

## Current Status of Construction License of PEFP

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### 1. Introduction

Since 2010 August, PEFP(Proton Engineering Frontier Project)'s Proton Accelerator Research Center has been under construction so far.

Generally, in advance of construction startup, many kinds of licenses should be acquired along with the types of construction works. To acquire a license in time, each item should meet the standard by the related regulation, including not only procedural but also content aspect.

In the advent of internet era, electronic government system has been adopted in many governmental functions: So is the national construction license acquisition system. Owing to the system, both approval and documentation functions in licensing are integrated in online computer network which provide us simplification in process and easy accessibility to license data. However, aside from these construction licenses, other types of licenses still remain separately managed: Machinery, electric facilities, and so on. Moreover, all the licenses have the priority order and take legal term in processing.

So, to avoid any time delay in license acquisition, we organized license hierarchy and found out the priority among them. Thereafter, according to their legal term in approval and acquisition, whole license acquisition schedule was arranged and we completed all the necessary licenses acquisition in time

In this study, we summarize the current status of license acquisition on Proton Accelerator Research Center Construction, and manifest how they have been and will be managed systematically.

### 2. Licenses Hierarchy

Aside from radiation-related licenses, others are divided into 2 categories: License for construction and License for operation. The former is prerequisite for construction startup while the latter for operation stage after construction completion.

In license for construction, there are two kinds of sub groups: Preparatory license and construction license. In license for operation, there are four sub groups: Machinery, electric facilities, telecommunication, and fire fighting. All these license hierarchy is shown at Fig. 1 as below.

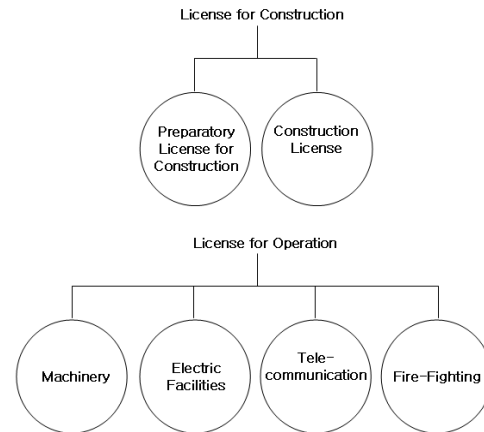


Fig. 1. License hierarchy for the construction of Proton Accelerator Research Center construction

### 3. Licenses for Construction

#### 3.1 License for Construction Preparation

Before starting construction, preparatory licenses should be acquired. For example, urban planning facilities in admission should be done at first before ground breaking.

There are three sub categories under the construction license group: Overall license, buried cultural treasure related license, and land purchase related license. Detailed licenses are listed up at table 1 as below.

Table 1 License for Construction Preparation

Category of License	License
Overall	<ul style="list-style-type: none"> <li>● Urban planning Facilities in Admission</li> <li>● Pre-disaster Effect Examination</li> <li>● Environmental Impact Assessment (EIA)</li> <li>● Traffic Impact Assessment</li> </ul>
Buried Cultural Treasure	<ul style="list-style-type: none"> <li>● Surface Test</li> <li>● Test Inspection</li> <li>● Excavation Inspection</li> </ul>
Land Purchase	<ul style="list-style-type: none"> <li>● Working Design Approval</li> </ul>

#### 3.2 Construction License

Due to the limited budget, whole construction works were divided into several steps as shown in Table 2. We have performed three times application procedure step by step so far. Nevertheless, aside from these approved buildings, we still have other buildings for future licensing just waiting for the time when their budget will be secured.

**Table 2 Step by Step Licensing for Whole Site Construction**

Nth Application	Related Building
1 <sup>st</sup>	<ul style="list-style-type: none"> <li>● Accelerator and Beam Experimental Hall</li> <li>● Ion Beam Research Building</li> <li>● Utility Supply Building</li> <li>● Power Supply Facilities</li> </ul>
2 <sup>nd</sup>	<ul style="list-style-type: none"> <li>● Waste Water Treatment Building.</li> </ul>
3 <sup>rd</sup>	<ul style="list-style-type: none"> <li>● Information Building</li> </ul>

#### 4. Licenses for Operation

At first, licenses for machinery include compression tank, accelerator/beam experimental hall chiller, chiller compression tank, electric crane, hoist, HVAC Chiller, etc.

However, other lines of work licenses are merged into a part of the construction license. So, we don't have to do specific license acquisition work for it: Licenses for electric facilities, licenses for information & telecommunication, and licenses for fire-fighting equipments, i.e.

#### 5. Documentation & Archive

After acquisition of licenses, we keep their electric documents in local computer as Fig. 2, and online archive in EAIS, *Korean Government's License Online Approval System*, as Fig 3.



Fig. 2. File documentation in local computer of PEFP

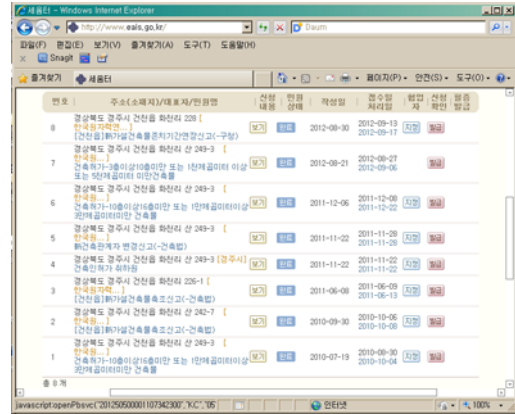


Fig. 3. License history recorded in online archive of EAIS, *Korean Government's License Online Approval System*

#### 6. Summary

Considering complexity in license acquisition, we arranged all the necessary licenses along with their hierarchy and order priority, which helped us to do license procedures step by step within the due time. Owing to this, we could complete license acquisition without any serious influence on master schedule of construction.

Moreover in the operation stage, all of these licenses are expected to be managed and revised systematically because all of the related documents in licensing are kept both in local computer and online archive of the government license approval system.

#### REFERENCES

[1] Enforcement Decree of the Building Act, Korea