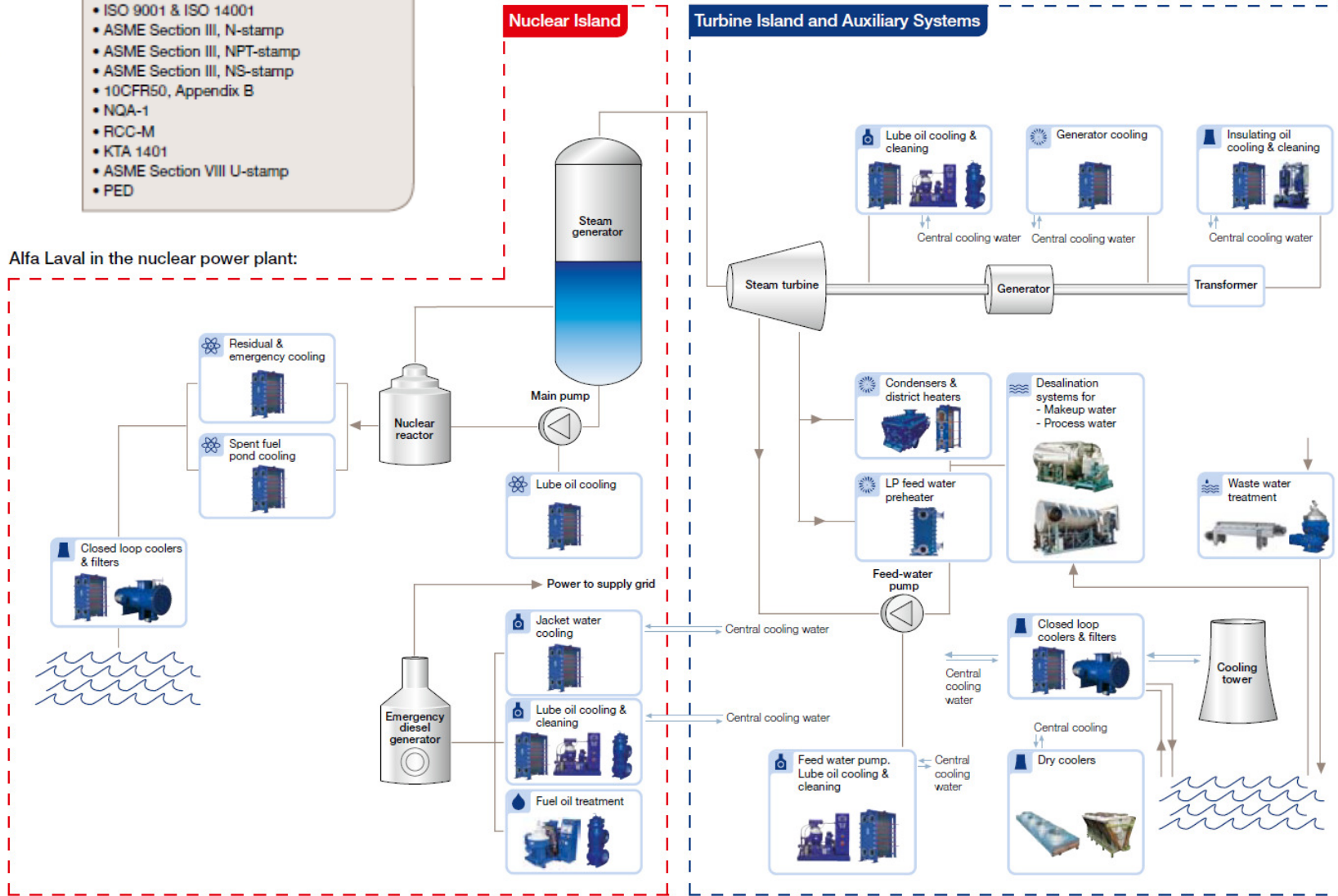


- Some of the nuclear industry and other international standards met by Alfa Laval:
- ISO 9001 & ISO 14001
 - ASME Section III, N-stamp
 - ASME Section III, NPT-stamp
 - ASME Section III, NS-stamp
 - 10CFR50, Appendix B
 - NQA-1
 - RCC-M
 - KTA 1401
 - ASME Section VIII U-stamp
 - PED

Alfa Laval in the nuclear power plant:



Nuclear Island cooling systems
Alfa Laval is a certified supplier of plate heat exchanger solutions for use in nuclear reactor cooling systems, where safety is a prime concern. Spent fuel cooling and emergency cooling are examples of such positions.

Turbine Island systems
Alfa Laval supplies a wide range of solutions designed to boost the efficiency of the cooling, condensing, preheating and cleaning systems used in conjunction with the steam generator and turbine – for example low-pressure steam condensation and feed-water preheating, as well as lube oil cooling and cleaning.

Diesel generator systems
Alfa Laval provides plate heat exchangers for jacket-water and lube-oil cooling in emergency cooling systems.

Auxiliary Systems
Alfa Laval supplies a comprehensive range of cooling, filtration and cleaning solutions for the many different media used in nuclear power plants – including air, sea water, fresh water and various oils – with exceptional efficiency.

Desalination systems
Alfa Laval provides cost-effective desalination units that allow nuclear power plants to be self-sufficient in terms of fresh water needed to produce both process water and potable water. These systems employ recovered energy to convert sea water into demineralized fresh water with a low dissolved solids content.

Nuclear waste water treatment systems
Alfa Laval supplies a wide range of solutions designed to reduce the environmental impact of nuclear power plants. These include decanter centrifuges and high-speed separators for cleaning oils, wash water and other waste before disposing of it.

Alfa Laval products for nuclear power plants



Compact heat exchangers

Gasketed and welded heat exchangers are used in dozens of cooling positions around the nuclear power plant – in the nuclear as well as Turbine Islands. They are exceptionally efficient, reliable and compact, thus saving energy, operating costs and installation space.



High-speed separators

Alfa Laval's lube-oil treatment equipment, for example the OCM oil-cleaning module, quickly and effectively separates oil, water and sludge components in contaminated lubrication and hydraulic oils – all at the same time and regardless of the type or quantity of contaminants.



Decanter centrifuges

Decanters are used to treat radioactive wastewater from washing machines, showers and equipment cleaning before it leaves the plant. The centrifuge system removes all undissolved solids from these water streams. The result is high decontamination and considerably lower volumes.



Filters

Alfa Laval's high-performance ALF filters remove small particles debris, sand and biological matter from external water flows, prior to using it in various closed-loop cooling duties. This saves heat exchangers and other equipment from fouling and wear. The filters are self-cleaning and virtually maintenance-free.



Desalination units

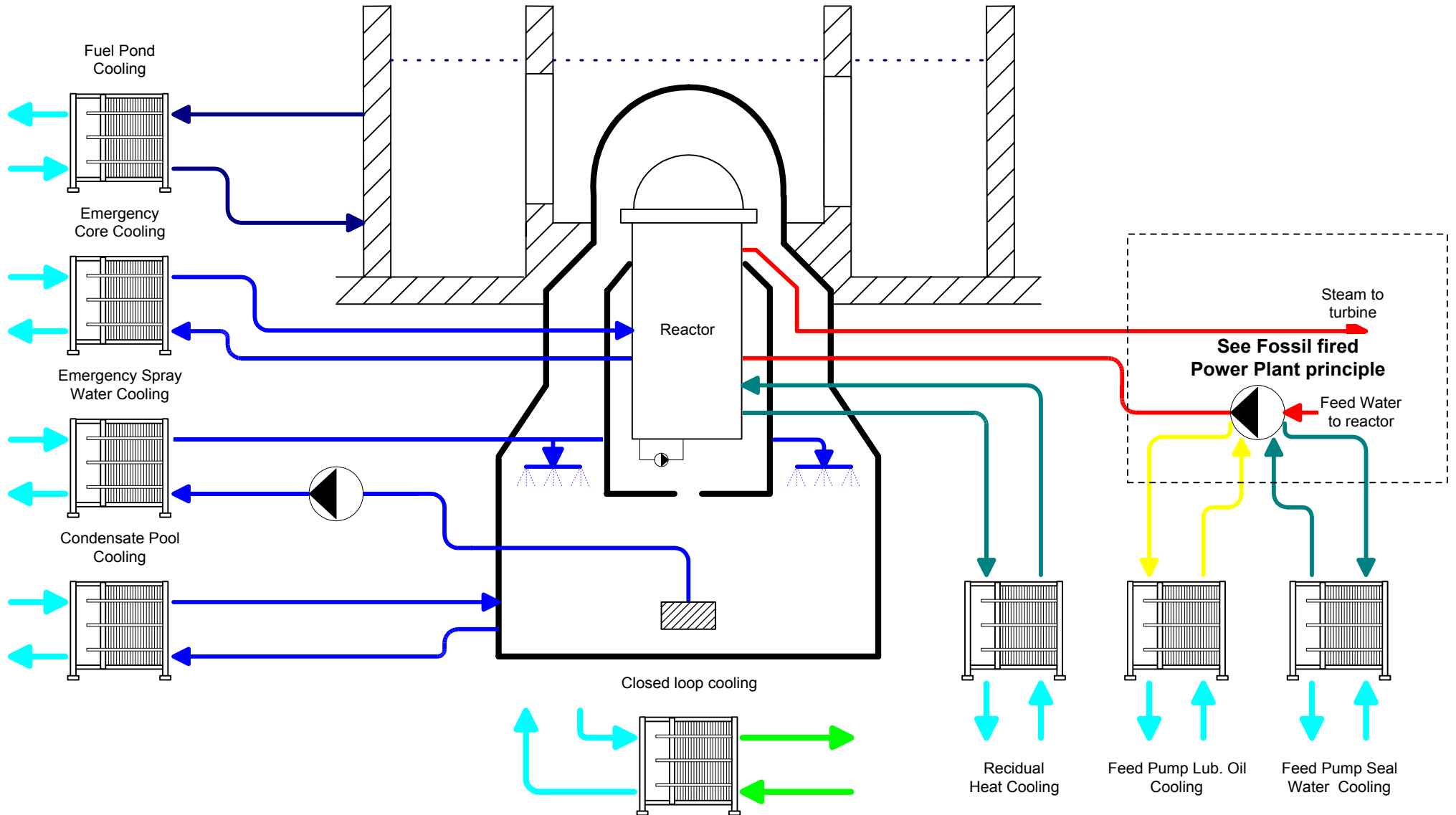
Alfa Laval's desalination systems produce demineralized/fresh water from seawater by evaporation. The water produced is used as process water in various cooling/heating positions. The desalination technologies include Multi-Effect Distillation (MEP), Thermal Vapour Compression (TVC) and Vacuum Vapour Compression (VVC). They all reduce manual operation, maintenance costs and downtime, compared to other technologies.



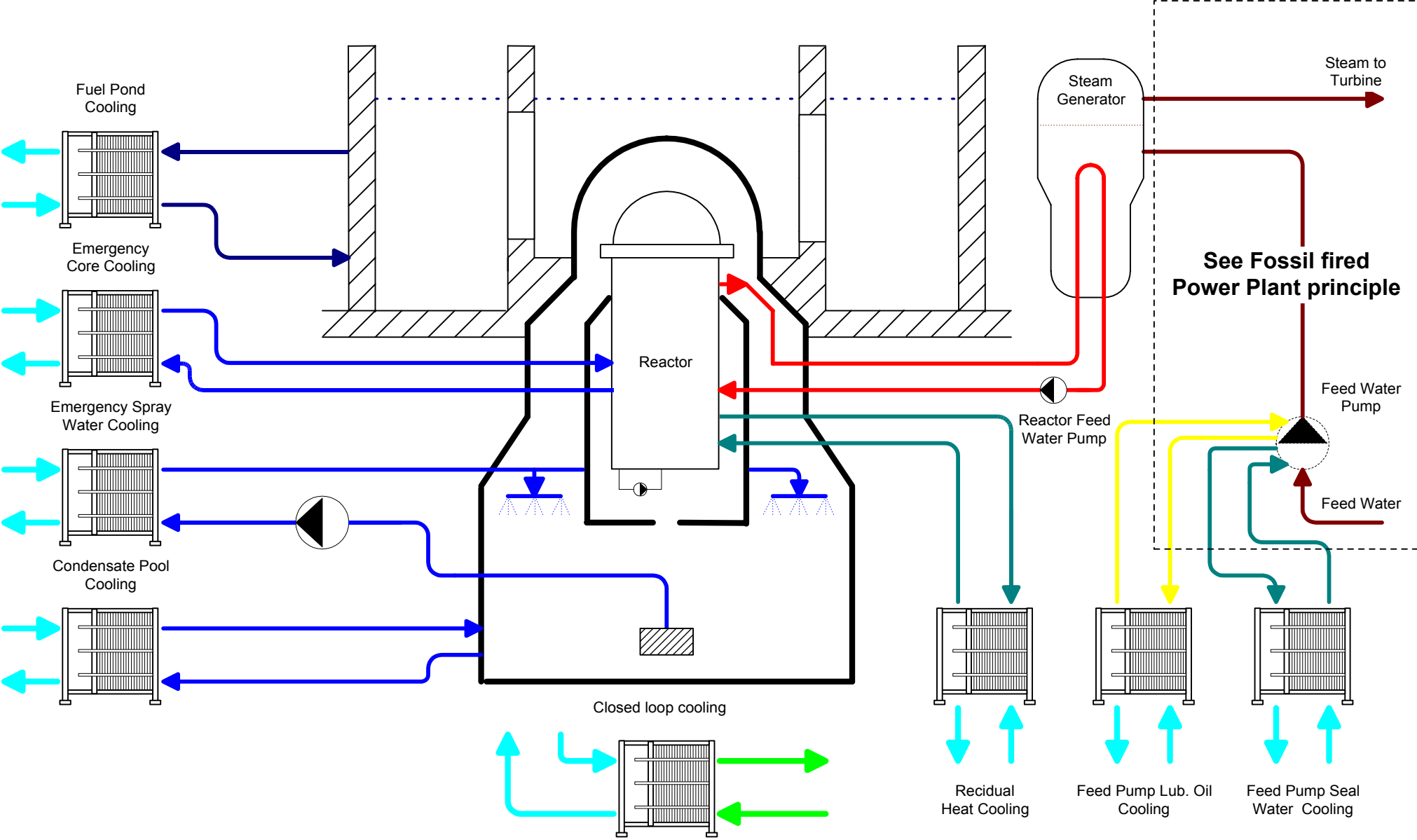
Air coolers

Alfa Laval's wide range of air coolers are used for space cooling in various parts of the Turbine Island and, increasingly, for liquid cooling duties.

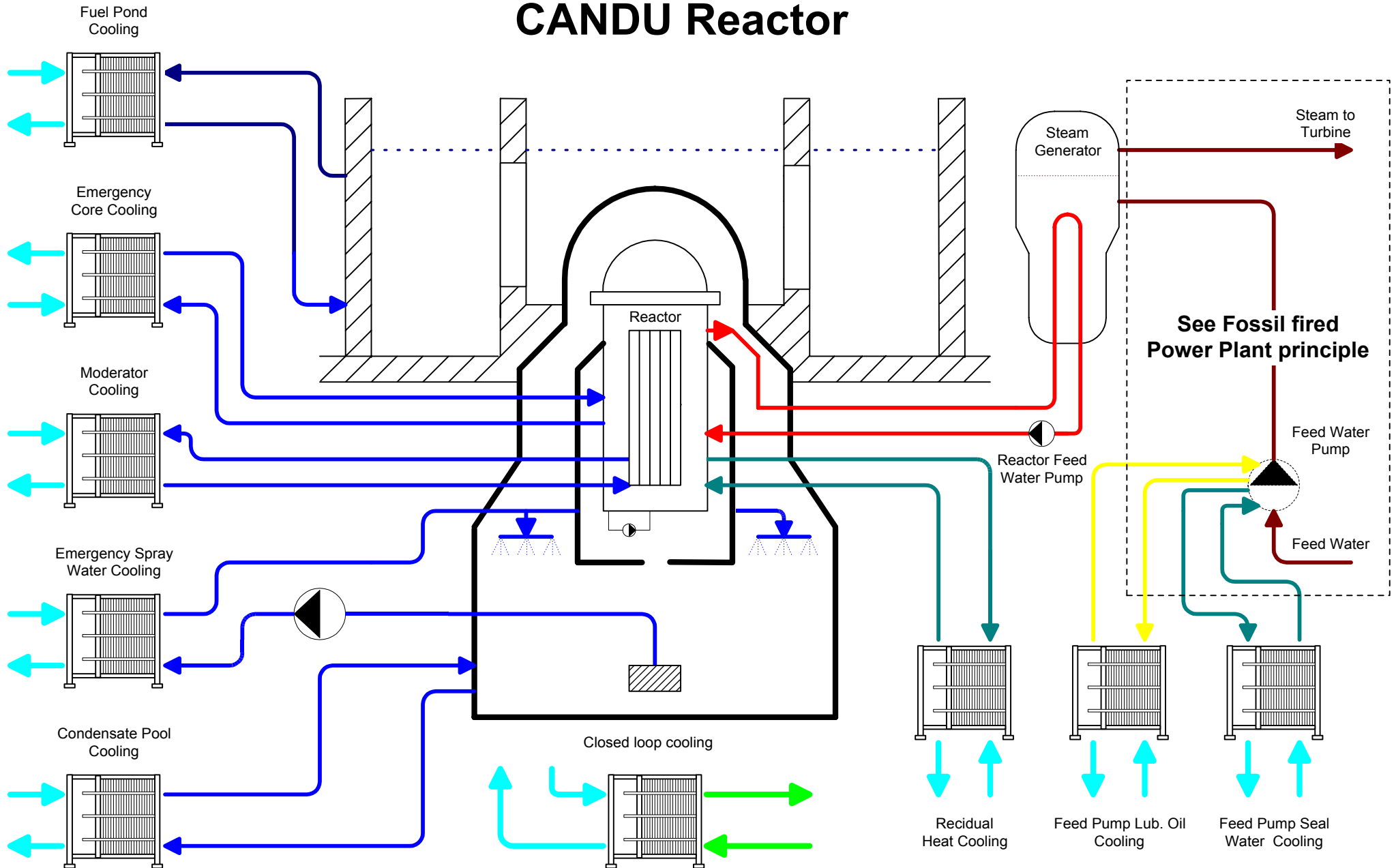
Nuclear Boiling water reactor



Nuclear Pressurised water reactor



Nuclear CANDU Reactor



APPLICATIONS	PRODUCTS			
	PHE	HSS	Secool filter	Alpacon
Closed loop cooling system	X		X	
Cooling tower with interm. cooling	X			
Feed water pre-heating	X			
Condensate cooling/heating	X			
Turbine lubricant oil system	X	X		X
Make-up water pre-heating	X			
Feed water pump cooling	X			
Generator cooling	X			
Transformer Oil system	X	X		
Fuel pond cooling	X			
Spray water cooling	X			
Condensate pool cooling	X			
Emergency core cooling	X			
Residual heat cooling	X			
Moderator cooling	X			
Waste treatment cooling	X			