7.4.4.2 Inservice Inspection of Primary Core Tank and Fuel

Required Conditions:

1. Reactor shutdown for at least forty-eight hours.
2. Reactor top lid removed.
3. Primary coolant pumps secured.
4. Core tank level at overflow with MM2 either on or off as desired.
5. Senior Operator on reactor top, licensed operator in control room, RPO notified that procedure will be performed.

Procedure

1. Inspect the interior of the primary coolant tank for evidence of corrosion, missing or loose bolts, misalignment, interference, potential malfunctions and/or other improper conditions. Record any abnormal conditions for each of the components listed below. Report any such conditions to the Superintendent.

Component	Comment (If required)
_____Tank	
_____Upper grid	
_____Latch	
_____Spider & inserts	
_____Shim blade and offset plates	
_____Reg rod and offset plate	
_____Guide tubes	
_____Connecting arms and armatures	
_____Magnets	
_____Blade and rod drives	
_____Tubing, brackets, dummy, etc., for in-core facilities	
Pos. #_____	
Pos. #_____	
Pos. #_____	
Pos. #_____	
_____Other in-core experiments.	
_____Magnet current connectors	
_____In-core fuel nozzles (upper)	
_____In-core fuel plates (as visible)	

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_____Storage ring

_____Storage ring fuel

_____Other items in storage

_____Tank overflow

_____Low level probe housing

_____Level indicator tubing

_____Outlet temp. sensors

_____Interior surface of annular shield

_____Gasket

_____Top shield lid (lower surface, plugs, lifting eyes, etc.)

2. Visually, inspect the fuel elements in both the core and in the storage ring using externally supplied light. Do NOT physically manipulate any element unless such an operation has been approved under procedure 3.3.3, Changing a Fuel Element in the Reactor Core. Note any discoloration of fuel plates etc.

Position	Element #	Comment (If required)

3. Repeat step 2 using Cerenkov radiation as the sole source of illumination. As much external lighting as is possible should be secured so as to allow the glow from the Cerenkov radiation to backlight the fuel elements. Visually examine each element's fuel plates for any obstruction to the passage of light. Defects, such as blisters, will appear as dark blotches against the blue glow of the radiation. Notify the Superintendent, Radiation Protection Officer, and Director for Operations or their representatives if any such defects are newly detected. Do not take the reactor critical until such notification has been made.

Position	Element #	Comment (If required)

I certify that the above inspection has been properly completed and that any defects have been properly noted and reported.

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Signature Date