**Chapter 3**

**Information Gathering**

**3.1 Introduction**

Information gathering is an indispensable and substantial part of analyzing a system. To know, analyze or discuss about a system, firstly the information about the system should be found out. Information gathering requires a person who knows what information is to be collected, where these would be found and in which way the information is to be gathered. To collect information, the art of information gathering is to be mastered. This means that information gathering is not an easy or routine work. Proper preparation, experience and training provides fruitful information gathering.

Though information gathering does not require any standard rule, it is important to do it accurately, methodologically, under right conditions and without minimum interruption to the user personnel. Some important tools are used to gather information. By proper use of these tools, the information gathering becomes easy, methodological and required information can be collected from various sources.

Here we are going to analyze the system NESCO or Northern Electricity Supply Company. The required information to analyze the system using four tools have been collected.

**3.2 Different tools used in Information gathering**

All the information collected from the organization are presented in detail in this section using different tools.

**3.2.1 Forms, documents and statistical chart of NESCO**

First tool for gathering information is collecting information from the existing system, forms, documents or any statical explanation of the system. As the problems are more or less same for any system. We can get a clear idea about the ongoing processes of the organization from the forms and documents.

Several forms and documents are collected from which we can get some information about the working process of NESCO. These are the wiring inspection report in section 3.2.1.1, wiring certificate form in section 3.2.1.2, disconnection form in section 3.2.1.3, reconnection form in section 3.2.1.4, meter exchange form in section 3.2.1.5, officer’s evaluation form in section 3.2.1.6, application form in section 3.2.1.7 and load calculation document in section 3.2.1.8 respectively.

**3.2.1.1 Wiring Inspection Report**

Wiring Inspection Report is the form to take new connection in any residential area or any industries. It elaborately discusses about the connection and the wiring system.

Who is the applicant, how is the wiring condition, how many meters, how many phases, the address of the user, the transformer pole number all things are combined here in the report.

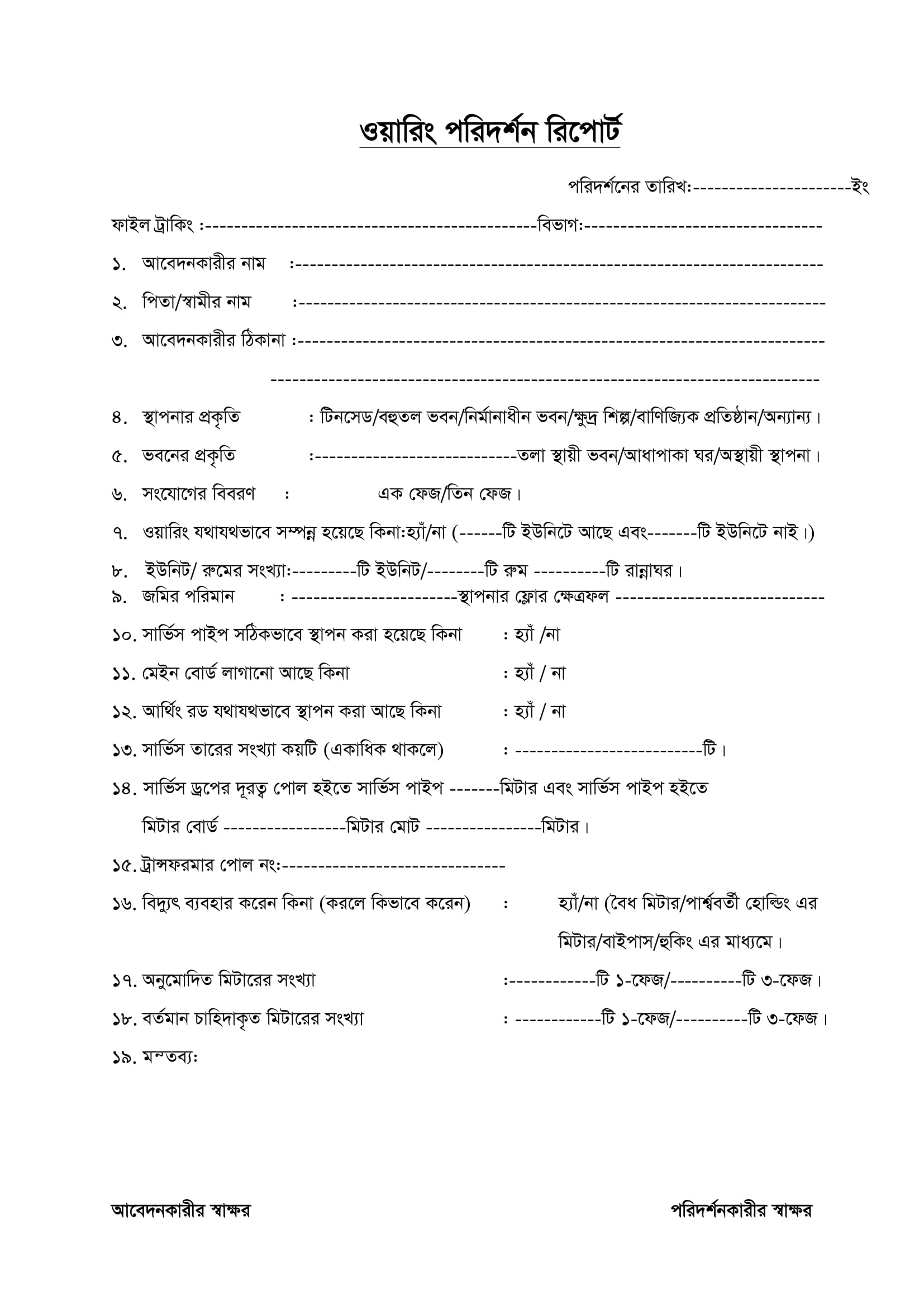
****The figure 3.2.1.1(a) shows the wiring inspection form in detail.

Figure 3.2.1.1 Wiring Inspection Report

**3.2.1.2 Wiring Certificate Form**

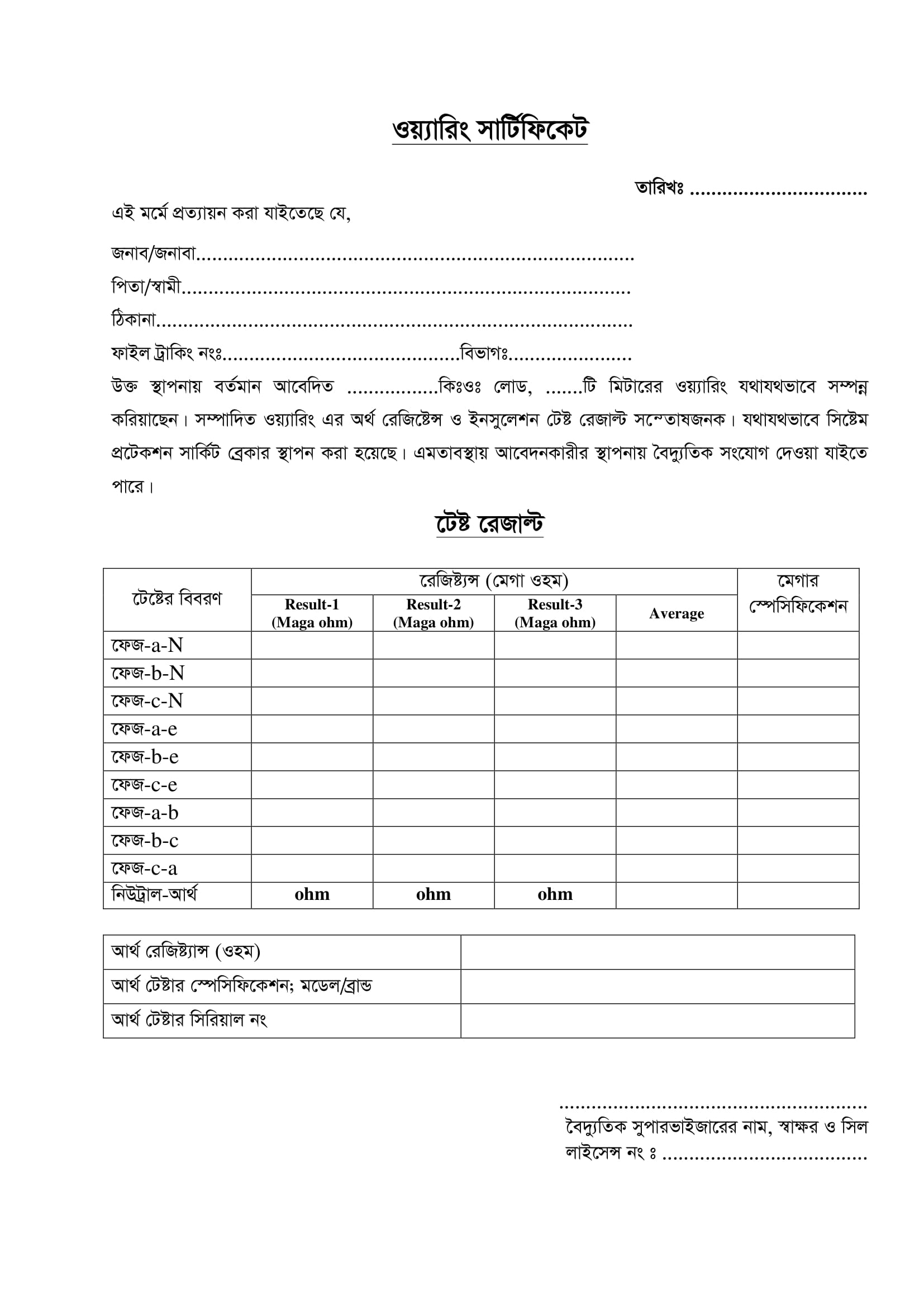
****Wiring certificate form contains the ownership of meter by the people and the connections and wiring system are briefly discussed in the form. The test result after the wiring test is also attached in the form. Figure 3.2.1.2 contains the wiring certificate.

Figure 3.2.1.2 Wiring Certificate Form

**3.2.1.3 Disconnection Form**

To disconnect any electricity connection or meter, a form is fill up by the user which contains the details of meter, customer number, the reason of disconnection etc. After applying is checked and approved by the authority of NESCO.

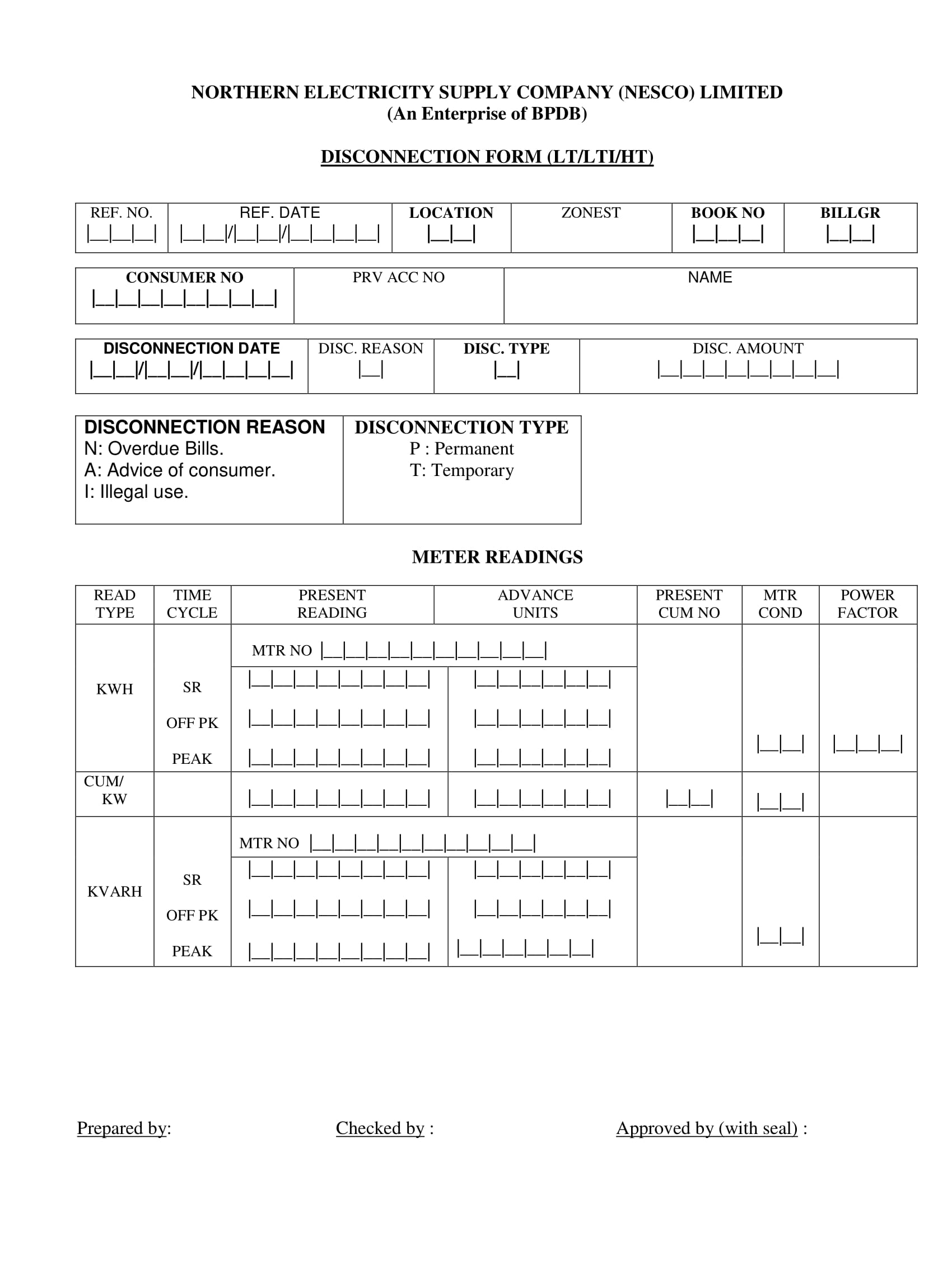
Figure 3.2.1.3 contains the disconnection form.

Figure 3.2.1.3 disconnection form

**3.2.1.4 Reconnection Form**

If connection is expired or cut down for any reason, then this reconnection form is used to again connect the meter. After applying is checked and approved by the authority of NESCO.

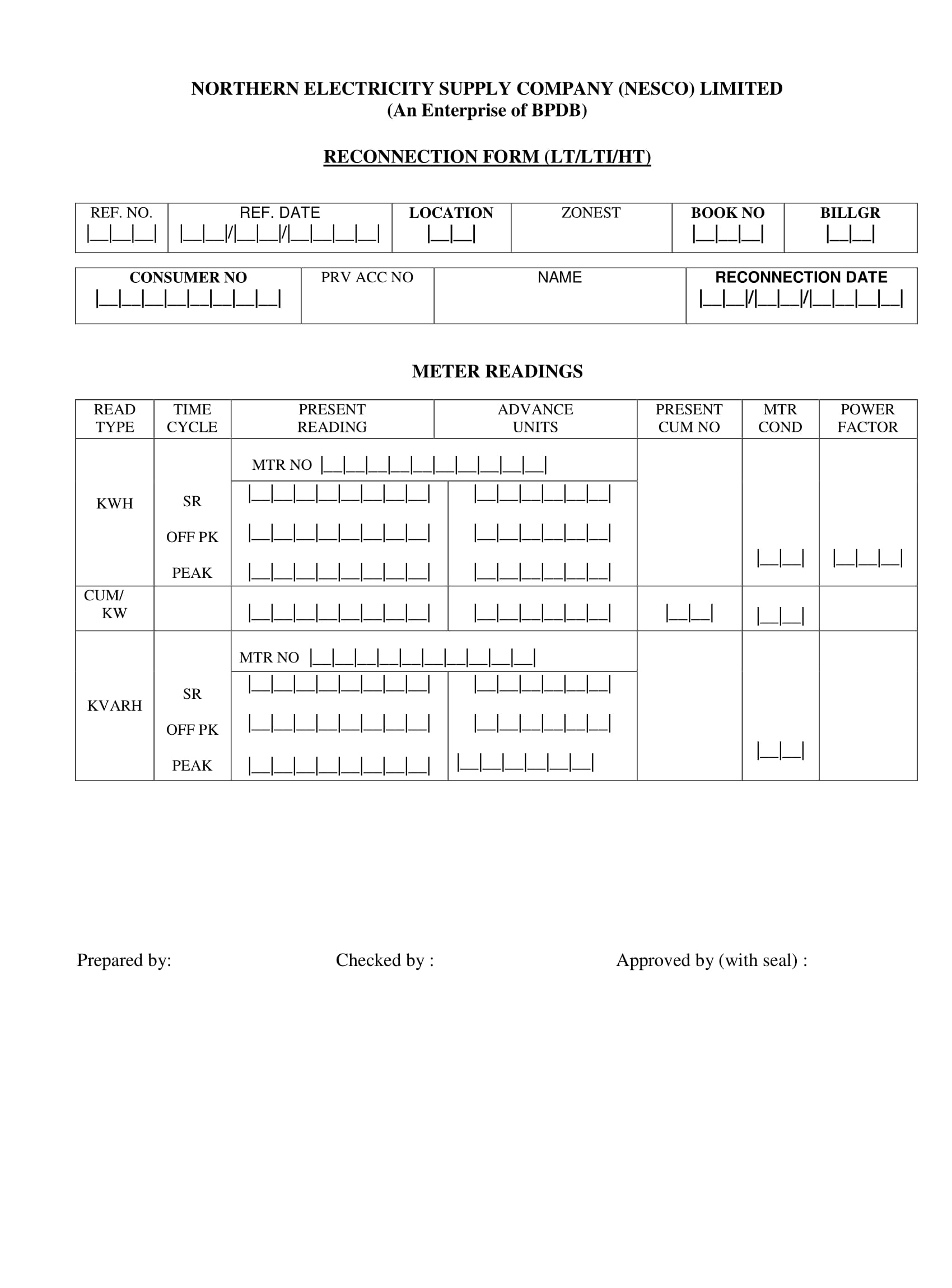
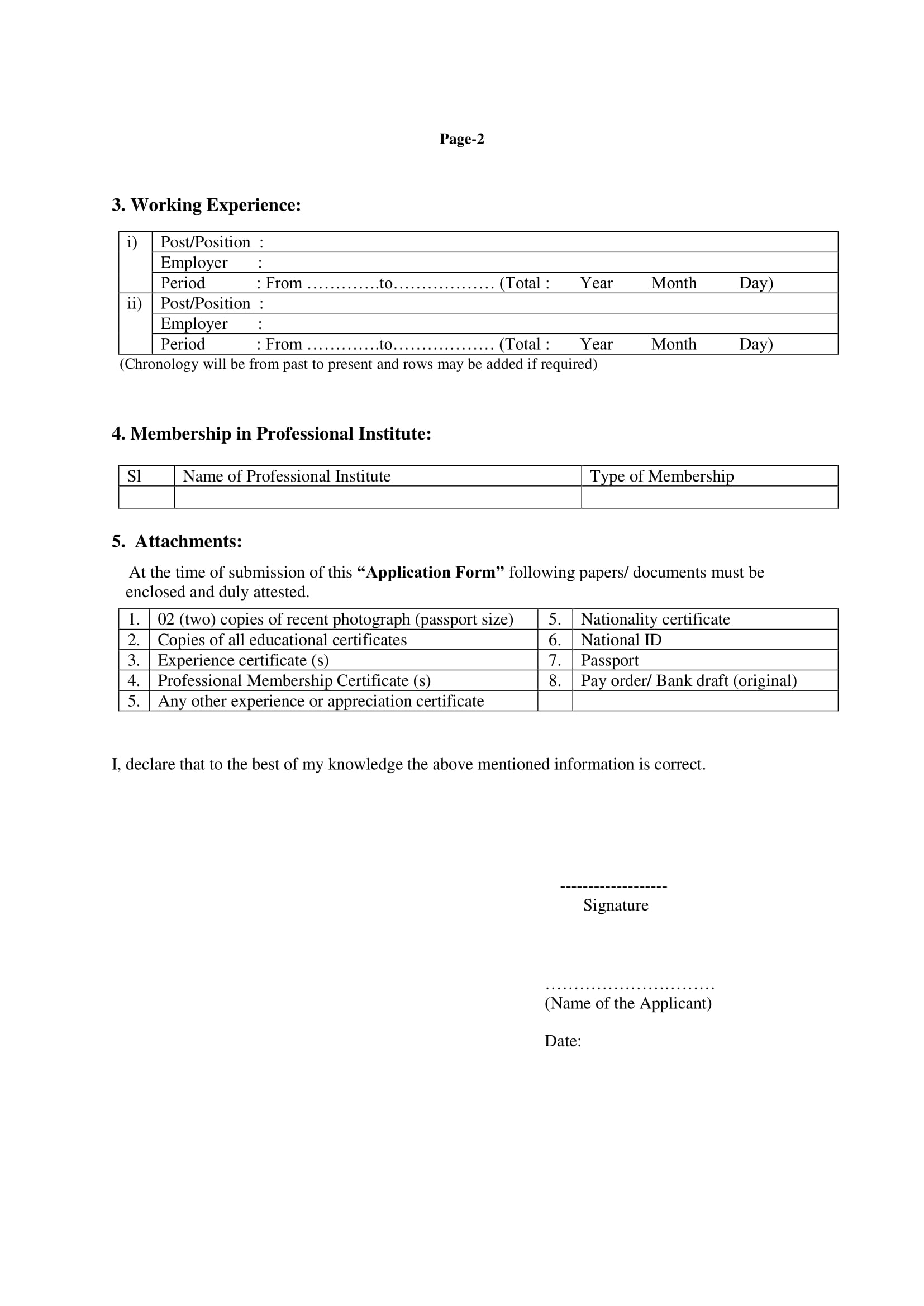
Figure 3.2.1.4 contains the reconnection form.

Figure 3.2.1.4 reconnection form

**3.2.1.5 Meter Exchange Form**

The faulty meters are needed to be exchanged with the new one. To exchange meters this form is filled up which contains the details of the old meter, new meter and the customer id or number who is willing to exchange etc.

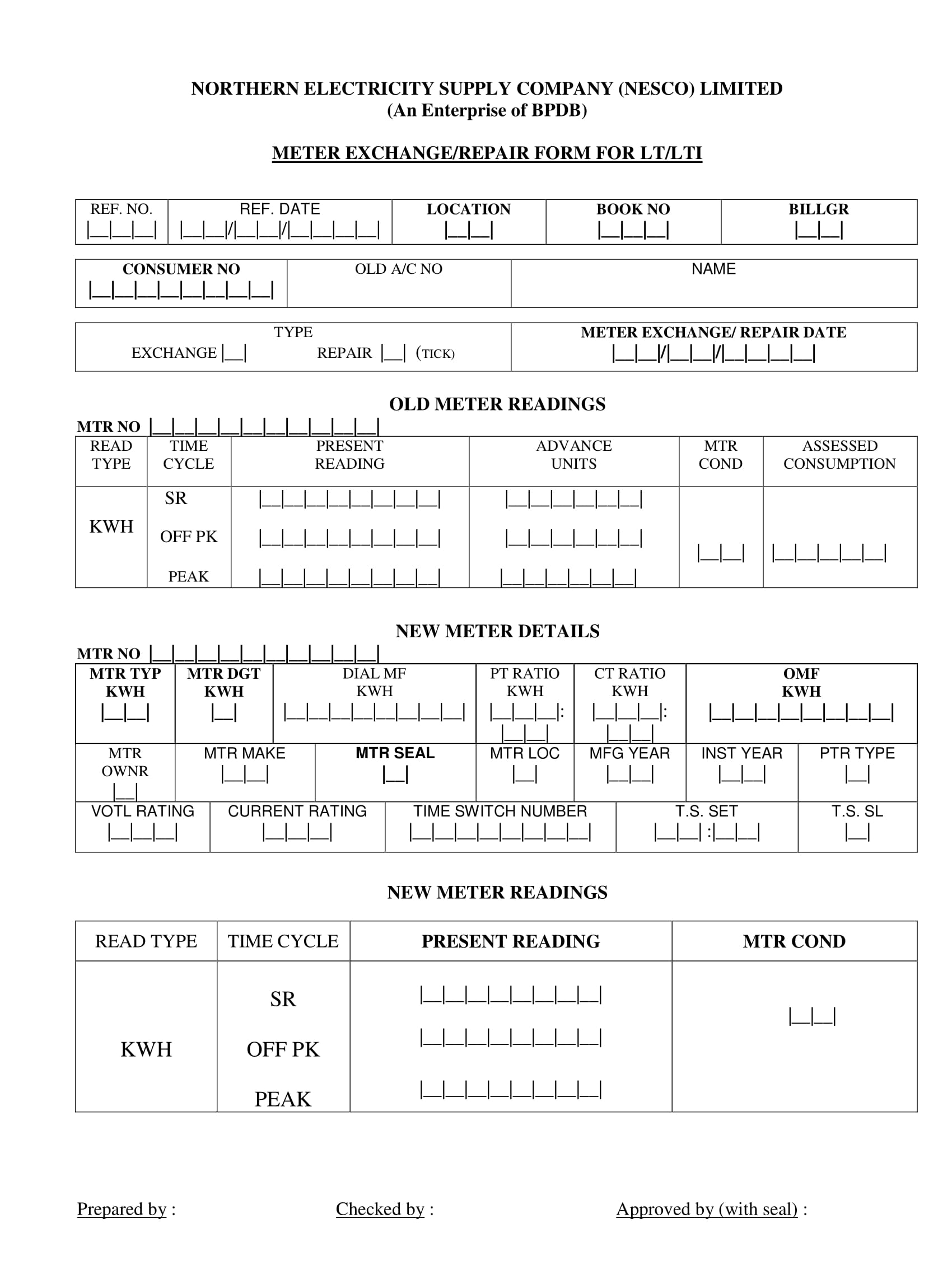
Figure 3.2.1.5 contains the meter exchange form.

Figure 3.2.1.5 meter-exchange form

**3.2.1.6 Officer’s Evaluation Form**

By the use of this form, the evaluation of the officials is done depending on their discipline, sincerity to job, personality, service and all other parameters.

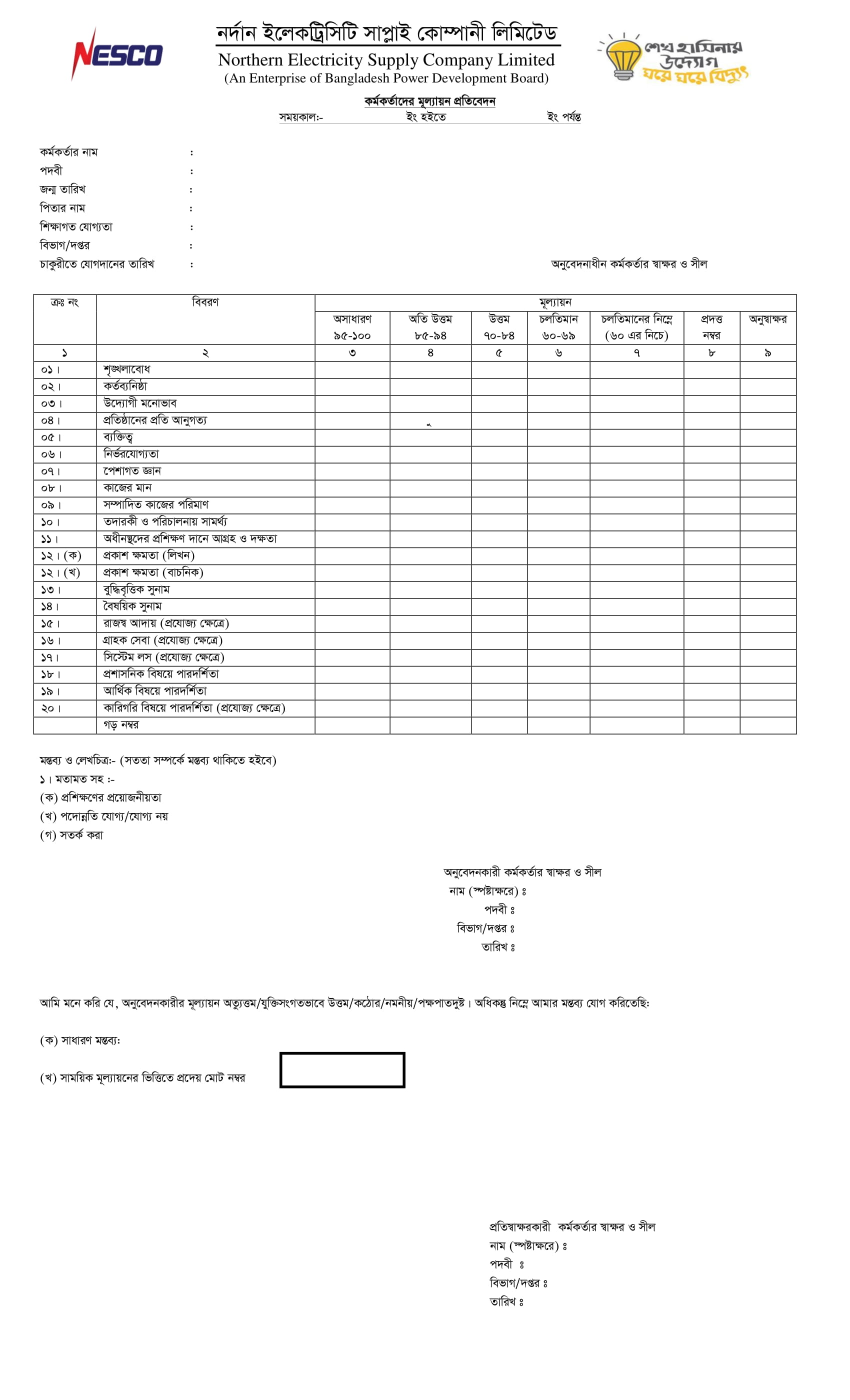
Figure 3.2.1.6 contains the officer’s evaluation form.

Figure 3.2.1.6 officer’s evaluation form

**3.2.1.7 Application Form**

To apply for any post in NESCO, this form is filled up by the applicants. This form contains the details of the applicants about his personal information, educational information and all background.

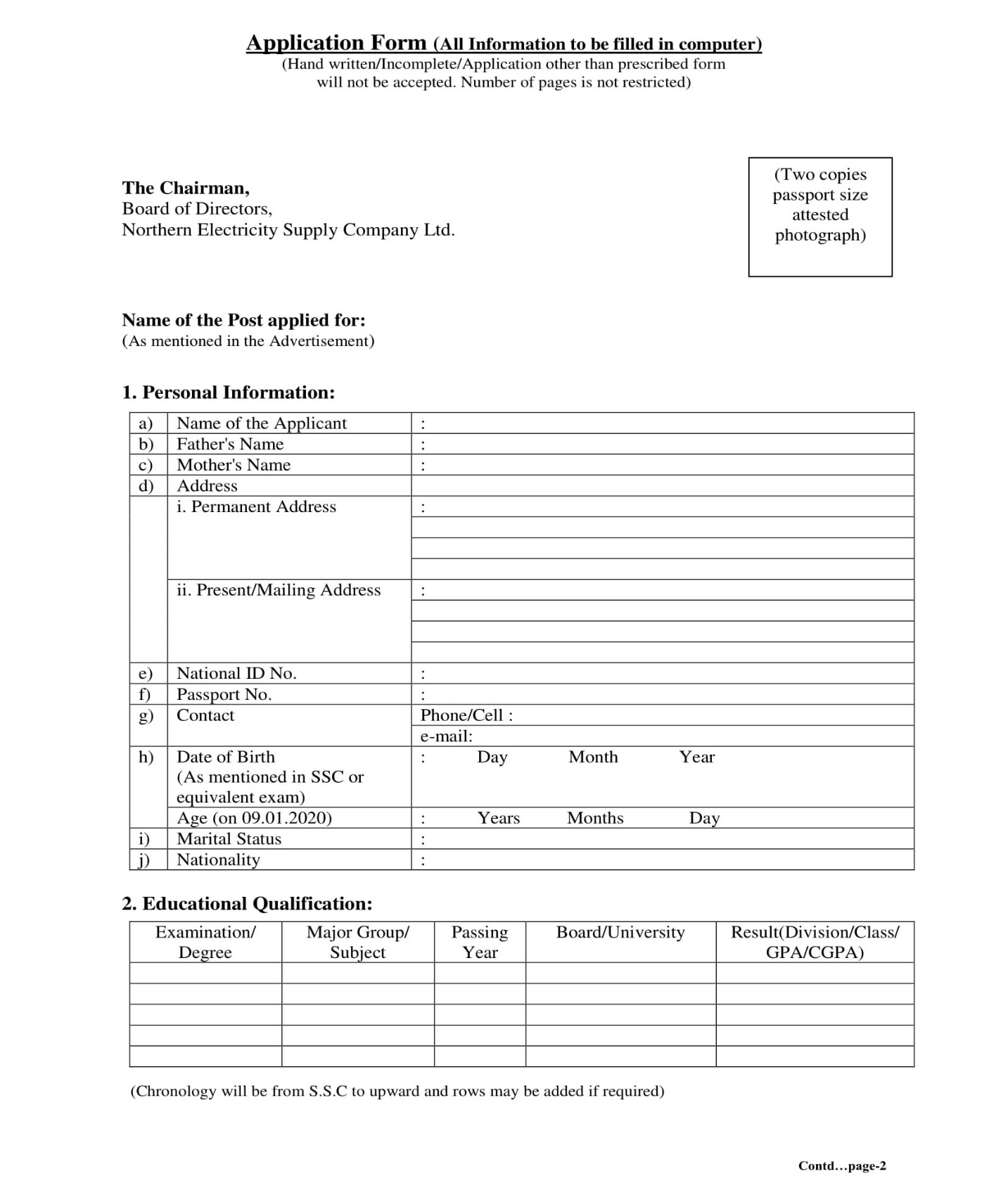
Figure 3.2.1.7(a) and 3.2.1.7(b) contain the application form.

Figure 3.2.1.7(a) application form

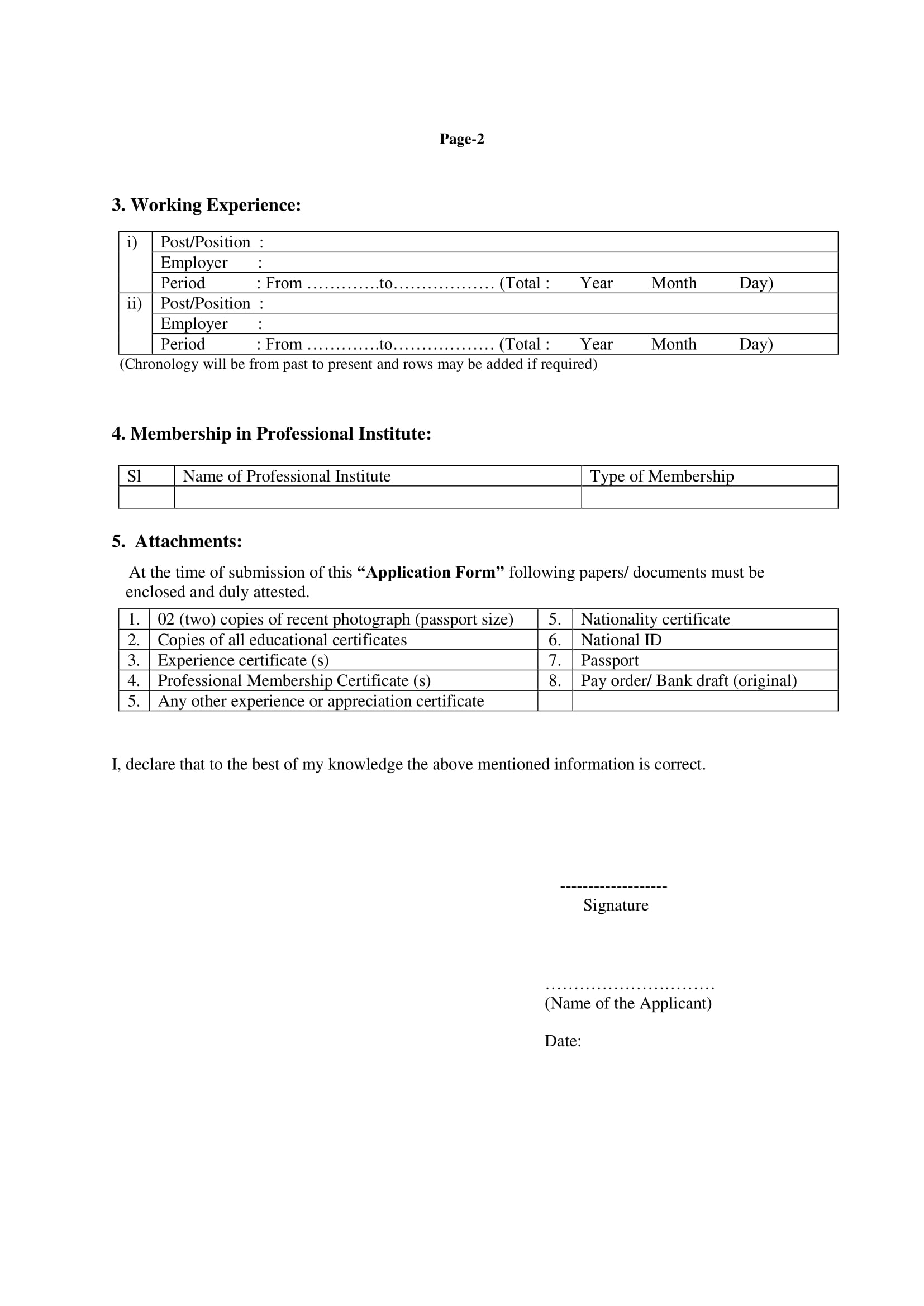
****

Figure 3.2.1.7(b) application form

**3.2.1.8 Load Calculation document**

This form or documents helps to calculate the load to which power is distributed. Actually, this form is filled up by the contractor.

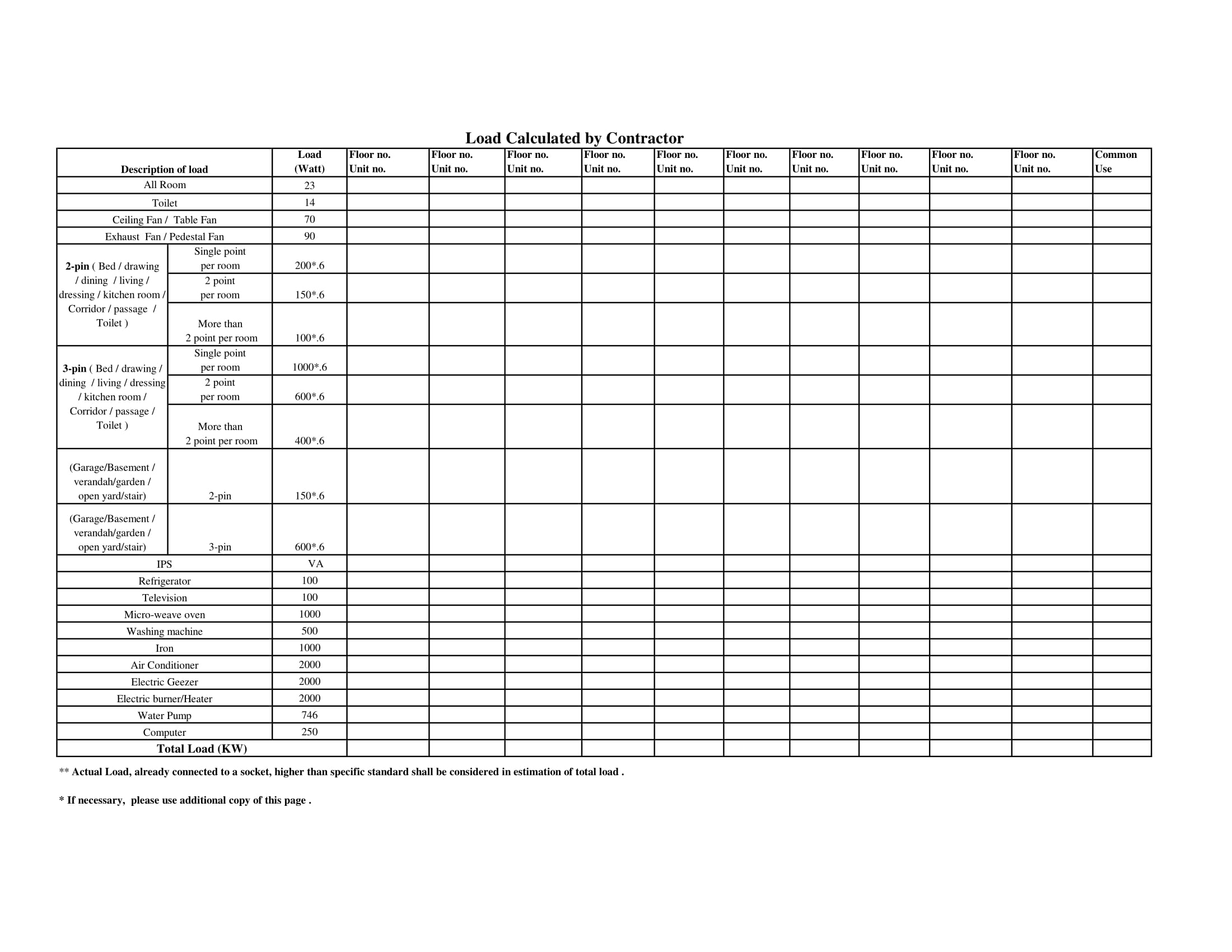
Figure 3.2.1.8 the load calculation by contractor.

Figure 3.2.1.7(a) application form

**3.2.2 Onsite observation on working process of NESCO**

Onsite observation is one of the main tools of information gathering. By this process the real system can be visualized more clearly and can be got attached with the system which opens the door to know more about the system. The observer should be experienced and intelligent enough to focus on the working procedure and gather information. For this, he or she should keep in mind the following questions.

* What kind of system we are observing.
* The people running the system and who are important people of the system.
* The history of the system and the evolution of the system to current stage.
* How the system responses to internal and external crisis.

Before observation, the observer should know about different types of observation. Among them four alternative observation methods are used usually.

* **Natural or Contrived**

In natural observation, the observation takes place in the employee’s place or in the system but in case of contrived observation, it is set up by the observer or in a place like laboratory.

* **Obtrusive or Unobtrusive**

In obtrusive observation, the respondent or the person being observed knows that he or she being observed. In unobtrusive observation, the respondent does not know about it.

* **Direct or Indirect**

In direct observation, the observer directly observes the subject or system but in case of indirect observation, an intermediate mechanical device like recorder or camera is used to observe.

* **Structured or Unstructured**

In structured observation, the observer actually records or gather information of a particular or specific action but in case of unstructured observation, the observer observes whatever are pertinent or visible to him at the time of observation.

We have observed the system several times and our observations were natural, obtrusive, direct and unstructured. Some of the observations are detailed below-

1. During our observation, we found that all the employees are busy with there work. We met with the deputy general manager. He was also busy and involved in an online meeting with the officials. He was very cordial to talk with us. he asked us about our need. Then we inform him about the report and sked different questions. He answered clearly and gossip with us. during that period also, the employees came to him for different directions and he directed them.
2. We also observed the office thoroughly and they showed us their personal server. It was highly secured and the doors were secured by finger print of the employees only. They showed us their whole server system including the power supply to the servers, cooling systems, the chambers, the large CPUs, large memory device etc. One employee was constantly working in the control room to observe all the time whether any fault is aroused or not.
3. We again observed the supply system and the large machineries of the system. The liable person was there to control the system. All the employees and officials were busy with their respective works. But they have a deficiency in manpower. As there was not required manpower to control the whole system, the appointed persons were so busy to handle all the works properly. ICT department also need manpower as it has started a few years ago but advancing with large progress.
4. All the officials and employees behaved very good with us. they were willingly giving different information about the system when they came to know about our visit. The deputy general manager was also very cordial and gossiped a lot with us. The respected engineer showed us different portions of their server with enthusiasm and described every little works.

**3.2.3 Face to face interview**

Interview is a face-to-face question answer session between the interviewer and the interviewee. The person being interviewed is interviewee and who is responsible to take interview is interviewer. Interview is the tool by which we can collect such information which cannot be collected by onsite observation or from literature. By this tool only the information is collected but also the quality and authenticity of the information is also verified.

We took interview of some people of Northern Electricity Supply Company to gather more information about the system. Among them the interview of deputy general manager and analyst is described here.

**To the Deputy General Manager**

At first, we met deputy general manager of ICT department of NESCO. He was a very busy but cordial person. He warmly welcomed us to know any kind of information and talked about the details.

1. **Interviewer:** In which region your organization supply electricity?

**Interviewee:** NESCO supplies electricity in northern region of Bangladesh specially in different districts of Rajshahi and Rangpur divisions.

1. **Interviewer:** Are you satisfied with the performance of NESCO?

**Interviewee:** Yes. It distributes electricity as per need and power generation different grids. The power it gets from the national power grid is properly distributed to the users.

1. **Interviewer:** Do you think your organization is corruption free?

**Interviewee:** Yes, of course. We try to maintain all things with proper documents.

1. **Interviewer:** What do you think about the recent load shedding?

**Interviewee:** This is very unwanted. But for the scarcity of natural gas as the production of power is less, so we have to maintain with that through load shedding.

1. **Interviewer:** How do NESCO handle this load shedding?

**Interviewee:** Actually, a schedule is provided that which region will go through load shedding in which portion of day. If any emergency occurs, then it is declared forehand and user made known by miking of notice.

1. **Interviewer:** Who takes the important decisions?

**Interviewee:** We form a board of higher officials and through meeting the decisions are taken.

1. **Interviewer:** Do the users get service properly? What do you think?

**Interviewee:** The users can express it better. But I think, yes, they do.

**To the Analyst**

1. **Interviewer:** Is this organization fully digitalized or not?

**Interviewee:** Almost. Most of our works are handled now through online system.

1. **Interviewer:** When has it started?

**Interviewee:** This organization started its job from October, 2016. At that time, it was not so digitalized and handled the billing system and others by some 3rd party organization. On March, 2018 ICT department was established to maintain all online function internally, preparing own software and not to depend on any 3rd party.

1. **Interviewer:** Which portion of the organization is digitalized?

**Interviewee:** Actually, if I say, it’s almost 99%. We have our own software, database and online services. On last month, we have collected 99.79% of our total bill through online.

1. **Interviewer:** Does NESCO have its own server?

**Interviewee:** Yes, of course. NESCO has a tier 3 data center which does not require a total shutdown during maintenance.

1. **Interviewer:** who are involved I maintaining the servers?

**Interviewee:** NESCO itself. The employees work here are involved.

1. **Interviewer:** What are the functions of prepaid meter?

**Interviewee:** The user can pay before using it. Then as per the use, the money is charged an meter shows the amount of billing.

1. **Interviewer:** why should we replace post-paid meter by prepaid one?

**Interviewee:** It provides more advantages. All information is in online. Again, in case of postpaid meter, the reader may take inaccurate reading which can make complexity in paying bills by customers but in prepaid system, its totally free of that inaccuracy.

1. **Interviewer:** Is the money/electricity ratio of prepaid meter efficient?

**Interviewee:** Yes. It is maintained properly. Some money is taken at VAT or for other cost which as also same for the postpaid meter also.

1. **Interviewer:** How many consumers are using prepaid meter?

**Interviewee:** Almost 5 lakhs consumers out of 17 lakhs are now under this prepaid meter system.

1. **Interviewer:** Which type of meter is more preferred by the consumer?

**Interviewee:** In the early stage, people hesitate to take prepaid meter for inherent apathy to change. But now they are being smart and the users are increasing.

1. **Interviewer:** Is there any possibility to manipulate any meter related information online data?

**Interviewee:** No. the users can only access personal information on online and data safety is used for all user information.

1. **Interviewer:** how data security is provided in NESCO?

**Interviewee:** Privacy policy TR3 solutions is used which offers new security capabilities.

1. **Interviewer:** What are the odds in online payment?

**Interviewee:** People are not smart enough to cope-up with this new system. But day by day the user is increasing for online payment. To increase interest, 1% recharge is offered to the user.

1. **Interviewer:** In case of server down or failure what are the counter measures are taken?

**Interviewee:** If the server is failed the customer service-related functions will be pros-pond for some times but the supply will not be hampered. And it is recovered as early as possible.

1. **Interviewer:** Is there any online system for new meter or electricity connection program?

**Interviewee:** Yes. New customer can do all things on online.

1. **Interviewer:** Is there any way to inform the customers about remaining balance in prepaid meter?

**Interviewee:** Yes. If the bill goes down below 100 tk, the user gets a message.

1. **Interviewer:** Is there any online help desk?

**Interviewee:** Yes, we have. We have a call center in the number 16603.

1. **Interviewer:** What is the main lacking of this organization?

**Interviewee:** It’s main lacking is manpower. We need more expert people to cooperate to run the organization.

1. **Interviewer:** Within how many years the process will be fully online based?

**Interviewee:** I hope within 1.5 years.

1. **Interviewer:** What is the mission of this organization and the future agenda?

**Interviewee:** we have several missions which includes the digitalization of all activities, improve the quality of customer service and to deliver the power without any improperness.

**3.2.4 Information collection through questionnaire**

Questionnaire is actually an opinion poll by which many people’s response can be recorded at a time. It is provided as a form containing some questions related to the system. It is an alternative to the interview. In some cases, interview cannot work properly for many people to get the answer of some common questions. Again, many people feel comfortable to face questionnaire than interview. We have also collected some information through questionnaire from the worker of NESCO.

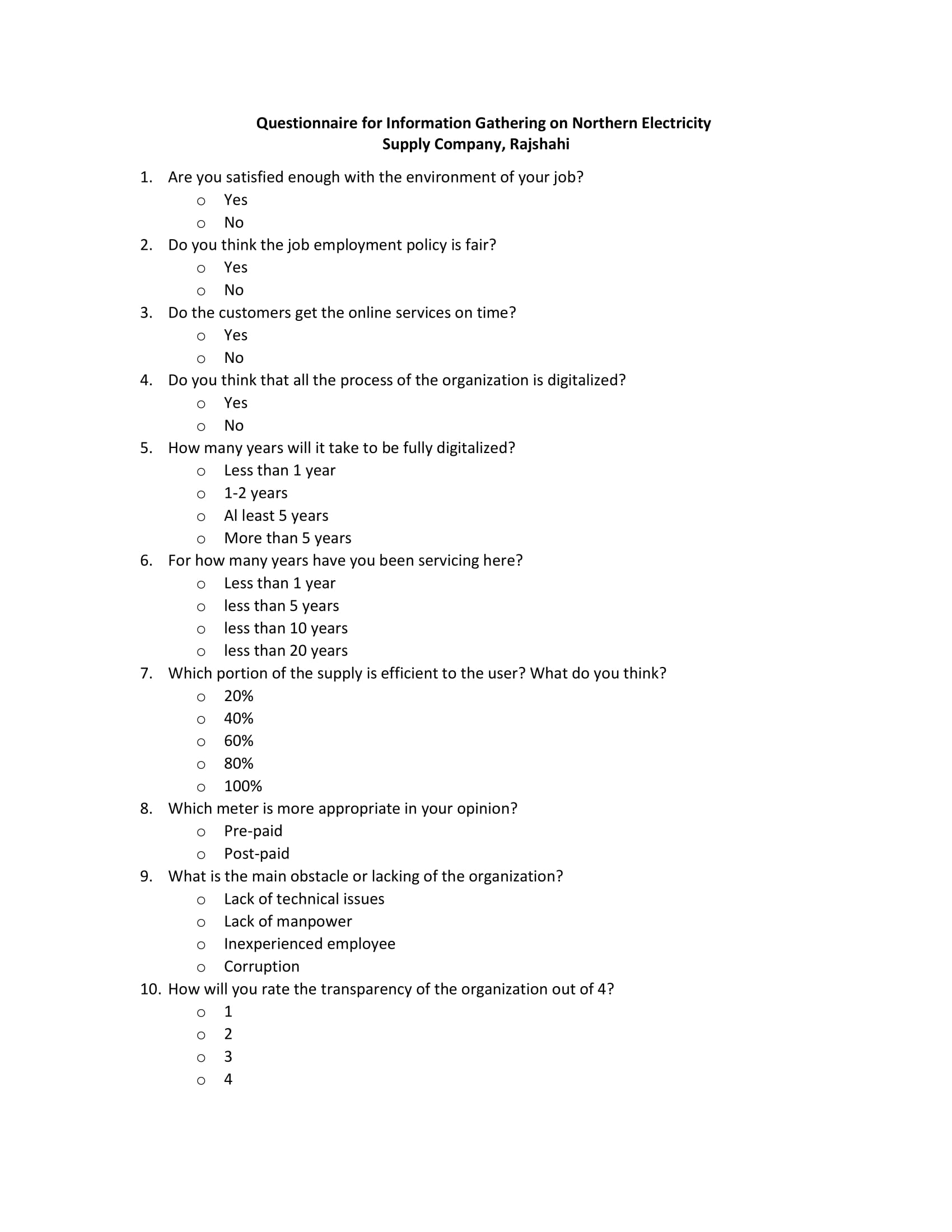


Figure 3.2.4 Questionnaires form

The questionnaire was distributed among 10 persons and their responses are recorded. The explanation of their responses is designed here.

**Table 3.1** Yes/No type questions

|  |  |  |
| --- | --- | --- |
| Question No. | YES | NO |
| 1 | 10 | 0 |
| 2 | 8 | 2 |
| 3 | 5 | 5 |
| 4 | 7 | 3 |

**Question No. 5:** Less than 1 year (40%), 1-2 years (60%).

**Question No. 6:** Less than 1 year (20%), less than 5 years (70%), less than 10 years (10%).

**Question No. 7:** 60% (5%), 80% (80%), 100% (15%).

**Question No. 8:** Pre-paid (60%), Post-paid (40%).

**Question No. 9:** Lack of technical issues (20%), lack of manpower (80%).

**Question No. 10:** 2 (10%), 3 (60%), 4 (30%).