MOPE is also included in the review process.

The third stage of consultation is essentially the license review period, when EDC, MOPE, and MOWR are reviewing, assessing, and approving the environmental documents and license application. This stage also has two tracks, depending on whether an IEE or EIA is required. Additional opportunities for agency comment are provided, and the Applicant is encouraged to continue consultation and progress meetings during this stage. Under Track "B", the EIA process, it is recommended that EDC review of the license application (under the Electricity Regulations) occur concurrently with and parallel to MOPE review of the EIA. EDC would recommend to MOWR that the license be issued only if MOPE has approved the EIA and the proposed mitigation.

This proposed interagency consultation process as described in Table 6-1, follows the Environment Conservation Rules, 1997, with additional opportunities for agency review and comment. In addition, this process has essentially already been implemented or proposed for several recent projects in Nepal that have extensive agency and public consultation programs.

Another point about these proposed guidelines is that the guidelines present the minimum consultations that an Applicant should conduct for licensing a hydro project in Nepal. It is always recommended that Applicants do more than the absolute minimum required, in order to ensure that the agencies and public are full participants in the licensing process. Past experience has shown that extensive agency and public involvement usually results in the successful implementation of a project.

6 2 Potential Exemption for Small or Special Status Projects

The current EIA process in Nepal, if fully implemented according to existing regulations and guidelines, may require up to two years to complete. The existing rules also require that the EIA process must be applied for all hydroelectric projects greater than 5 MW capacity. A concern of EDC is that this is a relatively small project, in the overall scheme of hydro development in Nepal, and requiring a two-year EIA process for such a relatively small project, could discourage developers of smaller projects from implementing these projects. Often, such smaller projects are important in the electrification of rural, remote areas, and discouraging development of these projects due to an onerous regulatory process, could have a negative impact on economic development in rural areas. Thus, EDC requested that Acres investigate whether there could be methods to exclude or exempt smaller projects that are greater than 5 MW from the full EIA process. For this analysis, we reviewed the U.S. FERC exemption process, which allows the exemption from licensing of certain small hydroelectric projects of less than a specific capacity that meet other specific conditions. The potential adaptability of a similar process to Nepal was assessed.

6 2 1 U S FERC Exemption Process

The FERC exemption process was implemented in 1980, during the major flurry of licensing activity that occurred after the passage of the PURPA legislation, which was passed to encourage the development of small hydroelectric projects in the U.S. The purpose of the exemption process was to allow smaller projects with minimal environmental impacts to proceed in an expeditious manner through the regulatory process, and in fact would exempt a project from the full FERC licensing requirements. The project would remain listed by FERC as an exempted project, with dam safety issues still administered by FERC, but other environmental mitigation required for the project would be under the regulatory responsibility of state and Federal resource agencies. These resource agencies could prescribe terms and conditions for the exemption, and the Applicant was required to accept these terms and conditions as a condition of obtaining the exemption. If some of the terms and conditions were

unacceptable to the Applicant, then the Applicant had no choice but to return to the normal licensing process. The Three-Stage Consultation Process previously described in Section 5.1 was still required for the exemption process, although was generally less onerous, since the process usually involved projects with fewer environmental impacts.

The FERC rules allowed for two categories of projects that may be exempted from the requirements of licensing:

- ▶ Projects less than 5 MW capacity located on an existing dam, or that utilize a "natural water feature" (such as a waterfall or steep gradient stream, without the presence of a dam)
- ▶ Projects less than 15 MW capacity that utilize the head developed entirely through a closed conduit system, such as an irrigation supply system or other water supply line

For the "5 MW Exemption" (the first category), it was believed that if a new dam was not required for the project, all the impacts associated with the construction of a new dam (even a small one), would not be present. In addition, the maximum 5 MW capacity would generally not involve a major water withdrawal from a river or lake, that would result in adverse impacts on instream flows or on lake water levels.

The "Conduit Exemption" (the second category), would involve only "closed" water systems that would not withdraw from or discharge flows into a natural waterway. The hydroelectric plant would simply utilize the head available within the conduit system, such as from one level of an irrigation canal to another. Since a natural waterway would not be immediately associated with the project, there would be no impacts associated with water withdrawal. In addition, since the main water conveyance system would have already been constructed (the irrigation or water supply system), there would be no impacts associated with the construction of such a conveyance system. Since the overall impacts from this type of exemption were expected to be less than the "5 MW Exemption", the maximum allowed capacity for projects was set at 15 MW.

The overall history of the FERC exemption process has been mixed. Initially, the process was successful in exempting a number of small projects, which were constructed and placed on line. As time went on, however, the process became more controversial, as projects with more significant environmental impacts were "pushed through" or proposed under this process. This may have been a function of the gradual non-availability of suitable sites, as the best sites were initially developed, or a changing attitude among resource agencies to place more restrictive conditions on these projects. Since the agencies could prescribe the terms and conditions, as they desired, eventually some terms became so restrictive (such as instream flow requirements) that the proposed projects became uneconomical, and were abandoned. Thus, the exemption process, although still an available option under the FERC regulations, has been used only infrequently in recent years.

6.2.2 Potential EIA Exemption Process for Hydro Projects in Nepal

This assessment of a potential process for exempting certain categories of small hydroelectric projects from the full EIA process is based on the regulatory and technical/environmental experience of Acres. This is in no way a legal analysis, which is what may ultimately be required before such a process can be formally implemented in Nepal. This statement is based on the text of Schedule 2 (Pertaining to Rule 3) of the Environment Conservation Rules, 1997. This Schedule states that an EIA is required for the

“Operation of electricity generation projects with a capacity of more than 5 MW” This appears to be a relatively clear-cut statement about the EIA requirement, although as stated above, Acres was not requested to analyze the legalities of these regulations, or the manner by which they may be amended This analysis of a potential exemption process assumes that the legalities will be worked out, and we have focused on the environmental/regulatory aspects of designing such an exemption process

The primary basis for proposing an exemption from the full EIA process should be that the predicted adverse impacts of a proposed project will not be significant, that the beneficial impacts will outweigh any adverse impacts, and that the IEE process will be sufficient for identifying any adverse impacts that may occur, and any mitigation that may be required Criteria must be developed for the type and capacity of projects to be exempted, and the category and scope of impacts that would be allowable for an exempted project These various criteria should be developed through a process of review among EDC, NEA, other government ministries, and NGO’s, to ensure that there is consensus among the potentially competing interests on water resource development Otherwise, if arbitrary criteria are selected without sufficient input from all interested parties, the process may eventually fail

Although such a criteria development process is beyond the scope of this analysis, some preliminary criteria may be described, based on existing Nepalese regulations/guidelines or on regulations from other countries (U S FERC) These preliminary criteria could serve as the starting point in the discussion of permanent criteria for an exemption process The criteria should also outline the environmental review procedures, which would likely follow the IEE approval process, which is less involved and shorter than the EIA process (see Section 3 3) The following table lists some potential criteria for an EIA exemption process, along with the basis for the criteria as listed

Preliminary Criteria	Basis for Criteria
Maximum Project Capacity – 15 MW	U S FERC Exemption Regulations
Run of River Project	Impacts Less Significant
Maximum Dam Height – 5 meters	Impacts Less Significant
Does Not Involve Inter-Basin Water Transfer	Environment Conservation Rules 1997
Does Not Involve Construction of Multipurpose Reservoir	Environment Conservation Rules 1997
Project Displaces Less Than 100 People	Environment Conservation Rules 1997
River Diversion Less Than 5 km	Impacts Less Significant
Diversion Tunnel Less Than 1 km	Environment Conservation Rules 1997
No Impact on Significant Cultural Archeological or Religious Sites	Environment Conservation Rules 1997
No Adverse Impact on Threatened or Endangered Species	Avoidance of Impact on Significant Resources
Clearing of Less Than 5 hectares of Forest Land	Environment Conservation Rules 1997
No Impacts on Rafting or Trekking Operations of More Than 2 000 Persons Per Year	Environment Conservation Rules 1997
Construction of Access Road Less Than 5 km Long	Environment Conservation Rules 1997
No Impact on National Parks Wildlife Sanctuaries or Conservation Areas	Environment Conservation Rules 1997

The overall objective of these criteria is to place a limitation on the size of the project and on the significance of impacts that would occur As noted, many of the criteria are based on criteria from the Environment Conservation Rules, 1997, for the water resources and energy sector, as well as for other business sectors A project would have to meet all of the criteria in order to qualify for an EIA

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exemption It is envisioned that when an Applicant initially files for scope determination with MOPE under the IEE/EIA process (see Figure 3-3), the Applicant would at that time request an EIA exemption (if the proposed project is 5 to 15 MW in capacity) If the criteria are met and MOPE approves the exemption, then the Applicant would follow the IEE approval process (Figure 3-3) This process is shorter because the IEE and associated studies are less intensive, and do not require the longer approval process by MOPE associated with an EIA

For "borderline" projects that meet some but not all of the criteria for an EIA exemption, there should also be a "waiver" provision, which would allow an Applicant to request a waiver from the specific EIA exemption criteria, in turn allowing the Applicant to proceed under the IEE process In the request for waiver from MOPE, which would occur in the Applicant's request for scope determination, the Applicant would have to justify why a waiver should be granted, and should include comments from consulted agencies agreeing with the waiver The Applicant would request such letters of support from agencies and other parties that receive the initial notice of the project, under the IEE/EIA process (Figure 3-3) MOPE would have the power to grant or reject the waiver request, in turn allowing an Applicant to proceed with an IEE, or requiring a full EIA

Figure 6-1 summarizes how the EIA exemption and waiver process would work As noted in the beginning of this section, the legal implications of this proposed process have not been investigated The process, however, should be workable from a regulatory and environmental perspective, in allowing smaller, more benign projects to proceed more rapidly through the regulatory process, yet still provide an adequate level of environmental protection

6 3 Strengthening of Additional Regulatory Procedures

After reviewing the pertinent Electricity Regulations, the Environment Conservation Rules, and EIA Guidelines, and after discussions with EDC staff, it is evident that the current regulations include no provisions or procedures for relicensing projects after the initial license period, or for amending a license to make changes to a project, such as adding capacity

Although Nepal is now more in the development phase of its hydroelectric resources, with new licenses being granted with 50-year terms, eventually these licenses will need to be renewed The current regulations only state that a Licensee must renew his existing license one year prior to expiration Based on recent experience in the U S , where most of the projects originally licensed in the early 20th Century had to renew their licenses over the last 20 years, relicensing can be a complicated and controversial process Significant environmental issues may arise during the relicensing process, as resource agencies and the public attempt to "correct" perceived and actual long-term impacts of existing projects U S experience has indicated that relicensing is nearly as involved as original licensing, although is sufficiently different that FERC has issued new regulations specifically for relicensing Although Nepal may be decades away from having to deal with a significant number of relicensing actions, EDC should begin the process of developing regulations for relicensing The U S regulations could serve as a guide in this development This is beyond the scope of the current PEP work program, but is an item that could be included in future work

A more immediate concern of EDC, however, should be the need to develop regulations for amending licenses This would occur if a Licensee proposes to increase the capacity of an existing project If unused capacity is present at a project, it is usually more economic and more environmentally acceptable to add one or more generating units to utilize this capacity, than to construct a new project There will likely be some environmental

issues, such as related to increased water withdrawal, but other more difficult social issues (such as resettlement) will generally not be present. It is likely that EDC may receive proposals to add capacity to existing projects in the more immediate future, and regulations should be in place to process these amendments of license. The U.S. FERC regulations include provisions for license amendment, and could be used as a guide in developing similar regulations for Nepal. This is again beyond the scope of the existing work, but could be included in future work.

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Table 6-1

Proposed Interagency Consultation Process for Production License

First Stage

Step	Applicant Action	Agency* Action	Duration
(1)	Publishes notice of project locally and nationally	Review notice and comment to Applicant	30-day review and comment period **
(2)	Holds information and scoping meeting at site	Attend meeting recommend issues for study, form review committee	30-day notice of meeting meeting occurs 30-60 after Step (1) ***
(3)	Reviews agency comments, prepares request for scope determination	Nil	30 days after **** scoping meeting
(4)	Files request for scope determination to EDC copies to agencies	Review request for scope files comments to EDC	30-day comment period after receipt of request for scope ***

Second Stage - Track A - IEE Required

Step	Applicant Action	Agency Action	Duration
(1)	Prepares TOR for IEE studies holds agency meeting requests comments	Review TOR attend meeting provide comments on TOR to EDC and Applicant	30-day comment period after receiving TOR ***
(2)	Conducts IEE studies progress reports to agencies	Ongoing review of progress reports	Per TOR
(3)	Prepares draft IEE for agency comment	Review draft IEE send comments to Applicant	45-day review and comment period ***
(4)	Files final IEE and license application with EDC copies to consulted agencies	Receives final documents for comment under Third Stage	Comment period under Third Stage

Second Stage - Track B - IEA Required

Step	Applicant Action	Agency Action	Duration
(1)	Prepare TOR for EIA studies holds agency meeting requests comments	Review TOR attend meeting provide comments on TOR to MOPE and Applicant	30-day comment period after receiving TOR ***
(2)	Conducts EIA studies progress reports/meetings with agencies	Ongoing review of study results	Per TOR
(3)	Prepares draft EIA for agency comment holds review meeting	Review draft EIA send comments to Applicant	60 day review and comment period ***
(4)	Files final EIA with MOPE copies to consulted agencies files final EIA and application with EDC	Receive final documents for comment under Third Stage	Comment period under Third Stage

Third Stage - Track A - IEE Required

Step	Applicant/EDC Action	Agency Action	Duration
(1)	EDC adequacy review of application and IEE	Nil	45 Days **
(2)	EDC request for additional information to Applicant (if required)	Nil	After Step (1)
(3)	Applicant files additional information with EDC, copies to agencies	Review additional information for later comments	Up to 60 days for Applicant to provide additional information***
(4)	EDC issues notice of adequate license application	Provide comments on application and IEE	35-day notice period **
(5)	EDC processes application, Applicant holds agency meetings	Attends meetings	120 days after Step (4) **
(6)	EDC recommendations to MOWR on license	Nil	After Step (5)
(7)	Secretary MOWR issues license	Nil	After Step (6)

Third Stage - Track B - EIA Required

Step	Applicant, MOPE, or EDC Action	Agency Action	Duration
(1)	MOPE public notice of EIA, concurrent EDC review of license application	Review and comment on EIA	30-day comment period on EIA **
(2)	MOPE forms interagency review committee for EIA	Participates in interagency review of EIA	45 days ***
(3)	EDC request for additional information to Applicant (if required)	Nil	After Step (1) concurrent with MOPE review of EIA
(4)	Applicant files additional information with EDC copies to agencies	Review additional information for later comments	Up to 60 days for Applicant to provide additional information concurrent MOPE review of EIA ***
(5)	EDC issues notice of adequate license application	Provide comments on license application	35-day notice period concurrent MOPE review of EIA **
(6)	MOPE approves EIA and notifies EDC	Nil	90 days after Step (1) **
(7)	EDC recommendations to MOWR on license	Nil	120 days after Step (5) **
(8)	Secretary MOWR issues license	Nil	After Step (7)

- * Indicates Government Ministry and local government agencies EDC MOWR and MOPE may participate in consultations but have other specific functions as described
- ** Provided for in current regulations
- ** New time interval developed in this analysis

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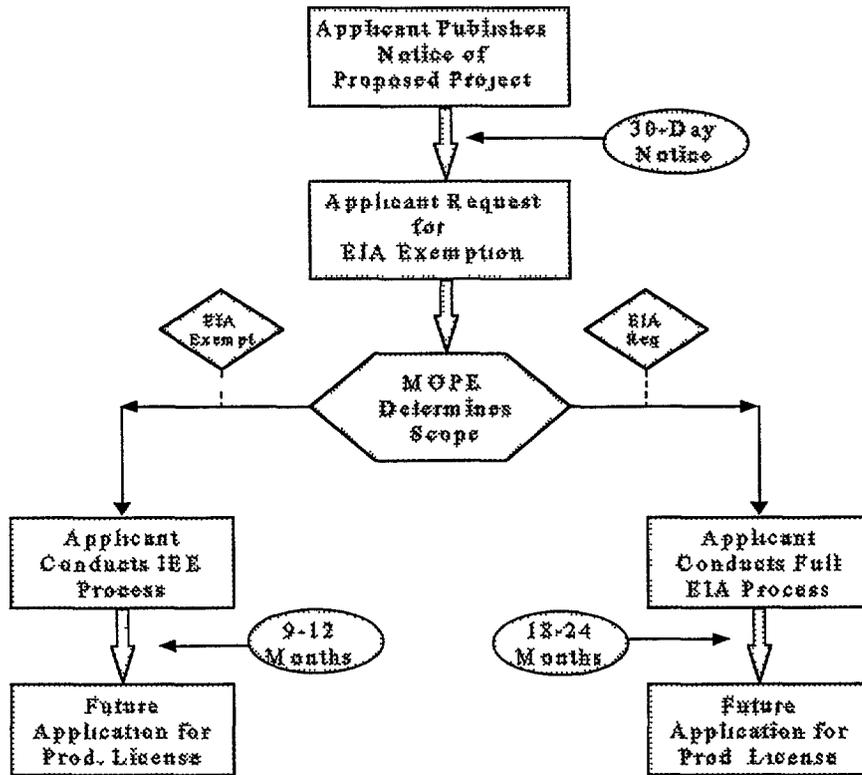


Figure 6-1 Potential EIA Exemption Process for Hydro Licensing in Nepal

7 Summary and Conclusions

This regulatory review of the interagency consultation process for developing hydroelectric projects in Nepal, indicates that there is a need to design guidelines for a step-by-step process for potential developers to follow. Although some recent hydroelectric projects have conducted successful interagency and public consultation programs, these generally have been conducted by experienced developers (NEA), or by those who have retained the services of experienced international consulting firms. Development of step-by-step guidelines will allow project developers to implement a successful consultation program, and will provide EDC with a methodology to evaluate whether Applicants have conducted an adequate program. Draft guidelines for step-by-step consultation process were prepared and presented in this report.

A second aspect of the regulatory review was to assess whether smaller hydroelectric projects could be exempted from the full EIA process, to allow more expedited development of smaller projects that have fewer environmental impacts. The major constraint identified for such a process, is that the current Environment Conservation Rules state that all projects greater than 5 MW must follow the EIA process. If these legal constraints, however, can be overcome, there is some basis for developing an EIA exemption process, based in part on US FERC regulations. Preliminary criteria for such a process were developed as part of this review, and are included in this report.

A final result of this regulatory review was that Acres has concluded that two additional administrative procedures should be developed by EDC. One is the need for procedures for amending licenses, to allow additional capacity to be installed at an existing project. This is likely the more immediate need, since the economics and fewer environmental impacts often favor adding additional capacity, compared to constructing a new project. The second is related to regulations for relicensing projects, after the initial 50-year license has expired. Recent US relicensing experience has indicated that relicensing may be nearly as involved, with many environmental issues, as original licensing. These additional regulatory procedures should be developed under the continuation of the PEP.

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