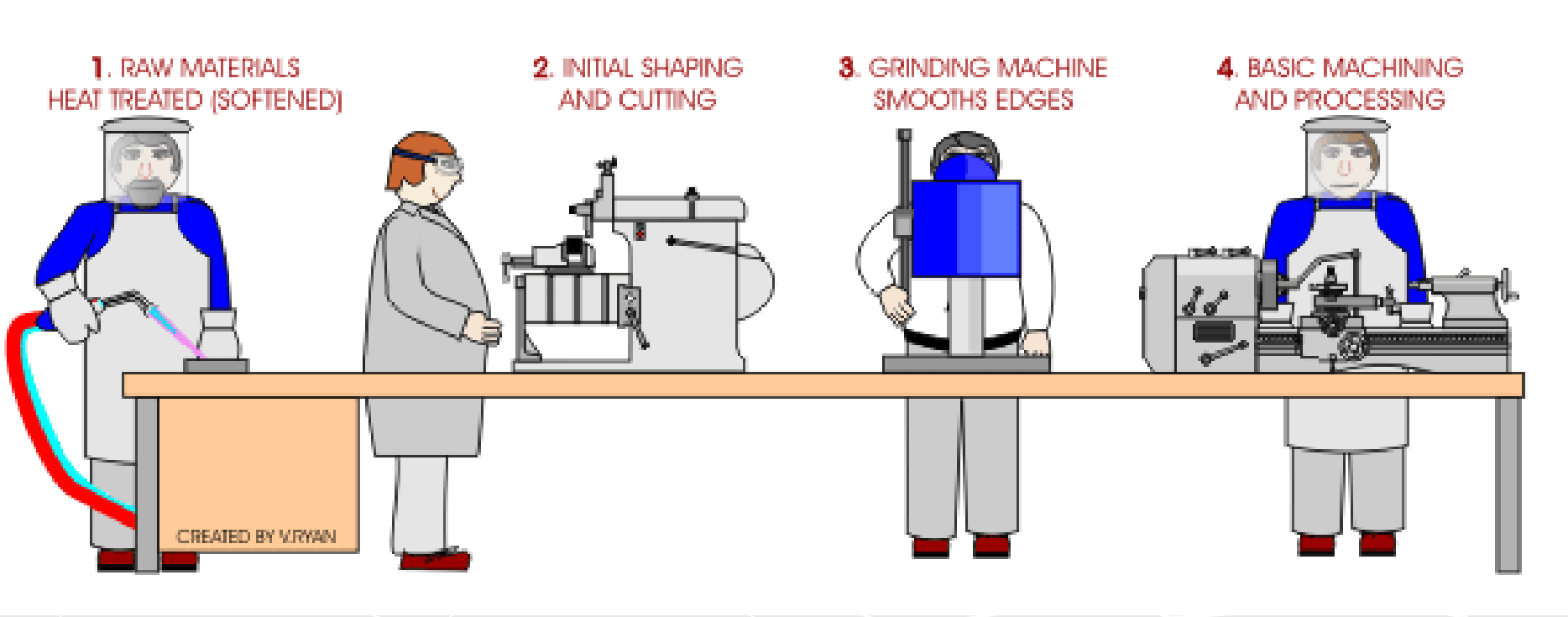
GEEM 445

Engineering Ethics Professional Practices



PPR 2008

What we are going to discuss today's class?

- What is Specification?
- Requirements to be described by PE
- **Procedure for Preparation** of Technical Specifications of Goods etc.
- **Technical specifications** to be prepared.

PPR 2008: Specification writing Technique

Specification is that part of the tender/contract document, which **sets out**: **(What is Technical Specification?)**

- **Scope** of the **Works** and,
- A **detailed description** of the **nature and quality** of the **materials** and
- **Workmanship to be complied** with in the execution of the Works.
- When the **specification is read** in conjunction with the Drawings and the BOQ, the tenderer/Contractor should have **all the information** that he needs for the execution of works.

Question: What is specification in tender document?

Summary: What is technical specs? (Specification in Tender Sets out the followings):

- **Scope** of the **Works**,
- A **detailed description** of the **materials** and
- **Workmanship** in the execution of the Works.
- When the **specification is read** tenderer/Contractor should have **all the information** that he needs for the execution of works.

Question: What is specification in tender document?

Rule 29: Procedure for Preparation of Technical Specifications of Goods, etc.

Procedure: A PE shall at the time of **describing requirements** of a particular object :

(1) Clearly describe:

(a) name or description of the Goods, Works or Services to be procured;

(b) quality of Goods, Works or Services;

(c) required performance Standards and life span;

(d) **safety standards and limits** ;

(e) **symbols, terminology** to be used in packaging, marking and labelling of the Goods to be procured;

(f) **processes and methods** to be used in the **production** of the Goods to be procured, where applicable; and

(g) test procedure, if any, for conformity of assessment of Goods.

Question: What are points to be covered by PE while describing the requirement of a particular object in preparation of Technical Specification during procurement?



Rule 29: Procedure for Preparation of Technical Specifications of Goods, Etc.

Summary:
Requirements set by PE in preparation of technical specification of goods etc.

PE shall Clearly describe:

- **Name or description**
- **Quality**
- **Performance Standards and life span**;
- **Safety Standards and limits**;
- **Symbols, terminology** to be used in packaging, marking and labelling.
- **Processes and methods** to be used in the **production.**
- **Test procedure**

Rule 4: Preparation of Procurement Documents and their Contents

Considerations for the preparation of technical specifications in tendering process:

General Principles

- **a non-restrictive manner** so that a fair and open competition is possible and
- **shall be consistent with drawings** included in the Tender Documents.

Question: Aa a PE how you are going to prepare technical specifications of goods etc. during preparation of tender document? Give examples.

Rule 29 (cont..)

Prep by PE Appropriate

- **Technical Specifications prepared** by Procuring Entities shall, **where appropriate** (in the following manner):

  (a) expressed in terms of **performance or output requirements,** rather than specifications linked directly to design or descriptive characteristics which may tend to limit competition;

  (a) described in clear terms on the **basis of international standards**, if any, or **national or authorized national standards** or **code or generic name**

Example

If a generator is to be purchased, the performance requirements should ideally be expressed, for example, as follows:

(i) the electricity output to be generated per hour;

(ii) the maximum volume of fuel to be consumed per kilowatt hour while in operation; and

(iii) the maximum noise level while in operation.

Rule 29 (cont…)

- There **shall be no reference**, **in technical specification of Goods,** to a **particular trademark** or trade name, **patent**, design or type, named country of **origin**, producer or service **Supplier**.



- Not withstanding anything contained in Sub-Rule (3), if a **Procuring Entity does not possess adequate technical expertise** for preparing generalized technical specifications to make the specifications fully understandable to Tenderers **it can make a reference to a particular branded product,** but in such case shall add the words "**or similar or equivalent**" to the specification.

Example ***:*** *If a Procuring Entity is purchasing a* ***4WD vehicle****,-****it is not permitted*** *to simply issue a Tender for a named vehicle,*

*-****nor it is permitted to write*** *a detailed technical specification that is so directly linked to one specific manufacturer*

that ***other vehicle manufacturers or their agents would be unable to tender*** *because of the specification.*

Rule 29 (cont..)

- Procuring Entities shall, where possible, **prepare the specifications in close cooperation with the concerned user or beneficiary of the Goods or Works or Services,** and **follow**, among others, the **Standards approved or published by :**

  (a) the International Organization for Standardization **(ISO);**

  (b) the International Electro-technical Commission **(IEC);** and

  (c) Standards determined by Bangladesh Standard and Testing Institute **(BSTI)** or any other national or international institute.

Rule 29 (cont..)

- Procuring Entities, **in consultation with manufacturers, may standardize specifications for commonly used Goods**,

such as paper, office equipment and other consumables which are **repetitively purchased**, and publish them on their website.

Rule 29: Procedure for Preparation of Technical Specifications of Goods, Etc (F-21)**. (Summary)**

- PE to clearly describe clearly of a particular object.

Technical Specifications prepared by PE.

- Non-restrictive manner and consistent with the drawing.
- **Shall be no reference, in technical specification of Goods.**
- **Prepare the specifications in close cooperation with the concerned user or beneficiary;** write similar or equivalent.
- **Prepare the specifications in close cooperation with the concerned user or beneficiaries , standard approved by ISO, IEC, BSTI**
- Procuring Entities, **in consultation with manufacturers;** commonly used materials.

Specifications for Double Cabin Pick-Up

1. General
2. Additional
3. **Main unit**
4. **Engine**
5. Chassis/Transmission
6. Brake System
7. **Cabin**
8. **Body**
9. Battery volt
10. **Performance**
11. Min Turning Radius
12. Cooling System
13. Fuel
14. Painting
15. Must be Supplied with each unit
16. Lighting System
17. Standard Accessories
18. Required Consumable
19. Free Services
20. Engine and Body Manufacturer
21. **Canopy System**
22. Registration
23. Warranty

Specifications for Double Cabin Pick-Up

Sl	Technical Specifications and Requirement		Offered by the tenderer
1	General: Supply of Brand new latest model 4 WD Double Cabin Pick-Up. All the components of the vehicle will be brand new and unused. The manufacturing year of the Vehicle will be latest 2016. Shall have 7-way electrical connection for signal lighting and braking.		
2	(a) Name of the Vehicle	To be mentioned by the tenderer	
	(b) Name of Manufacturer	To be mentioned by the tenderer	
	(c) Model of the Vehicle	To be mentioned by the tenderer	
	(d) Country of Origin	To be mentioned by the tenderer	
	(e) Country of Assembly	To be mentioned by the tenderer	
	(f) Year of Production	To be mentioned by the tenderer	
3	Main Unit		
	(a) Driving handle position	Right hand drive	
	(b) Engine location	Front engine	
	(c) Gross vehicle weight	Min. 2700 Kg	
	(d) Curb weight	Min.1750 Kg	
4	Engine	Turbo Diesel	

4	Engine	Turbo Diesel	
	(a) Type :	4 stroke, 4 Cylinder, 16 valve in line, DOHC, intercooler Turbocharger.	
	(b) Make & Model	To be mentioned by the tenderer	
	(c) Turbo Charger	Manufacturer's standard	
	(d) Rated Horse power	Min. 75 kw	
	(e) Rated Torque	Min. 250 Nm	
	(f) Displacement	2450 cc- 2700 cc	
	(g) Bore	Manufacturer's standard	
	(h) Stroke	Manufacturer's standard	
	(I) RPM	Manufacture's standard.	
	(j) No of Cylinder	4 cylinder in line	
	(k) Fuel Tank capacity	Min. 75 Liter	

	(l) Compression ratio	Manufacture's standard.	
5	Chassis/ Transmission :		
	(a) Clutch type	Hydraulic Clutch	
	(b) Transmission type	5 speed manual Transmission	
	(c) Steering type	Hydraulic / Power Steering	
	(d) Suspension type (Front)	Independent Double wishbone	
	(e) Suspension type (Rear)	Multi leaf with shock absorber/ coil spring five link suspension/ leaf spring rigid	
	(f) Tire size	Manufacturer standard	
	(g) Corrosion protection	Manufacturer standard	

6	Brake System:	4-Channel Anti-lock Braking System (ABS)	
	(a) Service Brake Front & Rear	Ventilated discs and dram in all wheels	
7	Cabin	Manufacturer standard	
	(a) Protection of Cabin	Manufacturer standard	
8	Body		
	(a) Body model	To be mentioned by the tenderer	
	(b) Body Type	Manufacturer standard	
	(c) Coating	To be mentioned by the tenderer	
	(d) Material & Thickness	Manufacturer standard	
	(e) Control switch	Automatically/ Power	
	(f) Overall Length	Min 5200 mm	
	(g) Overall Width	Min 1750 mm	
	(h) Overall height	Min 1750 mm	
	(I) Ground Clearance	Min 200 mm	
	(j) Loading capacity	Min 700 KG	
	(k) Number of Seats	5 seats including driver	
	(l) Number of doors	4 doors	
	(m) Angle of approach	Manufacturer standard	
	(n) Angle of departure	Manufacturer standard	
	(o) Interior (Passenger cabin) Dimension	Manufacturer standard.	

9	Battery Volt	Heavy duty 12 volt 64 AH	
10	Performance		
	(a) Maximum speed	Min 150 KmH	
	(b) Maximum Grade ability	Manufacturer standard	
11	Minimum turning Radius	6.0 m	
	(a) Grade Ability	Manufacturer standard	
12	Cooling system	Water Cooling	
13.	Fuel		
	(a) Fuel Injection control system	Manufacturer standard	
	(b) Fuel consumption K/M liter	Manufacturer standard	
	(c) Fuel Pump	Manufacturer standard	
14	Painting		
	(a) Treatment paint of cabin	Manufacturer standard	
	(b) Finishing color and design of exterior	Manufacturer standard	

15	Following must be supplied with each unit	Manufacturer standard	
	(a) Original operation/ Owner's manual	Original Operation/ Owner's manual	
	(b) Manufacturer standard tools with vehicle	Manufacturer standard	
	(c) Fire Protection	Manufacturer standard	
16	Lighting System	Min. 2 (Two) nos. at front side & min. 2 (Two) nos. at rear side and Original Factory Fitted Front Fog Light.	
17	**Standard Accessories**	The Pick-Up shall be fitted with the following accessories: (a) Supplement Resistance System (SRS) Airbag for Driver at least (b) Factory in built Air Conditioner (c) Power window & power door lock (d) Engine oil pressure gauge or warning light (e) Water temperature gauge (f) Speedometer (g) Fuel level gauge (h) Ammeter or warning light (I) CD Player with 3 band (AM/FM/MP3) Radio & and four speakers (J) Head rest-2 front and 2 rear (k) Spare wheel with tire (l) Halogen Sports Head lamp (m) Outside and Inside rear view mirrors	
18	Required Consumables	To be supplied with standard required number of fuel filters, air filters and oil filters	
19	Free service with necessary parts	One year free service during warranty period	
20	Engine and body Manufacturer will be the same; no clone engine will be accepted.	Manufacturer Standard	
21	Canopy System	Luxury Canopy.	
22	Registration	Registration shall be done by the Supplier.	
23	Warranty	1 (one) year full replacement warranty on parts and services or mileage 20000 km which is earlier.	

Thank you