REVIEW OF POTENTIAL FOR EXEMPTING SMALLER HYDROELECTRIC PROJECTS FROM THE FULL EIA PROCESS

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1 Introduction

The current Environmental Impact Assessment (EIA) process in Nepal was initially established by National Environmental Impact Assessment Guidelines published in 1993 by the National Planning Commission, HMG/N, in collaboration with IUCN - The World Conservation Union In 1994, the National Planning Commission and the Ministry of Water Resources (MOWR), again in collaboration with IUCN, published Draft Environmental Impact Assessment Guidelines for the Water Resource Sector, which would apply specifically to water resource projects, including hydropower These guidelines were then "codified" in September, 1997, with the publishing of the Environment Conservation Rules, 1997, following the passage of the Environment Conservation Act, 2054 (1997) The EIA process, as now required by law, provides for a two-tiered environmental impact assessment review process, and, depending on the determination of the scope of the project, either an Initial Environmental Evaluation (IEE) report or EIA report is required The IEE process is a less intensive review procedure designed for smaller projects with fewer environmental impacts The full EIA process is a more comprehensive process designed for larger projects with more significant environmental impacts The full EIA process, if fully implemented according to existing regulations and guidelines, may require up to two years to complete

The 1993 and 1994 EIA guidelines and the Environment Conservation Rules describe certain categories and size of projects for which the EIA process must always be applied For hydroelectric projects, the guidelines and rules state that any project greater than 5 MW in capacity must be reviewed under the full EIA process (the IEE will not be used) The Electricity Development Center (EDC) has raised the concern that a 5-MW project is a relatively small project, in the overall scheme of hydro development in Nepal, and requiring a two-year EIA process for such a small project, could discourage private developers from implementing these projects Often, 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 methods for excluding or exempting smaller projects that are greater than 5 MW from the full EIA process This discussion paper summarizes the results of Acres' review of this issue to date

2 Review Methodology

The approach to this review was to first examine the Nepalese legislation, rules, and guidelines that apply to hydropower development and environmental protection, to assess the basis for the 5 MW threshold for projects that require the full EIA process Secondly, these same documents were reviewed to determine if there were any regulatory "loopholes" for avoiding the full EIA process for this category of small hydroelectric project If none appeared to exist, then an alternative process for "exempting" smaller hydro projects from the more comprehensive EIA process would be developed for EDC consideration In this case, the U S Federal Energy Regulatory Commission (FERC) exemption process, which allows the exemption from licensing of certain small hydroelectric projects of less than a specific capacity and that meet other specific conditions, was reviewed for potential adaptability to a similar process in Nepal

This exemption review was only from a regulatory perspective, to determine whether regulatory procedures could be developed to exempt smaller projects from the full EIA process, yet still provide an adequate measure of environmental protection The legal or legislative aspects of whether or how such an exemption process could be formally codified in the Nepalese regulations, were not examined

Nepalese legislation and regulations reviewed were English translations of the following

- Hydropower Development Policy, 2049
- Water Resources Act, 2049
- Electricity Act, 2049
- Water Resource Regulation, 2050
- Electricity Regulation, 2050
- Environment Conservation Act, 2054
- Environment Conservation Rules, 2054

The previously-noted 1993 and 1994 EIA guidelines published by the National Planning Commission, in collaboration with IUCN, were also reviewed

3 Review of Legislation, Rules, and Guidelines

3 1 Basis for 5-MW Threshold

None of the legislation and rules that were reviewed indicated a basis for the 5-MW threshold The water resource and electricity acts and regulations address the size of hydroelectric projects that must be licensed, but generally do not address the environmental review process The 5-MW threshold first appears, chronologically, in the 1993 EIA guidelines, although there is no explanation as to why 5 MW was selected as the threshold for the full EIA process It is likely that the authors of the EIA guidelines needed some threshold for hydro projects, and selected 5 MW as a "reasonable" threshold This same threshold is then repeated in the 1994 water resource EIA guidelines, and in the Environment Conservation Rules, 1997, apparently as a follow up to the earlier 1993 guidelines

3 2 Potential Regulatory "Loopholes"

Review of the current regulations did not reveal any loopholes for avoiding the full EIA process for projects 5 MW and larger The recently enacted Environment Conservation Rules, 1997, plainly state in Schedule 2 that for the Water Resource and Energy Sector, an EIA is required for "*operation of electricity generation projects with a capacity of more than 5 MW*" This appears to be a regulatory requirement that currently cannot be avoided

There are, however, arguments that can be made, based on the 1993 EIA guidelines, that an "arbitrary" threshold criteria should not be the sole criteria for determining whether an EIA should be conducted on a project For example, in Chapter III, Project Screening and Initial Environmental Examination, Section 8 (f), it states, "*As it is possible that a small scale project may cause serious impact on the environment while a large scale project may not cause significant impact due attention must be paid to various factors other than those mentioned in clauses (a), (b), (c) (d) and (e) while making environmental impact assessments for projects*" Schedule 3 of the same guidelines provides several additional criteria for requiring an EIA, based on whether the proposed project is located in unique or sensitive areas, either ecologically, historically, socially, culturally, scientifically, or geologically

This review concluded that it is possible to "craft" an EIA exemption process, for exempting certain size categories of hydroelectric projects from the full EIA exemption process, based on reasonable scientific and engineering criteria, many of which can be found in the Environment Conservation Rules, 1997 This process would then need to be codified before it could be used in the existing environmental review process Before, further describing this process, it is appropriate to review the license exemption process used by the U S FERC for certain categories of small hydro projects This process also exempts these projects from some of the more stringent environmental review requirements

4 U.S. FERC License Exemption Process

The FERC exemption process was implemented in 1980, during the major flurry of licensing activity that occurred after the passage of Federal legislation designed 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 expedited manner through the regulatory process, with an abbreviated environmental and technical review of the project If the project met the required criteria, it would be exempted 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 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 A pre-filing consultation process with the state and Federal resource agencies 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 could 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 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, continuing to operate to this day 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 less frequently in recent years

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5 Potential EIA Exemption Process for Hydroelectric Projects

As noted previously, it was concluded, from a regulatory perspective, that it is feasible to develop a process to exempt smaller hydroelectric projects greater than 5 MW in capacity from the full EIA requirements The underlying assumption is that the predicted adverse impacts of such a 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 For an exemption process to be successful, the various criteria should be developed through a process of consultations and review among EDC, Ministry of Population and Environment (MOPE), MOWR, 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 review, some preliminary criteria can be described, based on existing Nepalese regulations/guidelines and on experience from the U S FERC exemption process These preliminary criteria could serve as the starting point in the development of permanent criteria for an EIA exemption process The exemption process 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 Table 5-1 lists some preliminary criteria that a hydroelectric project should meet in order to qualify for an EIA exemption process, along with the basis for the criteria as listed

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 A project would have to meet all of the criteria in order to qualify for an EIA exemption It is envisioned that when an Applicant initially files for scope determination with EDC/MOPE under the IEE Approval Process, Figure 5-1, an EIA exemption (if the proposed project is from 5 to 15 MW in capacity) would be requested at the same time If the criteria are met and EDC/MOPE approves the exemption, then the Applicant would follow the IEE approval process 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 project to proceed under the IEE process In the request for waiver from EDC/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 process (Figure 5-1) EDC/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 5-2, Potential EIA Exemption Process for Hydro Licensing in Nepal, summarizes how the EIA exemption and waiver process would work This type of process 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

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Table 5-1

List of Preliminary Criteria for Exempting Small Hydroelectric Projects from the Full EIA Review Process

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
Transmission Line of Less Than 10 km in Length and Not More Than 66 kv	Environment Conservation Rules, 1997**
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 1 km in Length	Environment Conservation Rules, 1997
Diversion Tunnel Less Than 1 km in Length	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
Total Project Impact on Active Agricultural or Irrigated Land Less Than 10 hectares	Impacts Less Significant
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 With No Major Bridges	Environment Conservation Rules 1997
Construction of Ropeway Less Than 5 km Long	Environment Conservation Rules, 1997
No Impact on National Parks, Wildlife Sanctuaries or Conservation Areas	Environment Conservation Rules, 1997

* Criteria based on "Impacts Less Significant" are best scientific/technical "judgement" from previous environmental impact assessment experience of Acres' staff These criteria are not based on any specific studies or regulations

** Criteria based on the Environment Conservation Rules, 1997, are from a review of Schedules 1 and 2 of the Rules specifically related to the Forest Mining Road Water Resources and Energy Tourism Drinking Water and Agricultural Sectors

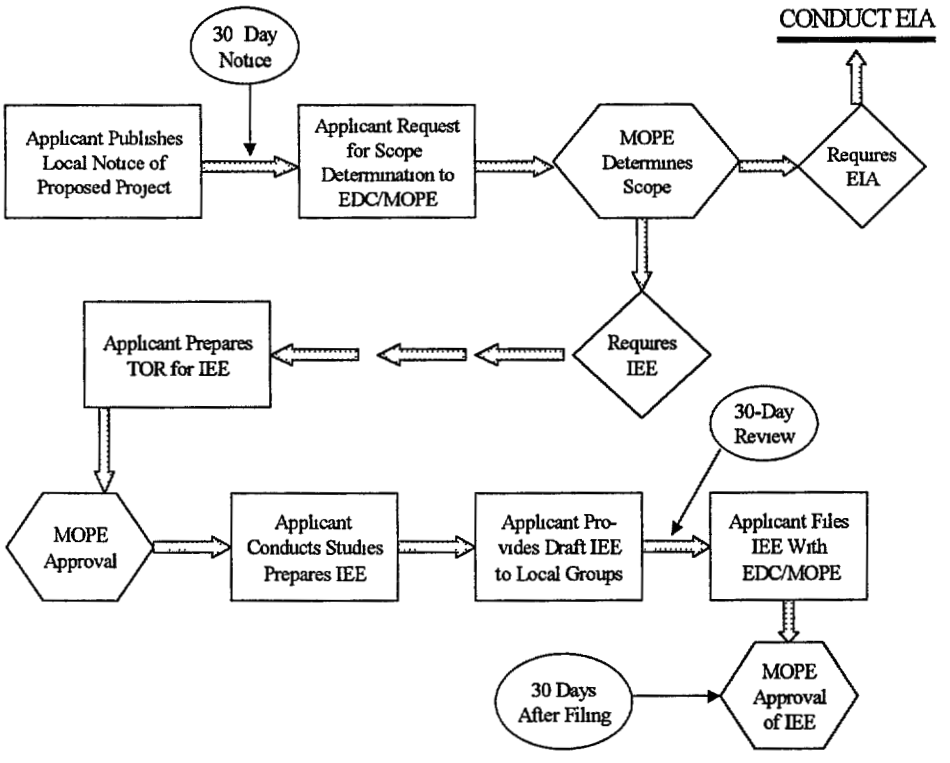

Figure 5-1 IEE Approval Process, Environment Conservation Rules, 1997

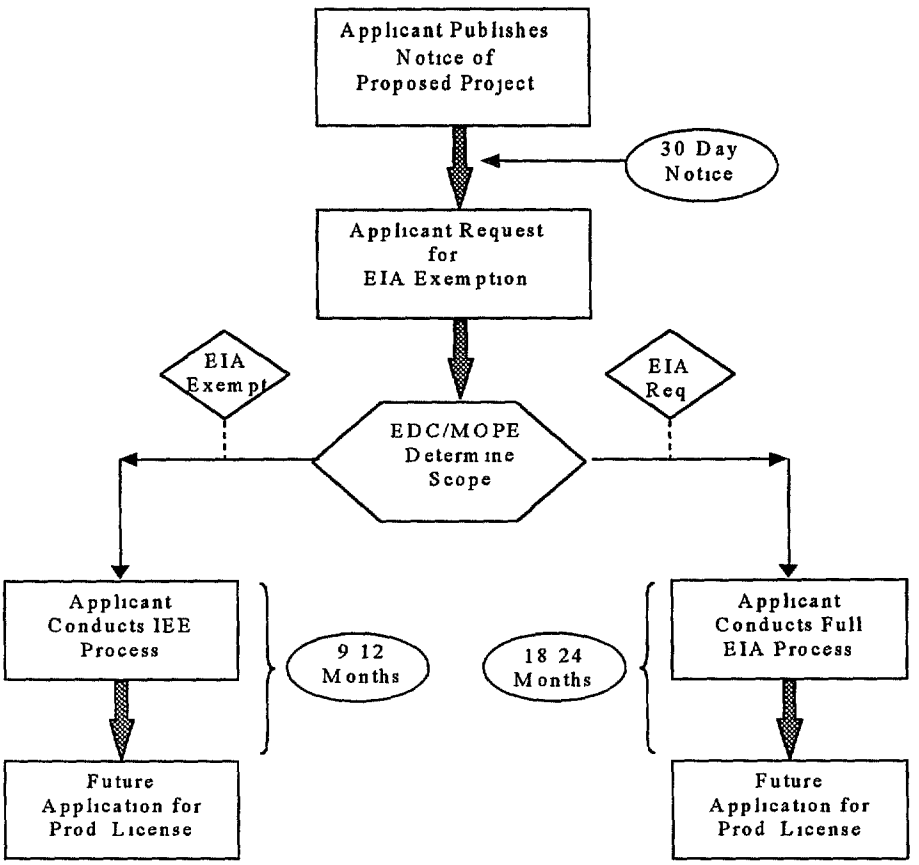

Figure 5-2 Potential EIA Exemption Process for Hydro Licensing in Nepal

6 Summary

This review has examined the potential for implementing a regulatory process for exempting small hydroelectric projects, in the range greater than 5 MW capacity, from the full EIA process now required by the Environment Conservation Rules It is concluded that such a process is feasible from an environmental, technical, and regulatory perspective, but the legislative/legal procedures for implementing the process were not investigated If EDC wishes to incorporate an EIA exemption process into the hydropower licensing regulations, several items must be accomplished. 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 For an exemption process to be successful, the various criteria should be developed through a process of consultations and review among EDC, Ministry of Population and Environment (MOPE), MOWR, other government ministries, and NGO's, to ensure that there is consensus among the potentially competing interests on water resource development The exemption process should also outline the environmental review procedures, which would likely follow the IEE approval process Finally, a change will also be required in the Environment Conservation Rules Thus, if EDC's intention is to further promote this process, the next phase of work under the Private Electricity Project should include specific tasks for completing these various requirements, including a legislative/legal analysis of how this exemption process could be implemented

7 References

HMG/Nepal 1993 Electricity Regulation, 2050 B S

_____ 1993 Water Resources Regulation, 2050

_____ 1997 Environment Conservation Act, 2054

HMG/Nepal Ministry of Water Resources 1993 Nepalese Legal Provisions on Hydropower Development Hydropower Development Policy, 2049, Water Resources Act, 2049, Electricity Act, 2049

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_____ 1994 Environmental Assessment Guidelines for the Water Resources Sector (Power and Irrigation) Final Draft In Collaboration with IUCN - The world Conservation Union

Nepal Recorder 1997 Environment Conservation Rules, 1997 Ministry of Population and Environment, Kathmandu September 7, 1997

U S Code of Federal Regulations, Chapter 18, Subpart J Exemption of Small Conduit Hydroelectric Facilities, and Subpart K Exemption of Small Hydroelectric Power Projects of 5 Megawatts or Less Federal Energy Regulatory Commission Hydropower Licensing Regulations Washington, D C