

## PLANT MODIFICATION

Plant Mod. No. 1224-FO-L

Rev. No. 1

## DESIGN CONSIDERATION SHEET

Page No.

Document ID	DI 1224-FO-L		
Rev. No.	Rev.1		
Page No.	1		
Design Input		Requirements	
		Design Input Required?	
	No	Yes	DI Requirements
1. Safety Related.	x	<input type="checkbox"/>	
2. Basic functions of each structure, system and component.	<input type="checkbox"/>	x	See Continuation Sheet Item 2
3. Performance requirements such as capacity, rating, system output	<input type="checkbox"/>	x	See Continuation Sheet Item 3
4. Regulatory Requirements, Codes & Standards.			
a. 10CFR50 Appendix A, General Design Criteria.	x	<input type="checkbox"/>	
b. Technical Specification			
1) Surveillance	x	<input type="checkbox"/>	
2) Basis	x	<input type="checkbox"/>	
c. Regulatory Guides	x	<input type="checkbox"/>	
d. Standard Review Plans	x	<input type="checkbox"/>	
e. Other Codes and Standards	<input type="checkbox"/>	x	See Continuation Sheet Item 4e
5. Process design conditions such as:			
a. Pressure	<input type="checkbox"/>	x	See Continuation Sheet Item 5 a
b. Temperature	<input type="checkbox"/>	x	See Continuation Sheet Item 5 b
c. Fluid Chemistry	<input type="checkbox"/>	x	See Continuation Sheet Item 5 c
6. Design analysis and load such as:			
a. Seismic	<input type="checkbox"/>	x	See Continuation Sheet Item 6 a
b. Thermal	x	<input type="checkbox"/>	
c. Dynamic	x	<input type="checkbox"/>	
d. Pipe whip	x	<input type="checkbox"/>	
e. Wind or tornado	<input type="checkbox"/>	x	See Continuation Sheet Item 6 e
7. Environmental conditions anticipated during storage, construction, operation and accidents (if equipment safety function is required) such as pressure, temperature, humidity, corrosiveness, site elevation, wind direction, nuclear radiation, electromagnetic radiation, and duration of exposure, and their effect on expected service life.	<input type="checkbox"/>	x	See Continuation Sheet Item 7
8. Interface characteristics and capability requirements with supporting structures, auxiliary systems, and components, such as:			
a. Power source	<input type="checkbox"/>	x	See Continuation Sheet Item 8a
b. Instrumentation	<input type="checkbox"/>	x	See Continuation Sheet Item 8b
c. Instrument and service air	x	<input type="checkbox"/>	
d. Cooling water	x	<input type="checkbox"/>	
e. Ventilation	x	<input type="checkbox"/>	
f. Auxiliary steam	x	<input type="checkbox"/>	

## PLANT MODIFICATION

Plant Mod. No. 1224-FO-LRev. No. 1

## DESIGN CONSIDERATION SHEET

Page No. \_\_\_\_\_

Document ID <u>DI 1224-FO-L</u>	<b>Requirements</b>		
Rev. No. <u>Rev.1</u>			
Page No. <u>2</u>			
Design Input	Design Input Required?		
	No	Yes	DI Requirements
9. Material requirements including such items as compatibility, electrical insulation properties, protective coating and corrosion resistance, thermal and radiation aging.	<input type="checkbox"/>	x	See Continuation Sheet Item 9
10. Mechanical requirements such as:			
a. Vibration	<input type="checkbox"/>	x	See Continuation Sheet Item 10a
b. Stress	<input type="checkbox"/>	x	See Continuation Sheet Item 10b
c. Shock	x	<input type="checkbox"/>	
d. Reaction forces	<input type="checkbox"/>	x	See Continuation Sheet Item 10d
11. Structural requirements covering such items as:			
a. Equipment foundations	<input type="checkbox"/>	x	See Continuation Sheet Item 11a
b. Pipe supports	<input type="checkbox"/>	x	See Continuation Sheet Item 11b
12. Hydraulic requirements such as pump net positive suction heads (NPSH), allowable pressure drops, and allowable fluid velocities.	<input type="checkbox"/>	x	See Continuation Sheet Item 12
13. Chemistry requirements such as provisions for sampling and limitations on water chemistry.	x	<input type="checkbox"/>	
14. Electrical requirements such as:			
a. Source of power	<input type="checkbox"/>	x	See Continuation Sheet Item 14a
b. Voltage	<input type="checkbox"/>	x	See Continuation Sheet Item 14b
c. Raceway requirements	<input type="checkbox"/>	x	See Continuation Sheet Item 14c
d. Electrical insulation	<input type="checkbox"/>	x	See Continuation Sheet Item 14d
e. Motor requirements	<input type="checkbox"/>	x	See Continuation Sheet Item 14e
f. Operational and protective grounding	<input type="checkbox"/>	x	See Continuation Sheet Item 14f
15. The impact of electrical loads and load cycling or sequencing should also be considered on:			
a. AC Load Study Report	<input type="checkbox"/>	x	See Continuation Sheet Item 15a
b. DC Load Study Report	x	<input type="checkbox"/>	
16. Layout and arrangement requirements.	<input type="checkbox"/>	x	See Continuation Sheet Item 16
17. Operational requirements under various conditions, such as plant startup, normal plant operation, plant shutdown, plant emergency operation, special or infrequent operation, and system abnormal or emergency operation.	<input type="checkbox"/>	x	See Continuation Sheet Item 17
18. Emergency Operating Procedures	<input type="checkbox"/>	x	See Continuation Sheet Item 18

## PLANT MODIFICATION

Plant Mod. No. 1224-FO-L

Rev. No. 1

## DESIGN CONSIDERATION SHEET

Page No.

Document ID DI 1224-FO-L	Requirements		
Rev. No. DI 1224-FO-L Rev.1			
Page No. 3			
Design Input	Design Input Required?		
	No	Yes	DI Requirements
19. Instrumentation and control requirements including indicating instruments, controls and alarms required for operation, testing, and maintenance. Requirements such as type of instrument, installed spares, range of measurement, shielding, instrument grounding, location of indication and human factor consideration (NUREG-0700) should also be included.	<input type="checkbox"/>	x	See Continuation Sheet Item 19
20. Access and administrative control requirements for plant security including Cyber Security.	x	<input type="checkbox"/>	
21. Redundancy, diversity, and separation requirements of structures, systems and components.	x	<input type="checkbox"/>	
22. Failure effects requirements of structures, systems, and components, including a definition of those events and accidents which they must be designed to withstand			
a. LOCA Analysis	x	<input type="checkbox"/>	
b. Flooding Analysis	x	<input type="checkbox"/>	
c. Control Room Habitability Report	x	<input type="checkbox"/>	
d. High Energy Line Break Analysis Report	x	<input type="checkbox"/>	
23. Special acceptance testing, inspection, and witnessing requirements during fabrication, receipt, and installation. Acceptable tolerances for important dimensions, NDE, inspection, and test acceptance criteria.	<input type="checkbox"/>	x	See Continuation Sheet Item 23
24. Accessibility, maintenance, repair, and inservice inspection requirements for the plant including the conditions under which these will be performed.	<input type="checkbox"/>	x	See Continuation Sheet Item 24
25. Unusual personnel requirements and limitations including the qualification and number of personnel available for the plant operation, maintenance, testing and inspection, and permissible personnel radiation exposures for specified areas and conditions.	<input type="checkbox"/>	x	See Continuation Sheet Item 25
26. Unusual transportability requirement such as size and shipping weight limitations.	<input type="checkbox"/>	x	See Continuation Sheet Item 26
27. Fire protection or resistance requirements.	<input type="checkbox"/>	x	See Continuation Sheet Item 27
28. Affect on Fire Hazard Analysis.	<input type="checkbox"/>	x	See Continuation Sheet Item 28
29. Unusual handling, storage, and shipping requirements.	<input type="checkbox"/>	x	See Continuation Sheet Item 29

## PLANT MODIFICATION

Plant Mod. No. 1224-FO-L

Rev. No. 1

## DESIGN CONSIDERATION SHEET

Page No.

Document ID	DI 1224-FO-L		
Rev. No.	Rev.1		
Page No.	4		
Design Input	Requirements		
	Design Input Required?		
	No	Yes	DI Requirements
30. Other requirements to prevent undue risk to the health and safety of the public.	<input type="checkbox"/>	x	See Continuation Sheet Item 30
31. Materials, process, parts and equipment suitable for application special material requirements/limitations (e.g. protection or care requirements, specification of protective coatings or special surfaces, gasketing).	<input type="checkbox"/>	x	See Continuation Sheet Item 31
32. Safety requirements for preventing personnel injury including such items as radiation hazards, restricting the use of dangerous materials, escape provisions from enclosures.	<input type="checkbox"/>	x	See Continuation Sheet Item 32
33. Requirements to minimize radiation exposure dose rates, radioactive material generation, and radioactivity releases. (ESP-2.616; App. 6.1)	x	<input type="checkbox"/>	
34. Reactivity management requirements to prevent adverse affects on reactivity, reactivity control and reactivity monitoring by plant personnel	x	<input type="checkbox"/>	
35. Affects on reactor core and/or nuclear fuel integrity	x	<input type="checkbox"/>	
36. Other	x	<input type="checkbox"/>	
Responsible Engineer: <u>B. DEWINEC</u> <i>B. Dewinec</i> Date: <u>25.5.2017</u> Reviewer/Verifier: <u>L. L. Gude</u> <i>L. L. Gude</i> Date: <u>25.5.2017</u> Approved / Resp. Supt.: <u>J. Corjat</u> <i>J. Corjat</i> Date: <u>25/05/2017</u>			