

DESIGN INPUT CONSIDERATIONS

1. Basic functions of each structure, system, and component.
2. Performance requirements such as capacity, rating, and system output.
3. Codes, standards and regulatory requirements including the applicable issue and/or addenda.
4. Design conditions such as pressure, temperature, and voltage.
5. Environmental conditions anticipated during storage, construction, and operation such as pressure, temperature, humidity, and corrosiveness.
6. Interface requirements including definition of the functional and physical interfaces and the effects of cumulative tolerances involving structures, systems and components.
7. Material requirements including such items as compatibility, electrical insulation properties, protective coating and corrosion resistance.
8. Mechanical requirements such as vibration, stress, shock and reaction forces.
9. Structural requirements covering such items as equipment foundations and pipe supports.
10. Hydraulic requirements such as pump net positive suction heads (NPSH), allowable pressure drops and allowable fluid velocities.
11. Chemistry requirements such as provisions for sampling and limitations on water chemistry.
12. Electrical requirements such as power, voltage, raceway requirements, electrical insulation and motor requirements.
13. Layout and arrangement requirements.
14. Operational requirements under various conditions.
15. Instrumentation and control requirements including indicating instruments, controls and alarms required for operation, testing and maintenance. Other requirements such as the type of instrument, installed spares, range of measurement and location of indication are included.
16. Redundancy, diversity and separation requirements of structures, systems and components.
17. Test requirements including pre-operational and subsequent periodic in-plant tests and the conditions under which they will be performed.
18. Accessibility, maintenance, repairs and in-service inspection requirements including the conditions under which these will be performed.

19. Fire protection or resistance requirements.
20. Handling, storage, cleaning and shipping requirements.
21. Materials, processes, parts and equipment suitable for application.
22. Reliability requirements of structures, systems and components.