CLEARING OF MECHANICAL PLANS

Checklist of Requirements

1. Properly accomplished application forms;
2. Certificate of Appearance of the signing PME;
3. Copy of PRC license and PTR of the signing PME (with 3 signature specimen);
4. Technical plans containing the following:

A. **PRESSURE VESSEL/BOILER**

a. Location Map /Vicinity Map (Sheet 1) *The plan showing the site of the establishment indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.*
b. Plant, Room and/or Equipment Layout (Sheet 1) *A layout of the workplace showing:* *1. The detail of the room drawn to scale indicating the position of the boiler or pressure vessel in relation to the surrounding walls and other machinery or equipment in the room* *2. The type of material used for the room walls which may be or concrete, adobe, hollow blocks or other fire-resistant construction* 3. *Specifies the exact location of equipment being applied*
c. Equipment Technical Specifications (Sheet 2) 1. *Brand Name / Maker* 2. *Date of Make /Manufacture* 3. *Place of Origin* 4. *Type of Boiler* 5. *Model and Serial Number* 6. *Design Pressure* 7. *Max. Allowable Working Pressure (MAWP)* 8. *Heating Surface* 9. *Boiler Horsepower (BHP) (Factory Catalog Rating)* *Note: The provided information must be the same as that provided in the application form*

d. Complete Installation Drawings of the Equipment

1. *The sectional front and side front elevation of the boiler or pressure vessel indicating the diameter, thickness and length of the shell or drum and the dimensions, measurements, and other technical data of all other boiler parts, fittings and accessories.*
2. *The details of longitudinal and circumferential joints, head attachments to boiler shell, nozzle and manhole or hand hole attachments to shell.*
3. *The boiler/pressure vessel manufacturer's data and specification;*
4. *The technical details of the furnace*

e. Detailed Foundation Construction Drawings (Sheet 3)

1. *Specifies the dimensions of concrete foundation: length, width and depth; and*
2. *Piling details, if applicable.*
3. *If the equipment if elevated, a structural analysis can be considered in lieu of a foundation construction drawing, provided, there is a conclusion as to the result of the analysis. This shall be affirmed by the signing PME by affixing his signature and seal.*

f. Foundation Design Computation with Factor of Safety (FS) (Computed FS should be not less than 5)(Sheet 3)

1. *The total weight of the boiler or pressure vessel and accessories;*
2. *The weight of water inside the boiler or pressure vessel when full;*
3. *The base area and volume of concrete foundation;*
4. *The type of concrete mixture and its density;*
5. *The soil bearing capacity in the locality where the engine is to be installed in the event the applicant uses a soil bearing capacity higher than 12, 225Kg/m2; and*
6. *The factor of safety of the foundation shall not be less than five (5).*

Note: This is not required if the equipment is elevated from the ground

g. Others, as may be needed (Sheet 4)

1. *Structural analysis with a conclusion that the structure can withstand the weight of the equipment in the event the equipment is elevated and not installed on ground; or*
2. *Cleared fabrication plans for locally fabricated boiler or pressure vessel; or*
3. *Importation documents for imported boilers or pressure vessels*

B. INTERNAL COMBUSTION ENGINE / TURBINE

a. **Location Map /Vicinity Map (Sheet 1)**

The plan showing the site of the establishment indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

b. Plant, Room and/or Equipment Lay-out (Sheet 1)

A layout of the workplace showing:

1. *The detail of the room drawn to scale indicating the position of the turbine or mechanical equipment in relation to the surrounding walls and other machinery or equipment in the room;*
2. *The type of material used for the room walls which may be of concrete, adobe, hollow blocks or other fire-resistant construction; and*
3. *Specifies the exact location of equipment being applied.*

c. Equipment Technical Specifications (Sheet 2)

1. *Manufacturer or make, kind of internal combustion engine*
2. *Type and model, serial number*
3. *Bore and stroke, number of cylinders*
4. *Cycle stroke and revolution per minute (rpm)*
5. *Method of fuel injection*
6. *Type of cooling*
7. *Type of lubrication*
8. *Type of governor*
9. *Method of starting*
10. *Method of drive*
11. *Internal combustion Engine application/use (generator, pump, etc)*

d. Complete Installation Drawings of the Equipment

1. *The front and side views of the engine installation with the foundation. This shall include the detail of anchorage or setting of the engine to the concrete foundation.*
2. *The detail layout of the equipment/machinery to be shown powered by the engine.*
3. *The method of the main drive, whether belt/s or others must be presented.*
4. *The piping installation especially those within a height of 2.13m from the floor line.*
5. *Guarding of moving or power transmission parts.*

e. Detailed Foundation Construction Drawings (Sheet 3)

1. *Specifies the dimensions of concrete foundation: length, width and depth; and*
2. *Piling details, if applicable.*
3. *If the equipment if elevated, a structural analysis can be considered in lieu of a foundation construction drawing, provided, there is a conclusion as to the result of the analysis. This shall be affirmed by the signing PME by affixing his signature and seal.*

f. Foundation Design Computation with Factor of Safety (FS)(Computed FS should be not less than 5) (Sheet 3)

1. *The gross weight of the machine engine and its accessories*
2. *The base area and volume of concrete foundation*
3. *The type of concrete mixture used and density of concrete*
4. *The soil bearing capacity* ***in the locality where the engine is to be installed in the event the applicant uses a soil bearing capacity higher than 12, 225Kg/m2***
5. *The factor of safety of the foundation shall not be less than five (5).*

Note: This is not required if the equipment is elevated from the ground

C. ELEVATOR / MANLIFT /DUMBWAITER

a. **Location Map /Vicinity Map (Sheet 1)**

The plan showing the site of the establishment indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

b. Plant, Room and/or Equipment Lay-out (Sheet 1

A layout of the workplace showing:

1. *the detail of the room drawn to scale indicating the position of the elevator / manlift / dumbwaiter or mechanical equipment in relation to the surrounding walls and other machinery or equipment in the room;*
2. *the type of material used for the room walls which may be of concrete, adobe, hollow blocks or other fire-resistant construction; and*
3. *specifies the exact location of equipment being applied.*

c. Equipment Technical Specifications (Sheet 2)

1. *Manufacturer or make*
2. *Type and model, serial number*
3. *Type (traction, drum, double belt, hydraulic, plunger)*
4. *Motive Power (hand, electric, direct-connected, steam, line shaft)*
5. *Total Capacity*
6. *Lifting Speed*

7. *Current (AC/DC)*

Note: The provided information must be the same as that provided in the application form

d. Complete Installation Drawings of the Equipment

Electrical Layout:

1. *Lighting and power layout*
2. *Riser or single line diagrams*
3. *Riser design computation*
4. *Load Schedule*
5. *Electrical Legend and specification*

Machine Room:

1. *Front and side view and plan of the driving machine, governor exit and machine beams*
2. *Type of Drive*

Hoistway:

1. *The construction, specification and dimension*
2. *Location of limit switches and all other safety devices*

Car, Cage and Platform:

1. *Specification materials and dimensions*
2. *Side and front views of the car sizes of frameworks, doors, gates, sill, floor and top emergency exits*
3. *Ventilation, handrails, guides, tracks, hangers, bumpers, slack devices and controllers*

Governor:

1. *The specifications, dimensions and materials*
2. *Type, speed and governor marking plate*

e. Foundation Design Computation with Factor of Safety (FS) (Computed FS should be not less than 5) (Sheet 3)

The minimum rate load, speed, factor of safety, weight of counterweight, stresses in car frame, platform frames, tripping speed of governor, stopping distance for car and counterweight safety devices and impact on buffet supports (if applicable)

Note: This is not required if the equipment is elevated from the ground

D. CRAINE AND HOIST

a**. Location Map /Vicinity Map (Sheet 1)**

The plan showing the site of the establishment indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

b. Plant, Room and/or Equipment Lay-out (Sheet 1)

A layout of the workplace showing:

1. *The detail of the room drawn to scale indicating the position of the crane / hoist or mechanical equipment in relation to the surrounding walls and other machinery or equipment in the room;*
2. *The type of material used for the room walls which may be of concrete, adobe, hollow blocks or other fire-resistant construction; and*
3. *Specifies the exact location of equipment being applied.*

c. Equipment Technical Specifications (Sheet 2)

1. *Brand Name / Maker*
2. *Date of Make / Manufacture*
3. *Place of Origin*
4. *Type*
5. *Model and Serial Number*
6. *Power System*
7. *Safe Work Load*
8. *Lifting Speed (Mai and Auxilliary)*
9. *Traversing speed (High/Low)*
10. *Total No. of Motor*
11. *Total kW / horsepower*
12. *Current (AC/DC)*

Note: The provided information must be the same as that provided in the application form

d. Complete Installation Drawings of the Equipment

The front and side views of the engine installation with the foundation

E. POWER PIPING LINE (should be applied on a per medium/content basis)

a. **Location Map /Vicinity Map (Sheet 1)**

The plan showing the site of the establishment indicating any known landmarks, such as streets, private or public place or building and an arrow indicating NORTH direction drawn not necessarily to scale.

b. ***A layout of the workplace showing:***

1. *The detail of the room drawn to scale indicating the position of the mechanical equipment in relation to the surrounding walls and other machinery or equipment in the room;*
2. *The type of material used for the room walls which may be of concrete, adobe, hollow blocks or other fire-resistant construction; and*
3. *Specifies the exact location of equipment being applied.*

c. **Equipment Technical Specifications (Sheet 2)**

1. *Material*
2. *Design Pressure*
3. *Max. Allowable Working Pressure (M.A.W.P)*
4. *Operating pressure and temperature*

Note: The provided information must be the same as that provided in the application form

e. Complete Installation Drawings of the Equipment

1. *Isometric drawing for power piping lines application indicating the length and diameter*
2. *Table for schedule of pipe lines may be included in the length per diameter of pipeline reflected in the drawing sheet (may add additional sheets)*