



**GOVERNMENT OF KHYBER PAKHTUNKHWA  
CLIMATE CHANGE, FORESTRY, ENVIRONMENT  
AND WILDLIFE DEPARTMENT  
(SECTION ENVIRONMENT)**

**NOTIFICATION**

**Peshawar Dated the 25/07/2025**

**No. SO(ENVT)/CCFE&WD/1-8/EPC-2025:** In exercise of powers conferred under Clause xxii of Section 7 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, (Khyber Pakhtunkhwa Act No. XXX of 2022), the Khyber Pakhtunkhwa Environmental Protection Council (EPC) in its 3<sup>rd</sup> Meeting held on 13.05.2025 has been pleased to approve the following guidelines for General Environmental Approval (GEA);

**GUIDELINES FOR ICE FACTORIES**

**Purpose of Guidelines & Checklist for ICE factories**

The guidelines and checklist are developed to clarify the location, site suitability, and suitable location for setting developmental projects in terms of environmental issues, and to provide the solution of remedy. The aim of Guidelines is to developed mitigation measures to control any sort of environmental pollution created in vicinity due to setting of a developmental project. Guidelines and checklist is the basic tool to assess the environmental pollution and to prepare and cope up with environmental issues. The basic aim & objective of guidelines is to promote sustainable development and to safe guard the residents of a locality with the impacts of ongoing projects.

In Light of Khyber Pakhtunkhwa Environmental Protection Act, 2014 and Khyber Pakhtunkhwa Environment Assessment Rules, 2021 the guidelines are the basic tools and legal requirement for the projects fall in the categories of Schedule-IV project where General Environmental approval (GEA) is required for a project at planning stage.

**Introduction of Ice units**

Ice manufacturing unit is a facility for manufacturing of Ice Block for industrial and commercial use, in ice manufacturing units Ice manufacturing plant is installed which works in similar way as a Refrigerator available in our houses. The difference is that the Refrigerator used in our houses only produced/manufactured small ice cane or ice at a very small quantity while in Ice unit the Ice Blocks are manufactured in large quantity. There is obviously a difference in process as in Ice unit large quantity of Ice is produced.

**Process of Ice Manufacturing**

The process of Ice manufacturing carried out in Ice manufacturing plant which works on vapor, Compression system. There are four basic components of every Vapor, Compression system. The detail is given as below:

1. Compressor





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2. Condenser
3. Evaporation valves & Evaporator
4. Brine tanks

The first thing which is used for ice manufacturing is a refrigerant/Coolant. There are two (02) refrigerant are used in ice unit which are primary and secondary refrigerant. Ammonia is primary refrigerant while brine solution is secondary refrigerant used in ice manufacturing plant. Brine solution is cheaper and has high heat carrying capacity. It also helps for extraction of heat from Ice canes.

First of all ammonia is compressed in compressor chamber .Compressor create high pressure and temperature and push the ammonia into condenser .Condenser decrease the pressure and temperature and in this way ammonia changed into liquid form Liquid ammonia is received by Receiver and then it circulate it into evaporator after passing it though expansion valves and into the evaporator.

Evaporator is connected to the brine solution tanks in which Cans are filled with water when liquid ammonia passes through brine solution tank it create cooling and chilling affect along with brine solution and in this way water inside the canes change into the Ice block

The ice block put out from the brine solution tank and kept in normal hot water in this way ice block came out from ice cane and become ready for use. The liquid ammonia from evaporator through connected pipe travel towards Compressor and ready for next cycle.

#### **BAD SMELL/ODOUR**

In Ice unit ammonia is used as primary refrigerant and in very rare cases when ammonia leakage occur it cause the pungent smell effect workers of the ice unit and the people residing nearby as well as during wind blowing the pungent smell effect the surroundings population. The bad smell from Ice unit is a source of public nuisance.

#### **SITE LOCATION**

1. Ice units should be located outside populated areas.
2. Minimum distance between ICE unit and single residential house should be at least 50 meters and from population/ residential area the distance should be at least 100 meters (residential area means cluster of houses)
3. Ice unit should be located 100 meters away from the Sensitive receptors like educational institute and hospital etc.

#### **HEALTH, HYGIENE AND SAFETY**

1. Workers/labors of Ice unit must wear mask and gloves during working hours.
2. The system/Parts of Ice manufacturing plant must be opened for checking purpose twice in a year.
3. Connected pipes through which ammonia is passed must be checked at regular intervals.
4. Brine tanks and Ice canes must be cleaned at regular intervals.
5. Ammonia/Gaseous leakage detector system must be installed inside the unit.





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1. Title of project \_\_\_\_\_
2. Name of the proponent: \_\_\_\_\_
3. Location of Project: \_\_\_\_\_
4. GPS Coordinates of proposed site \_\_\_\_\_
5. A brief outline of the Project: \_\_\_\_\_
6. Objectives of Project: \_\_\_\_\_
7. Land use on the site: \_\_\_\_\_
8. Cost of Project: \_\_\_\_\_
9. Source of Water: \_\_\_\_\_
10. Description of the project (Process flow chart/steps, Technology, Raw material products, by-products) and  
\_\_\_\_\_
11. Number of Ice Storage Room: \_\_\_\_\_
12. Total Capacity of the unit: \_\_\_\_\_
13. How many sensitive receptors (school, hospital, Masjid) within 100 meters distance  
\_\_\_\_\_
14. Adequate Ventilation for the Refrigeration System  
\_\_\_\_\_





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Undertaking/Affidavit

(To be filled by Proponent)

AFFIDAVIT

I, Mr.-----S/o----- CNIC No:-----  
----- resident of village----- Tehsil----- & District-----do  
hereby solemnly affirm and declare that the above mentioned information are true and correct to  
the best of my knowledge and belief and that nothing has been kept concealed from the  
Environmental Protection Agency (EPA), Khyber Pakhtunkhwa.

-sd-

Secretary to Govt. of Khyber Pakhtunkhwa  
Climate Change, Forestry, Environment & Wildlife  
Department

No. SO(ENVT)/CCFE&WD/1-8/EPC-2025:

Copy for information to;

1. All members of Environmental Protection Council (EPC) Khyber Pakhtunkhwa
2. PS to Secretary Climate Change, Forestry, Environment & Wildlife Department,  
Khyber Pakhtunkhwa

Muhammad Ishaq  
Section Officer (Environment)