Modular Construction and ITAAC

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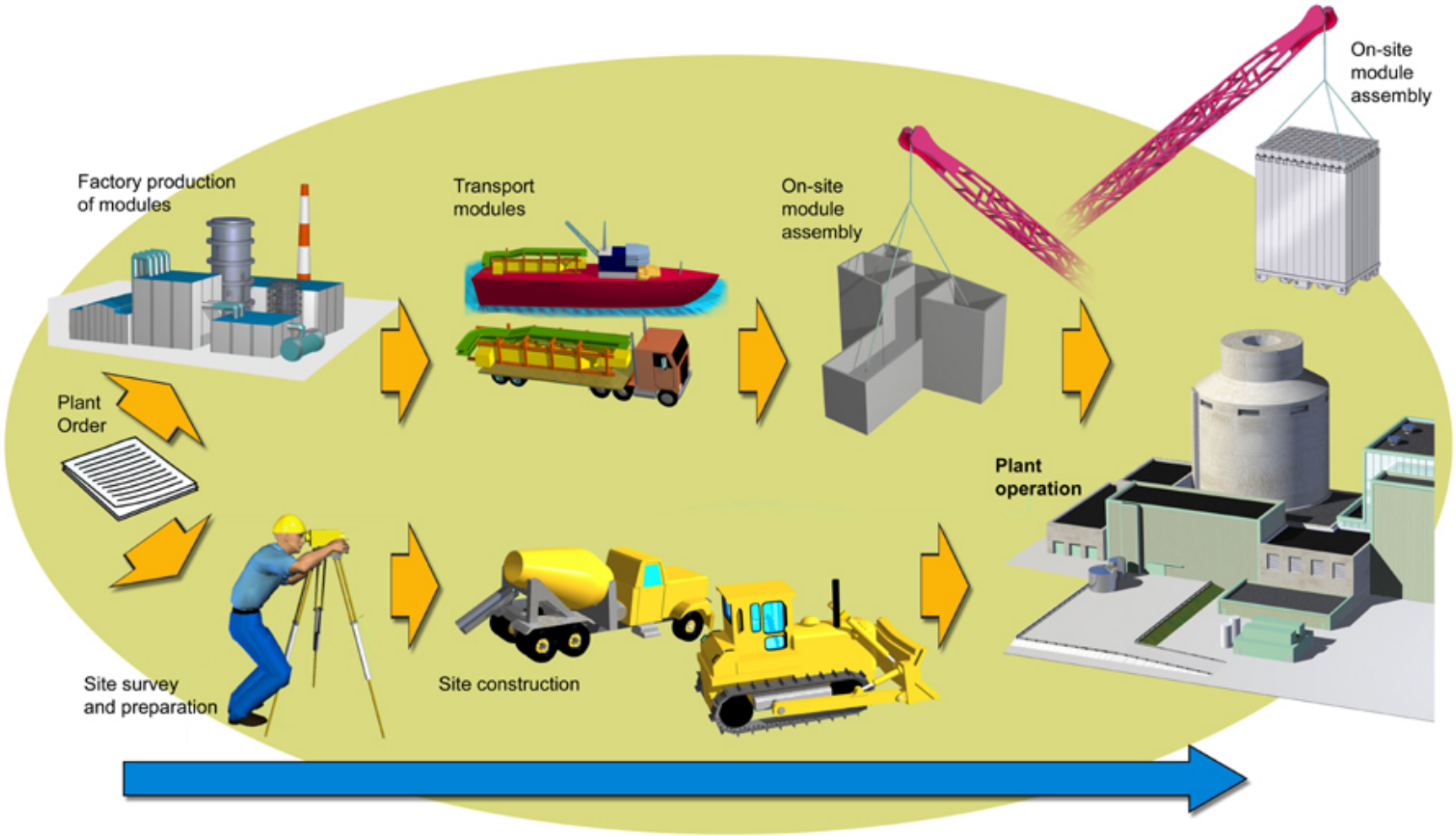
Modular Construction



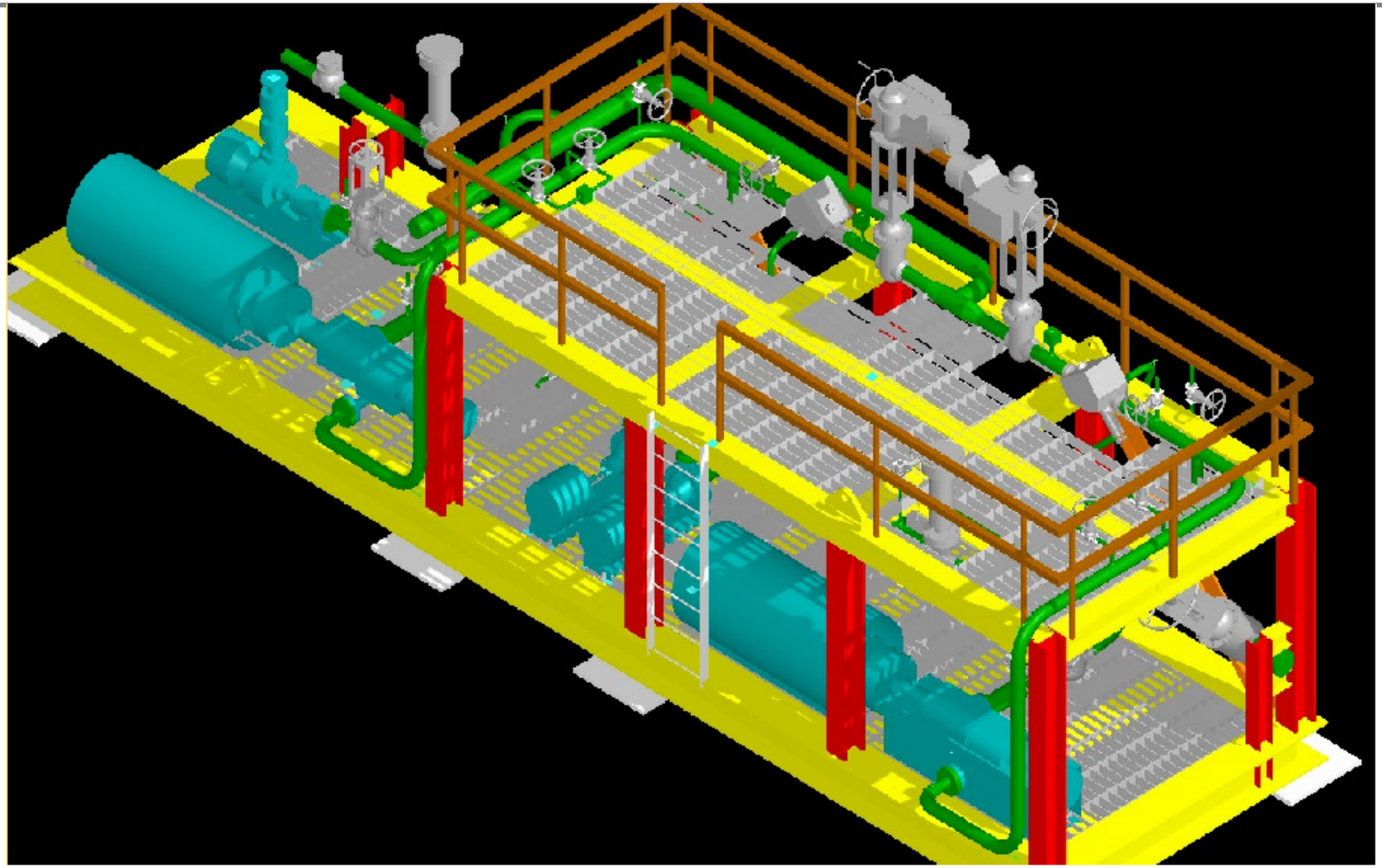
Modularization – Impact on Construction

- Reduced calendar time, site labor and overall risk:
  - Module fabrication performed parallel with civil / structural work
  - Optimizes and levels manloading for mechanical and electrical work
  - Site congestion reduced
- Inspections performed at fabrication shop
- Reduced on-site work

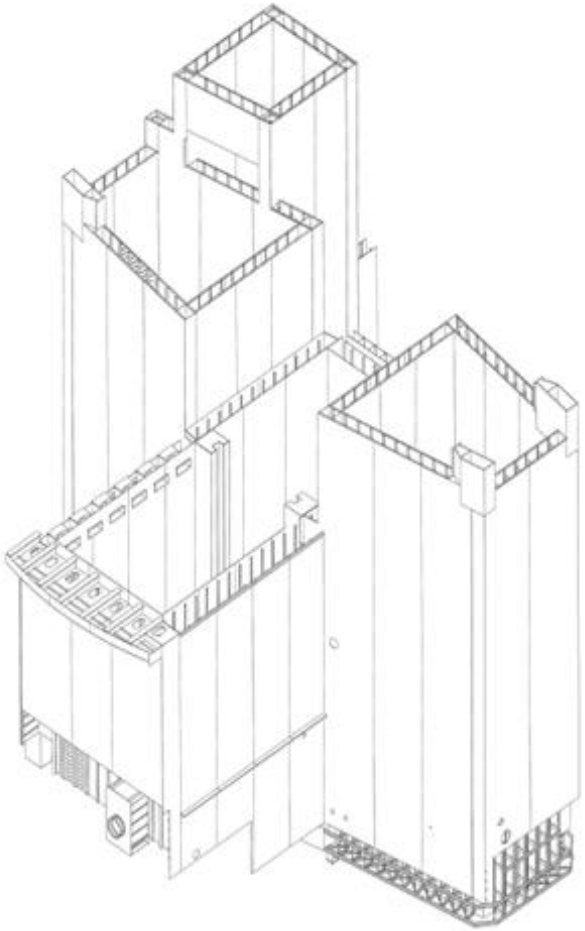
Modularization – Impact on Construction

- Assemblies arrive to hole complete and tested
- Field rework is limited
- Timely material deliveries

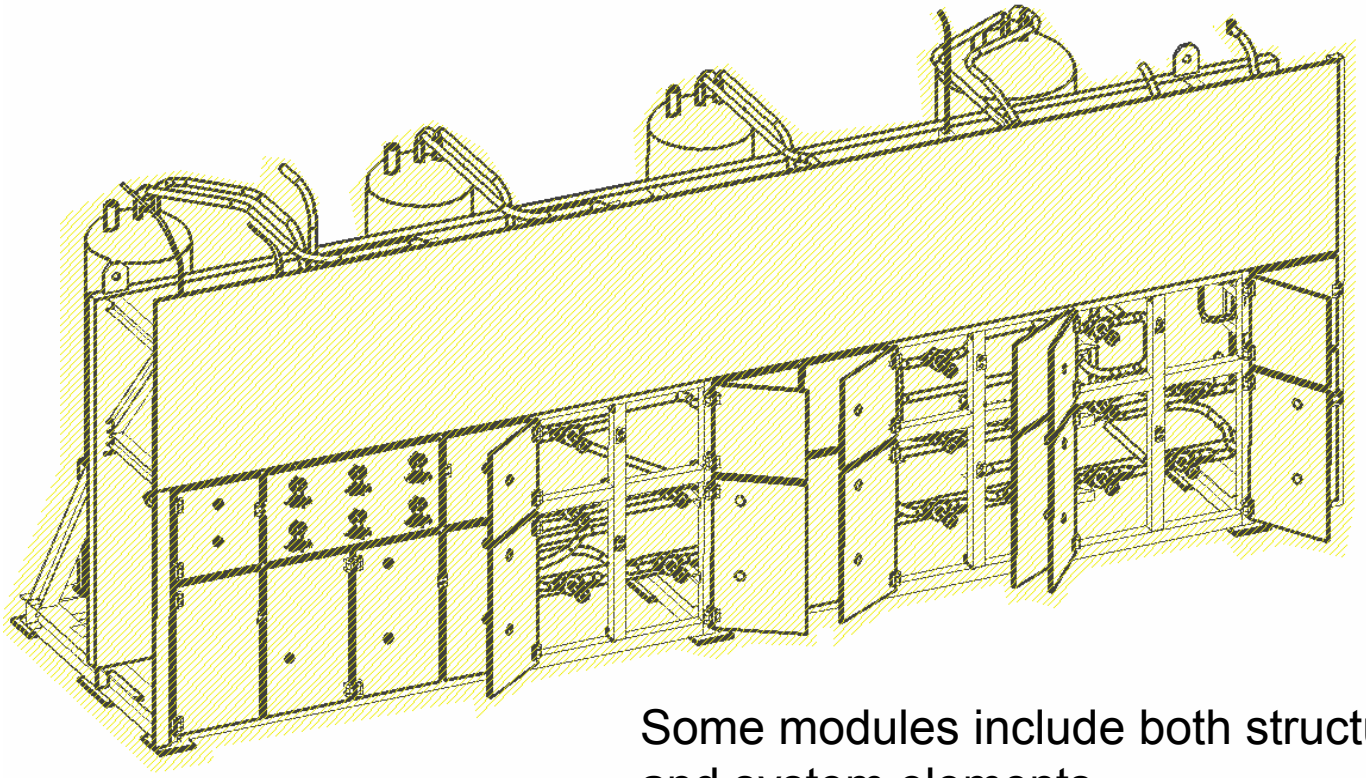
Startup Feedwater Pump Module



RCS Structural Module

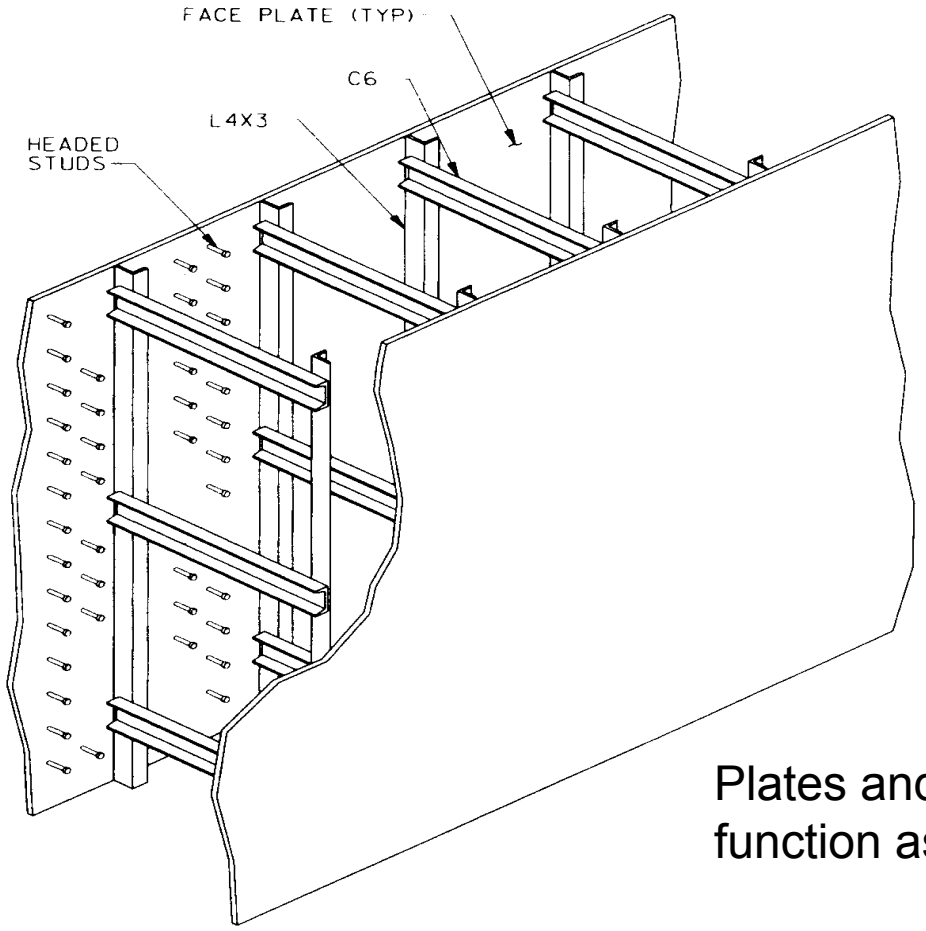


Waste System Demineralizers



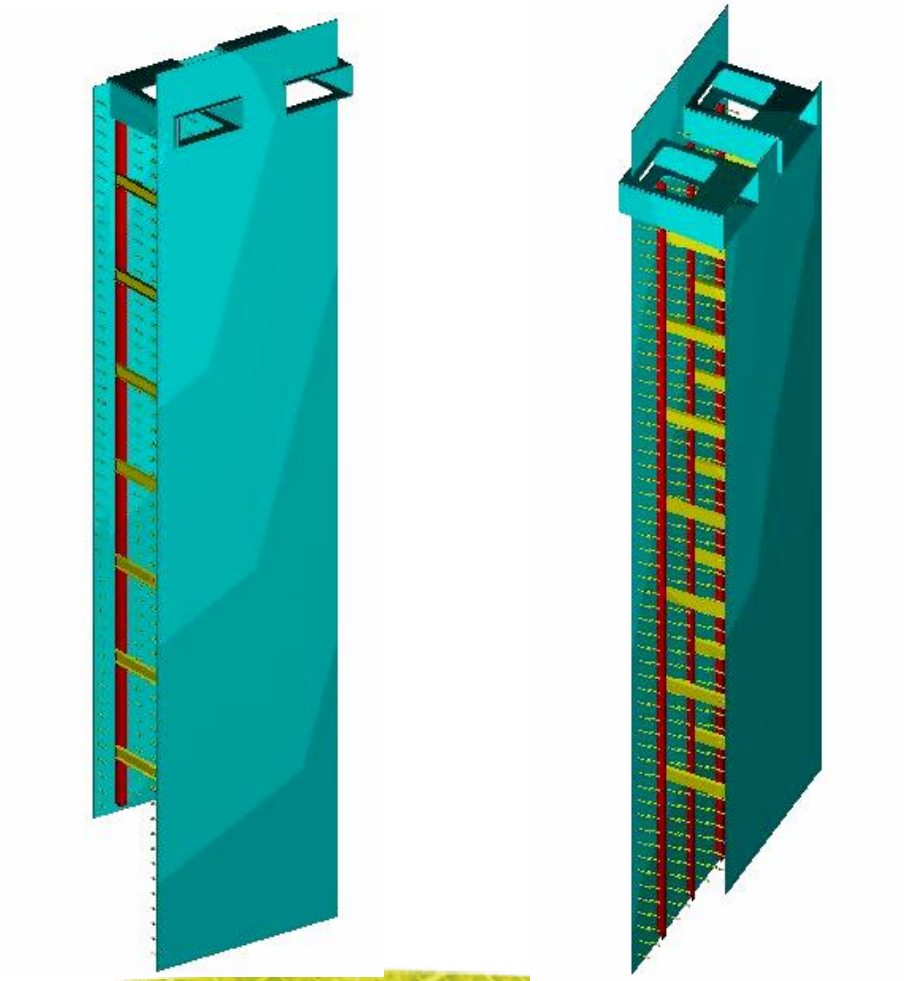
Some modules include both structural and system elements

Steel Plate Structural Wall Module



Plates and interior elements function as reinforcement

Structural Module Submodule



Submodules establish wall thickness and reinforcement

Module Fabrication

- Fabrication facilities located offsite
- Established organizations have an experienced dependable workforce
- Construction inspection activities at fabrication facility
- Final assembly of structural modules adjacent to site

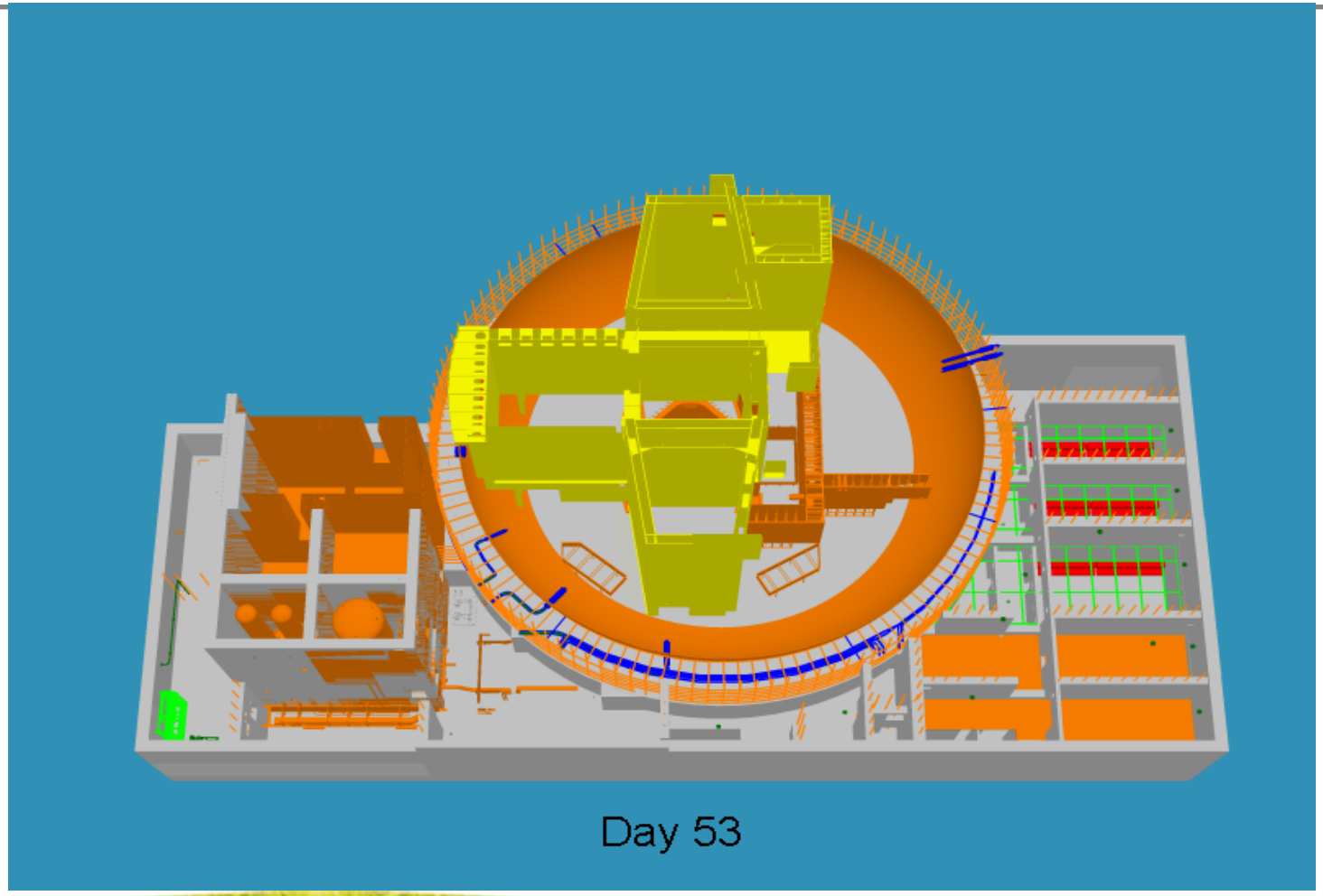
Module Fabrication is Flexible

- Standard subassembly is rail transportable
- Size and number of module subassemblies depends on transportation access.
- Final Structural module assembly is at site.
- Submodules designed for handling and shipping loads.
- The start of module fabrication is not dependent on having supporting building structure complete

Modules Optimize Construction Schedule

- Simplification of systems
  - Reduction in bulk materials and field labor
- Maximize use of modularization
  - Factory-based manufacture and assembly of modules
    - Predictable, short manufacturing schedule
    - Improved quality control
      - Pre-testing and inspection prior to shipment
  - Streamlined field installation
    - Modules reduce field labor
    - Reduces overall construction schedule

Some Modules Placed Early in Schedule



Construction Plan and Schedule

- Modules built in parallel with site preparation excavation activities
- Paralleling activities minimizes overall duration
- Design accommodates installation sequence
- Module fabrication is coordinated with construction schedule

Modules and ITAAC Inspections

- Some inspections can occur at fabrication facility
  - Welding inspections
  - Welder qualification
  - Geometry inspections
    - Structural module plate size and spacing,
    - Reinforcement features
    - Embedments
- Most testing expected to be preliminary construction testing