

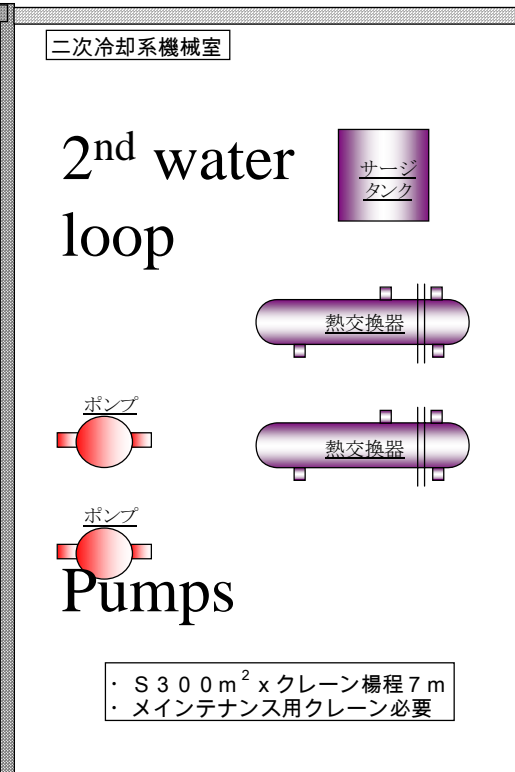
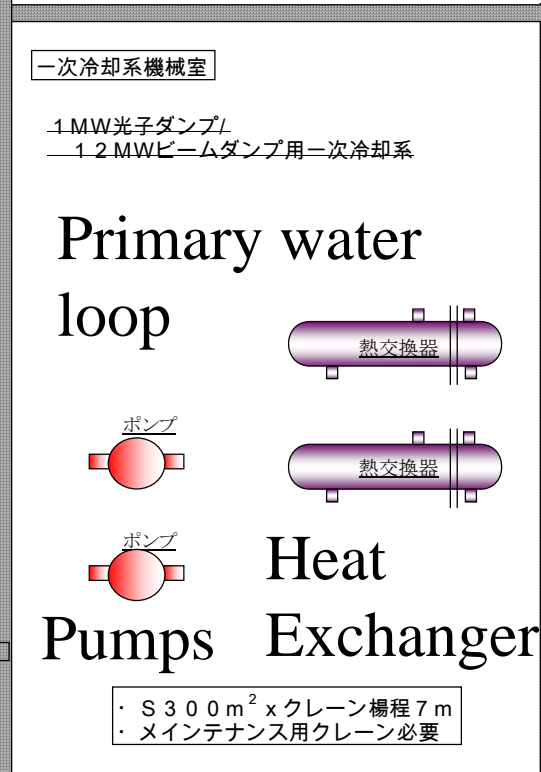
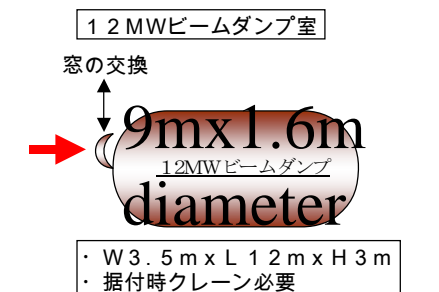
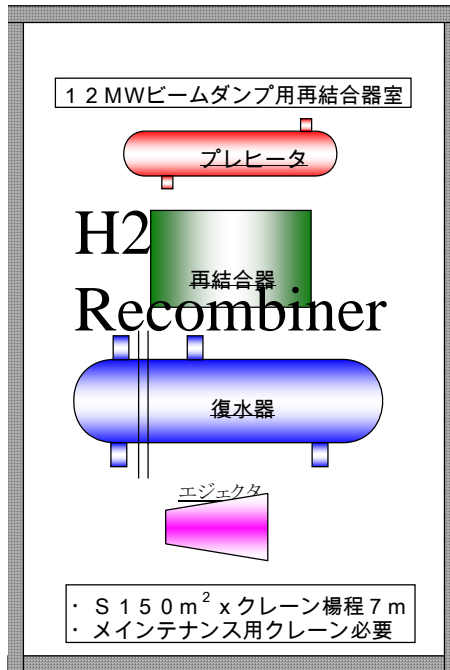
Beam Dump Hall Volume

Beam Dump Meeting at SLAC May 3-5 2006

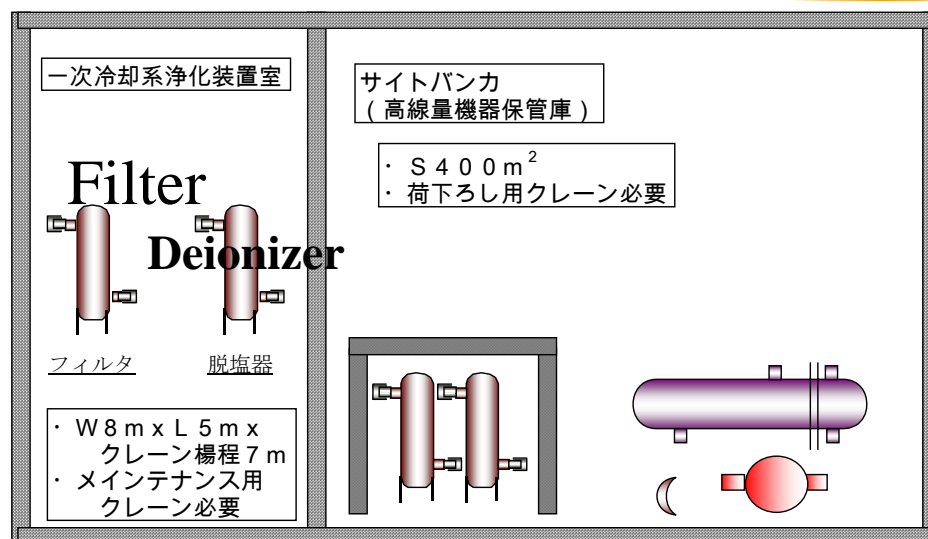
S.Ban

Radiation Science Center, KEK

10MW Electron Dump Hall (Preliminary)



Purifier and Waste Storage for each dump High Dose Area



Purifier for
primary cooling
system

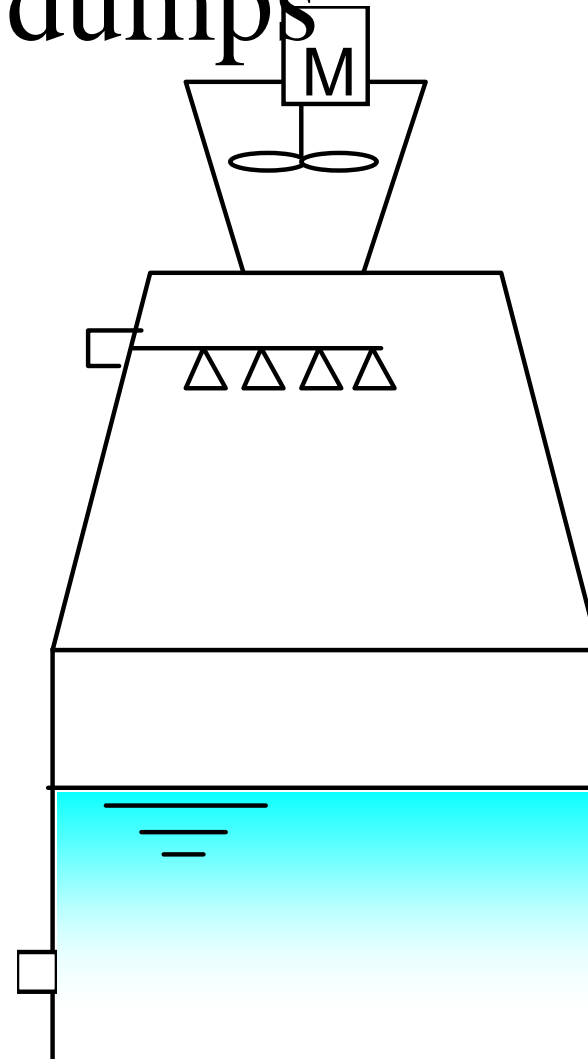
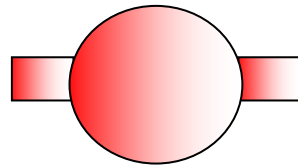
Waste Storage

3rd water loop placed on the ground for two dumps

Control Room

Power Supply

Pump



Volume

Page 2 and 3

May 3

Beam Dump	$12*3.5*3=126$	$15*3*4=180$
Recovery Tank Room	$6*5*5=150$	$5*3*4=60$
Cooling and recombiner	$150*7=1050$	$15*10*4=600$
Power and control		$15*2*4=120$
Radioactive storage	$400*7=2800$	$15*10*4=600$
Primary loop	$300*7=2100$	
2nd loop	$300*7=2100$	
Maintenance area	$300*7=2100$	
Total	10426	1560

Another space is needed for the dump shielding. This is site dependent.

Radioactive Waste Storage for long years include the dump vessel.

The Beam Dump Vessel is shielded to reduce soil and air activation.

We use a crane to set up the shielding.

Radioactive wastes are kept on the lower floor using a crane.

Ion-exchangers are shielded before in use.

Recovery tank, purifiers and waste storage are on the lower floor, and H₂ recombiner on the upper floor.

The primary and the 2nd water loops are placed in the different area.

Maintenance area of the radioactive materials are needed near the cooling system.

Air ventilation system is used when people go inside.

If we use another design for these,

	Page 2 and 3	another design
Beam Dump	$12*3.5*3=126$	$12*3.5*3=126$
Recovery Tank Room	$6*5*5=150$	$6*5*4=120$
Cooling and recombiner	$150*7=1050$	$150*4=600$
Power and control		
Radioactive storage	$400*7=2800$	$200*4=800$
Primary loop	$300*7=2100$	$300*4=1200$
2nd loop	$300*7=2100$	0
Maintenance area	$300*7=2100$	0
Total	10426	2840