



# Welcome

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## *Electricity related policies and need for their reform*

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# Electricity related Policies, Acts and Regulations

- Nepal Electricity Authority (NEA) Act, 1984
- Electricity Act, 1992
- Electricity Regulations, 1993
- Electricity Tariff Fixation Rules, 1993
- NEA Electricity Leakage Control Rules, 1993
- Water Resources Act, 1992
- Hydropower Development Policy, 2001
- Electricity Theft Control Act, 2002
- Water Resources Strategy, 2002
- National Water Plan, 2005
- Rural Energy Policy, 2006

# Some Key Provisions: Nepal Electricity Authority Act

## **Establishment**

Efficient, reliable and affordable generation, transmission and distribution of electricity

## **Share Capital and Share holders**

1. NEA may increase or reduce its authorized share capital with GON's permission
2. Only the shares left unsubscribed after the purchase of shares by GON from among those issued by the NEA shall be offered for public sale

## **NEA's right to buy shares**

NEA may also purchase shares of industries connected with electricity with GoN's permission

# Some Key Points of Electricity Act and Regulations

A person or a corporate body is allowed to involve into commercial purpose of Generation, Transmission and Distribution of any type of electricity projects greater than 100 kW.

- For 100 kW to 1 MW, no license is required but an approval regarding the project's information needs to be mandatorily approved from the DoED, Ministry of Energy.
- But, above 1 MW there is requirement of **two stages of license**
- **Survey License**
  - Generation
  - Transmission
  - Distribution
- **Generation/Construction/Operation Licenses**
  - Generation
  - Transmission
  - Distribution

## Forms of Energy

- Hydropower
- Thermal Power
- Nuclear Power
- Solar Power
- Wind Power, etc.

## Duration of the License

- Maximum duration of the survey licenses is of 5 years.
- Maximum duration of construction license is of 35 years in practice, but in the Electricity Act, it says 50 year. In case of storage type of hydropower projects, a term of 5 years may be extended depending on the construction time required

## Provision for Royalty

	Capacity Royalty	Energy Royalty
Upto 15 years after the date of commercial operation	Annually Rs. 100 per kW of the installed capacity	2% of the energy sale at an average rate per kWhr
After 15 years	Annually Rs. 1,000 per kW of the installed capacity	10% of the energy sale at an average rate per kWhr

## Issues: Electricity Act, 1992

- Requirement of License has taken a basis of installed capacity, but neglecting water volume's use per unit time, i.e., discharge (Q)

$Q_{\text{project} < 1000 \text{ kW of low head}}$  is more than  $Q_{\text{project} > 1000 \text{ kW of high head}}$

Example:

$P = 1,000 \text{ kW}$ $\text{Head} = 30 \text{ m}, \eta = 0.85$	$P = 5,000 \text{ kW}$ $\text{Head} = 570 \text{ m}, \eta = 0.85$
$Q = 4 \text{ m}^3/\text{sec}$	$Q = 1 \text{ m}^3/\text{sec}$
License not required	License is required

# Issues: Electricity Act, 1992

## Regarding two stages of Licenses (Survey and Construction)

- Fear from developer's side is
  - Construction license not assured/guaranteed
  - Return on initial investment (cost of study) is uncertain
- Most of the projects' survey license get cancelled after 5 years or within 5 years upon unsatisfactory progress by the developer
- Inadequate specific performance indicators to measure the satisfactory progress.
- Therefore, two stages of licenses may be one of the major causes of slower pace of projects' development

## Regarding Royalty (For first 15 years and, after 15 years)

- It's very traditional, i.e., not linked with payback period of Project
- Same provision for all type of projects, i.e., ROR, PROR and Storage

# Issues: Electricity Act, 1992

## Regarding Licenses for Transmission lines (Survey and Construction)

- Based on its power handling capacity (MW) rather than to be based on its transmission voltage level (kV) because
  - Right of Way (ROW) is decided on its kV level
  - Environmental clearance is also decided on its kV level



# Some Key Provisions of Water Resources Act

- Water Resources means surface, underground or any other forms of water availability
- Water as nation's property within its territory

## Priority of use

1. Drinking water and domestic users
2. Irrigation
3. Agricultural uses such as animal husbandry and fisheries
4. Hydroelectricity
5. Cottage industry, industrial enterprises and mining uses
6. Navigation
7. Recreational uses
8. Other uses

## Some lacking in the existing Water Resources Act, 1992

- (Too) rigid priority of water uses while considering water resources' availability and its prioritized need in each province of the nation, e.g.,
  - A province having less agricultural land may need water at higher priority for hydroelectricity than irrigation for its economic prosperity
  - A province reach in tourism may need water at higher priority for recreation, e..g., rafting/boating etc. than hydropower
- Therefore, priority needs to be revised after federalism
  - It may overcome local issues and disputes while implementing hydropower projects

# Key Provisions: Electricity Tariff Fixation Rules

- Focused majorly on consumers' tariff
- Doesn't prescribe Electricity's Cost, Price and Tariff categorically and specifically
- Therefore, the one and only electricity major utility company, i.e., Nepal Electricity Authority lacks appropriate Act/Regulation or institution's guidance for a third or independent party's view and decision towards fixing the PPA rate of electricity

## Key Provisions: Electricity Theft Control Act

- Focused majorly on consumers' activity relating to theft of electricity and to penalize against those activity
- No any significant achievement has been made till date towards over all leakage of electricity distribution by NEA
- Honest consumers get penalized because of few theft activity in their locality, such as, frequent power cut and longer hours of load shedding than the published one
- Therefore, a way out may be required to discriminate honest and dishonest consumers.

## Some Other Important Issues

- System Load factor (L.F.) of the Integrated Nepal Power System (INPS) is consistently poor (~ 55-57%)
- Peak demand is almost 2.5 – 3 times higher than base load demand
- L.F. should reflect somewhere during PPA negotiation
- NEA if remains as a sole electricity buyer should maintain its L.F. not below a specified limit so as to keep optimum utilization/consumption of electricity supplied in the grid
- Peak tariff and Off-peak tariff applicable to only industrial consumers? Why not to all the consumers though it's assumed to improve daily L.F. of INPS
- Slogan of demand side management since 2004 but no any legal provision for energy efficiency and conservation

## Under these circumstances, we urgently need.....

Clear and visionary **Electricity Act** dealing separately and unambiguously Hydro, Solar, Wind, Bio-mass and Thermal when developed on BOOT model from licensing to construction, operation and post operation aspects

Clear and visionary **Integrated Water Resources Act**

- ✓ Clarify the role of States (Provinces), inter states and Central Governments' role over the water resources use and its conservation and management
- ✓ Define clarity of Institutional arrangements for effective and efficient implementation
- ✓ Clarify the role of government and other stakeholders in achieving its goals



**THANK YOU !**



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