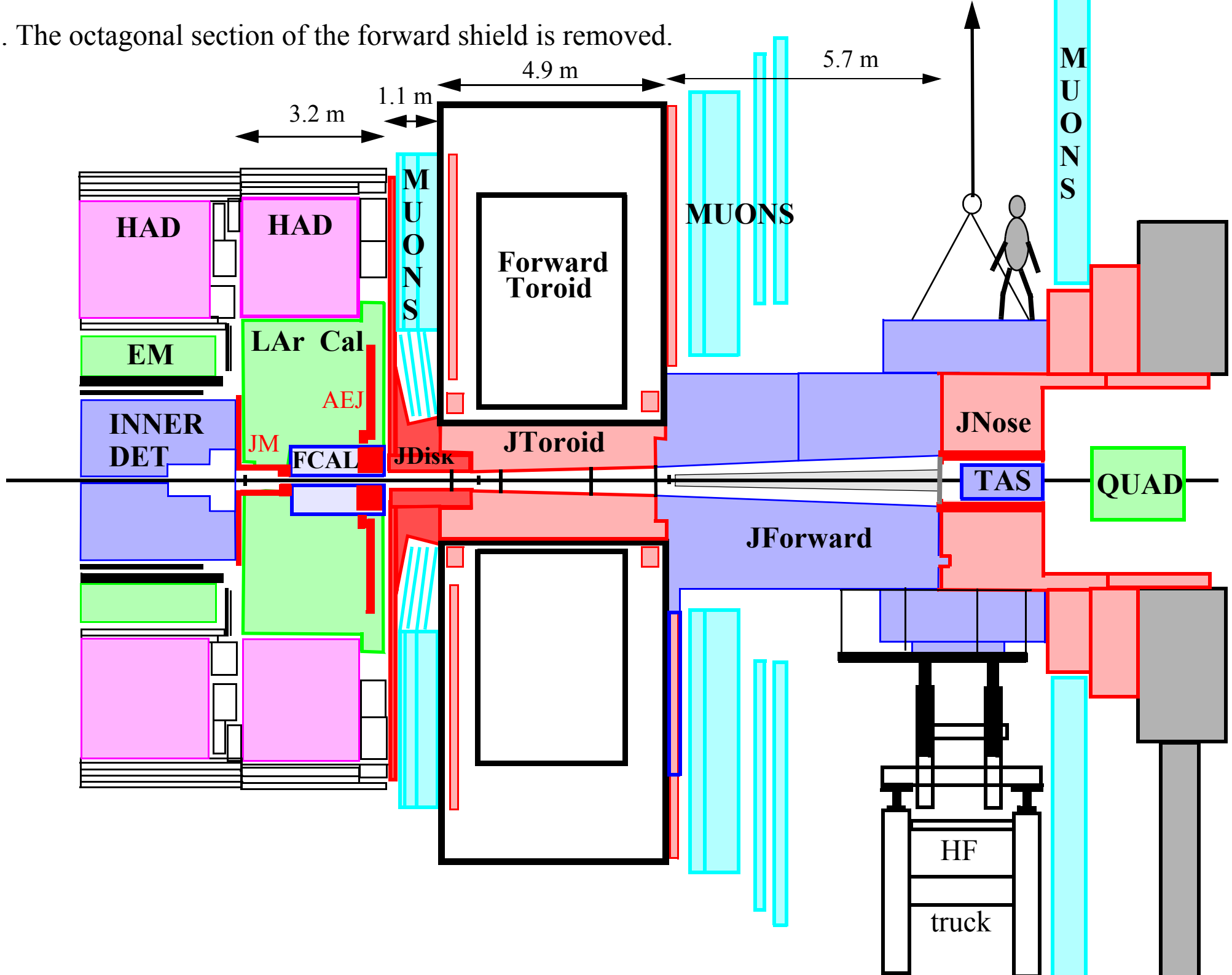
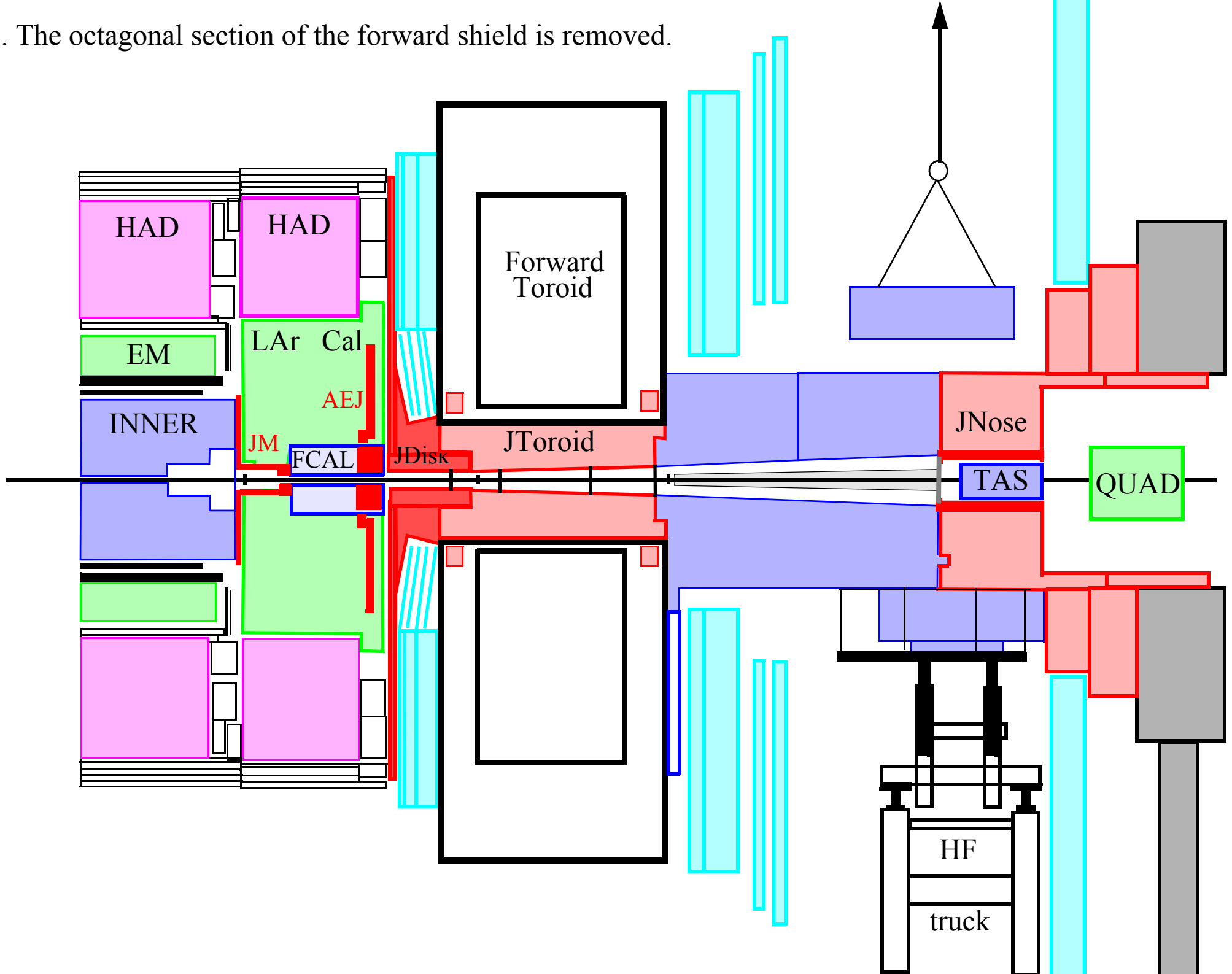
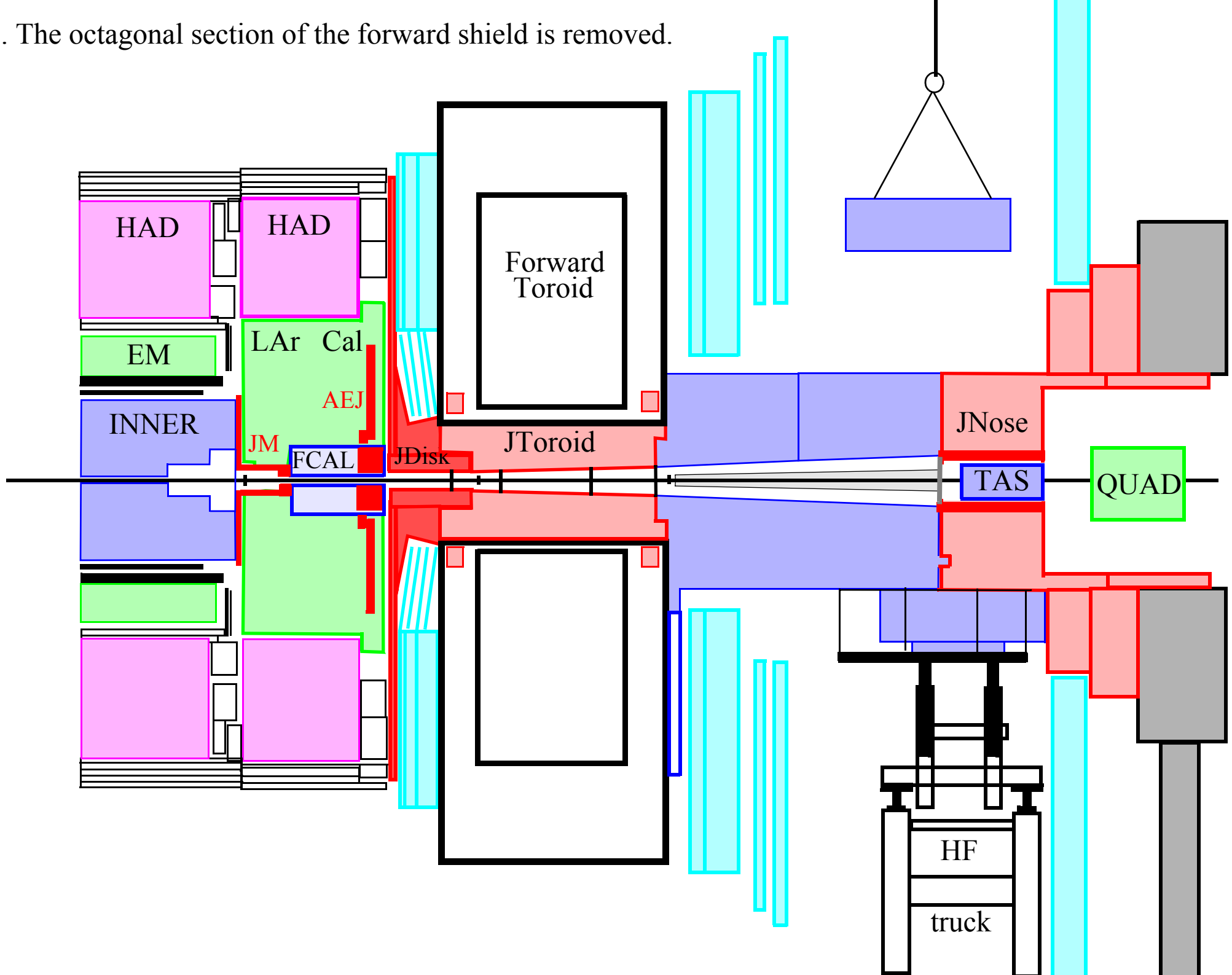
1. The octagonal section of the forward shield is removed.



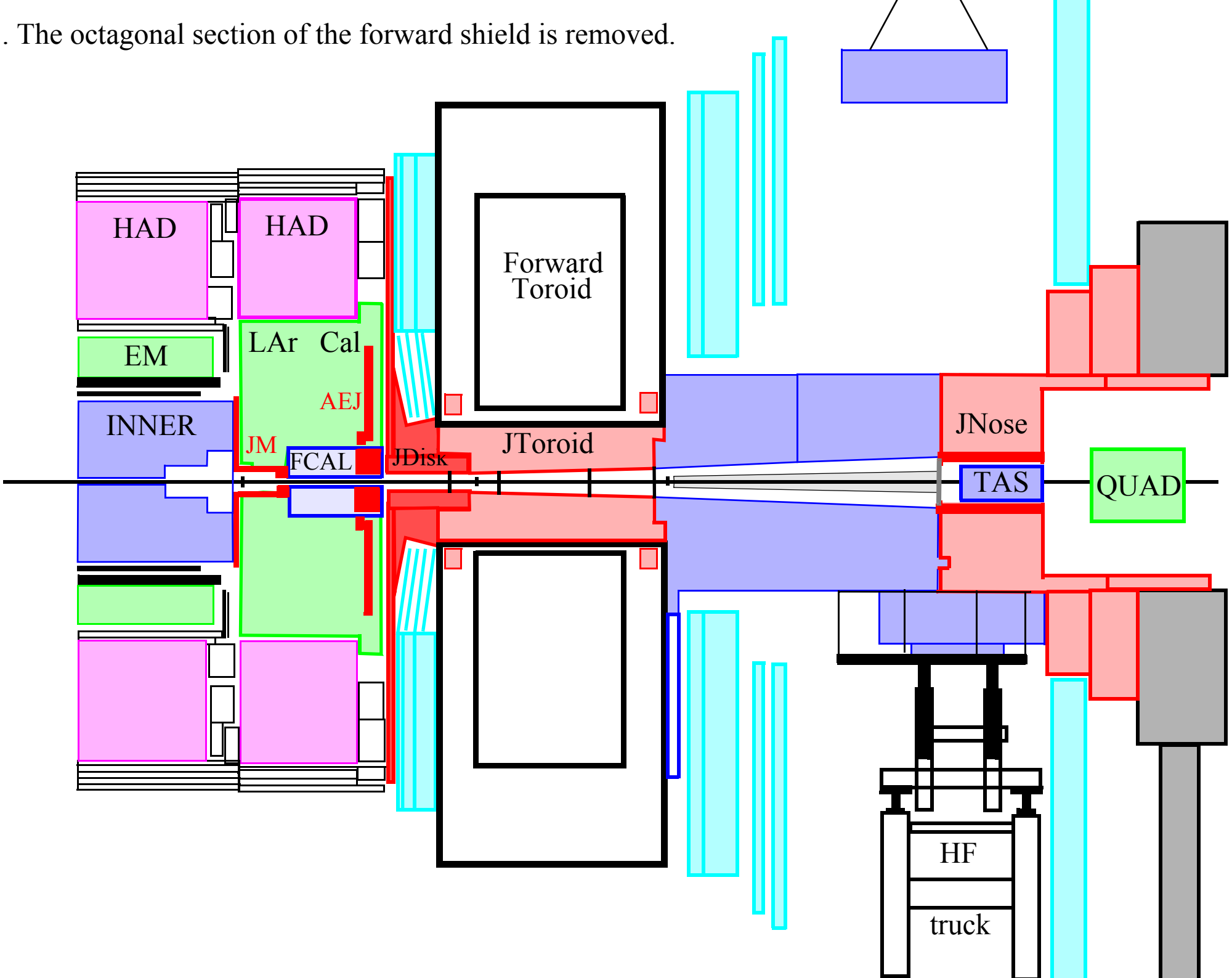
1. The octagonal section of the forward shield is removed.



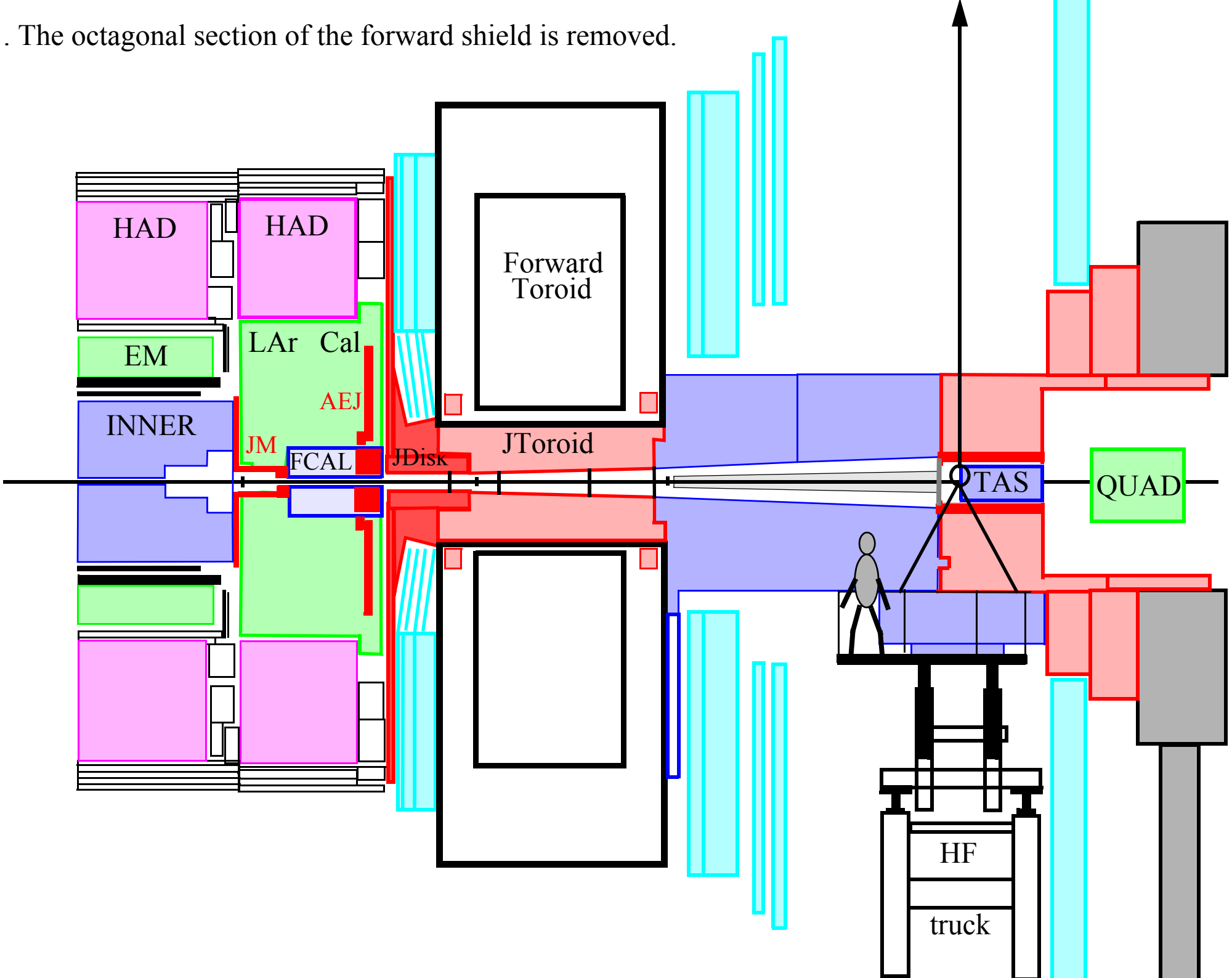
1. The octagonal section of the forward shield is removed.



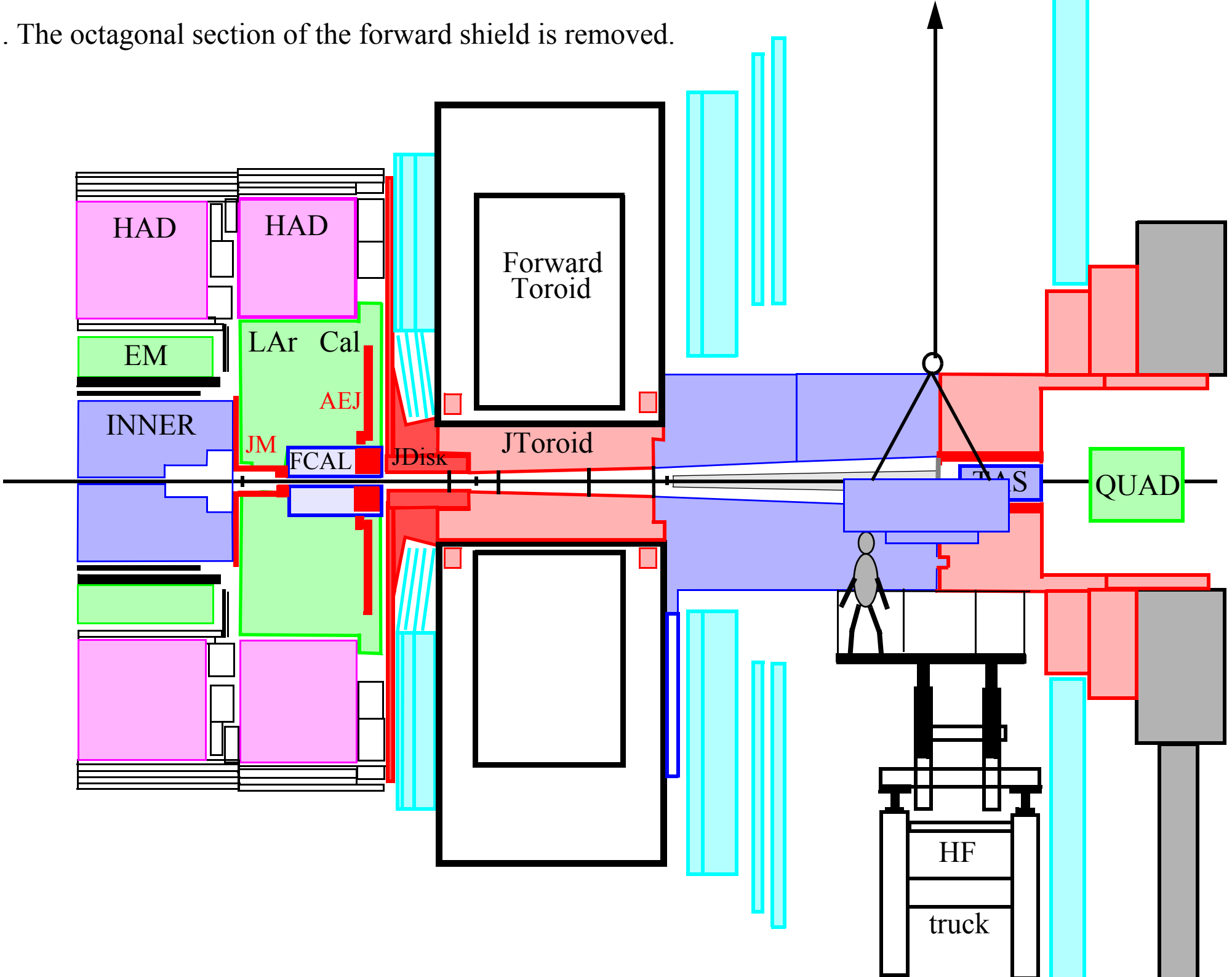
1. The octagonal section of the forward shield is removed.



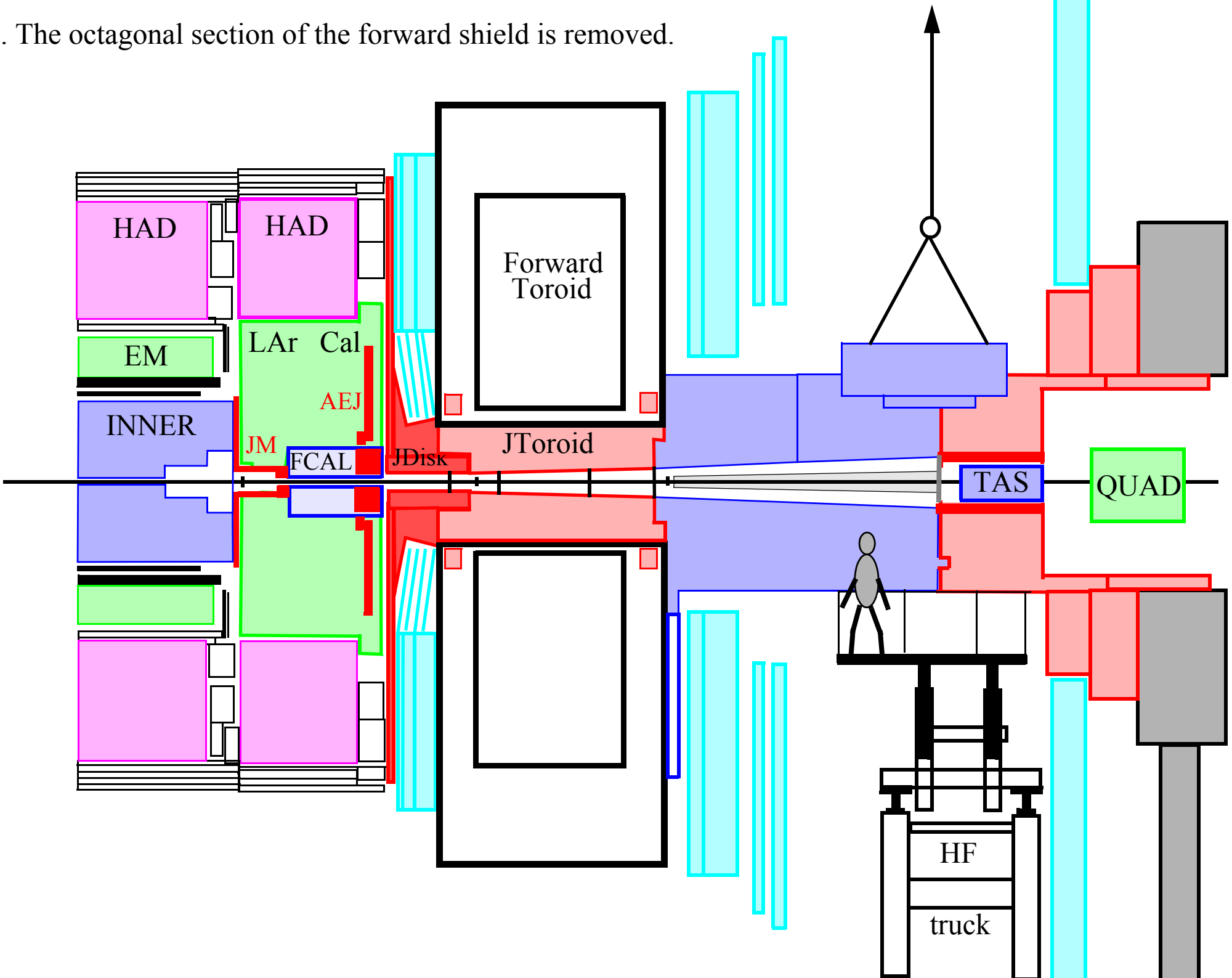
1. The octagonal section of the forward shield is removed.



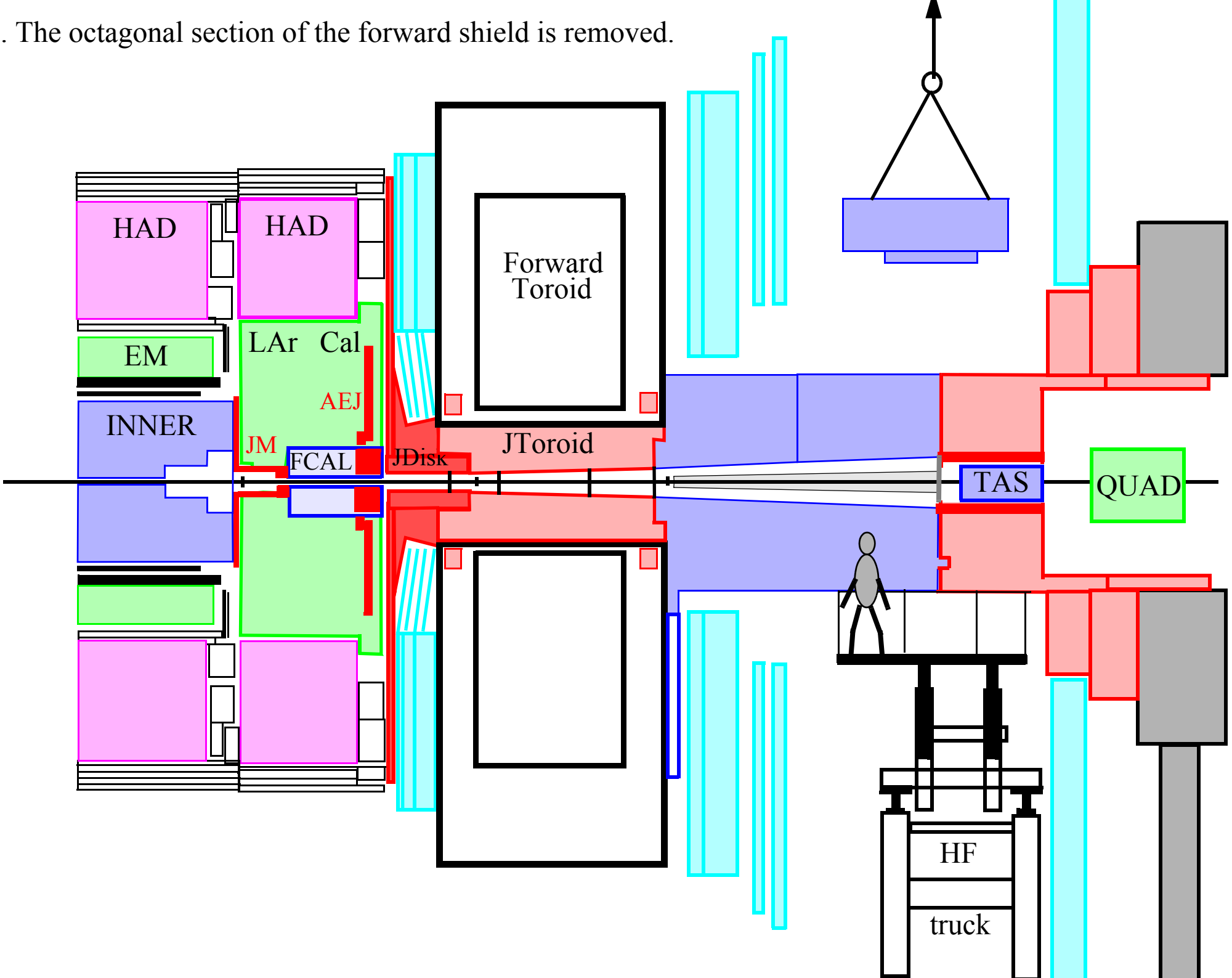
1. The octagonal section of the forward shield is removed.



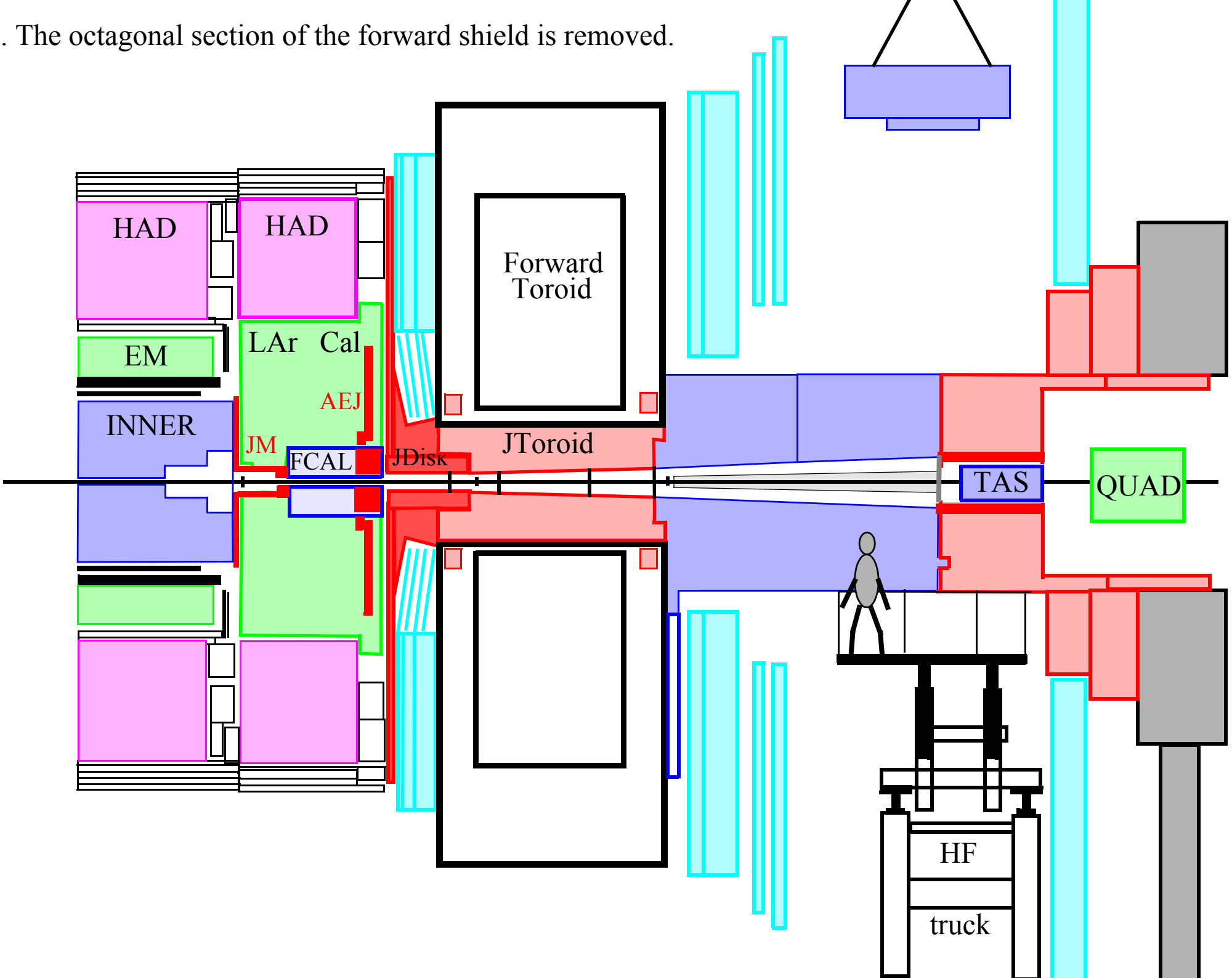
1. The octagonal section of the forward shield is removed.



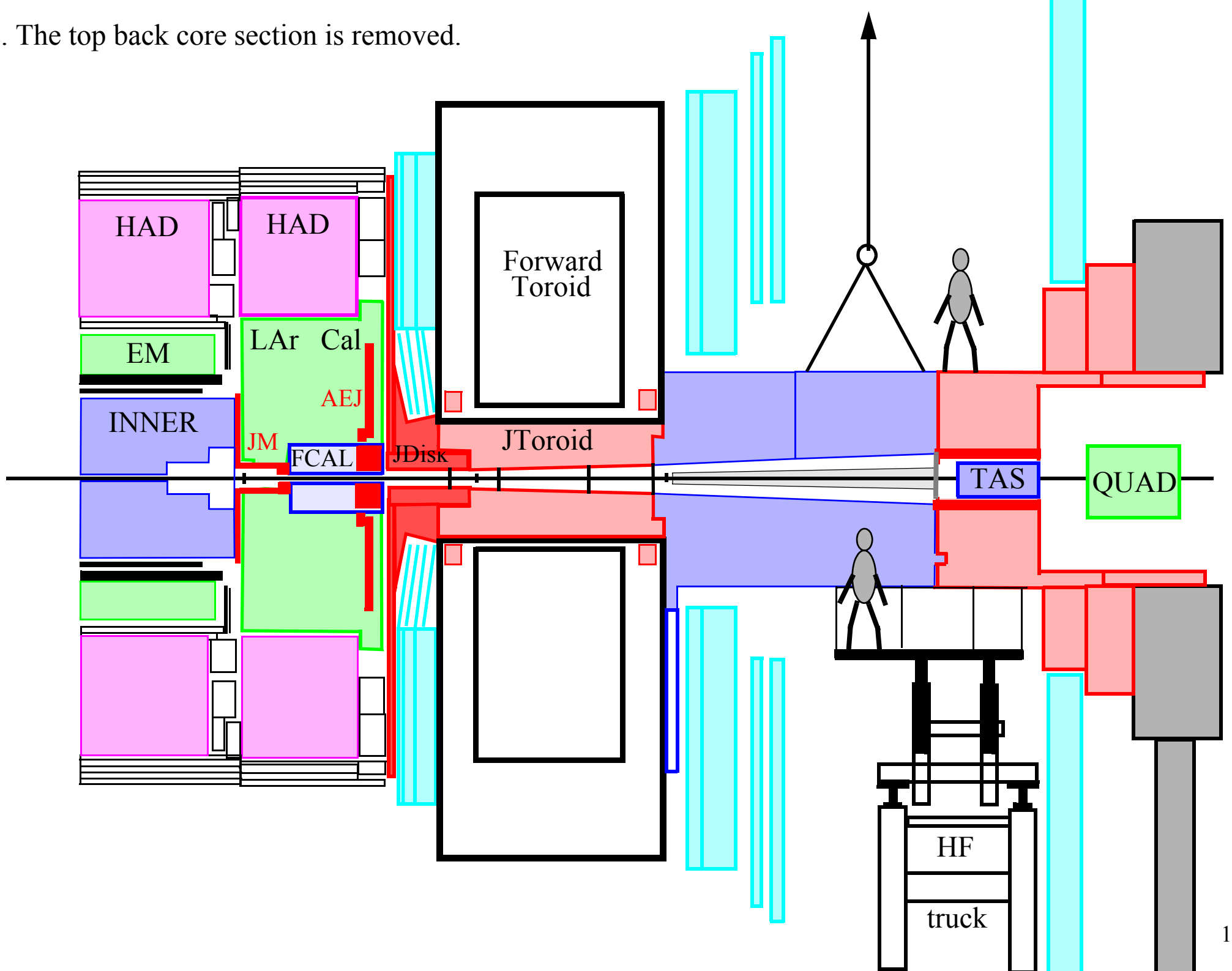
1. The octagonal section of the forward shield is removed.



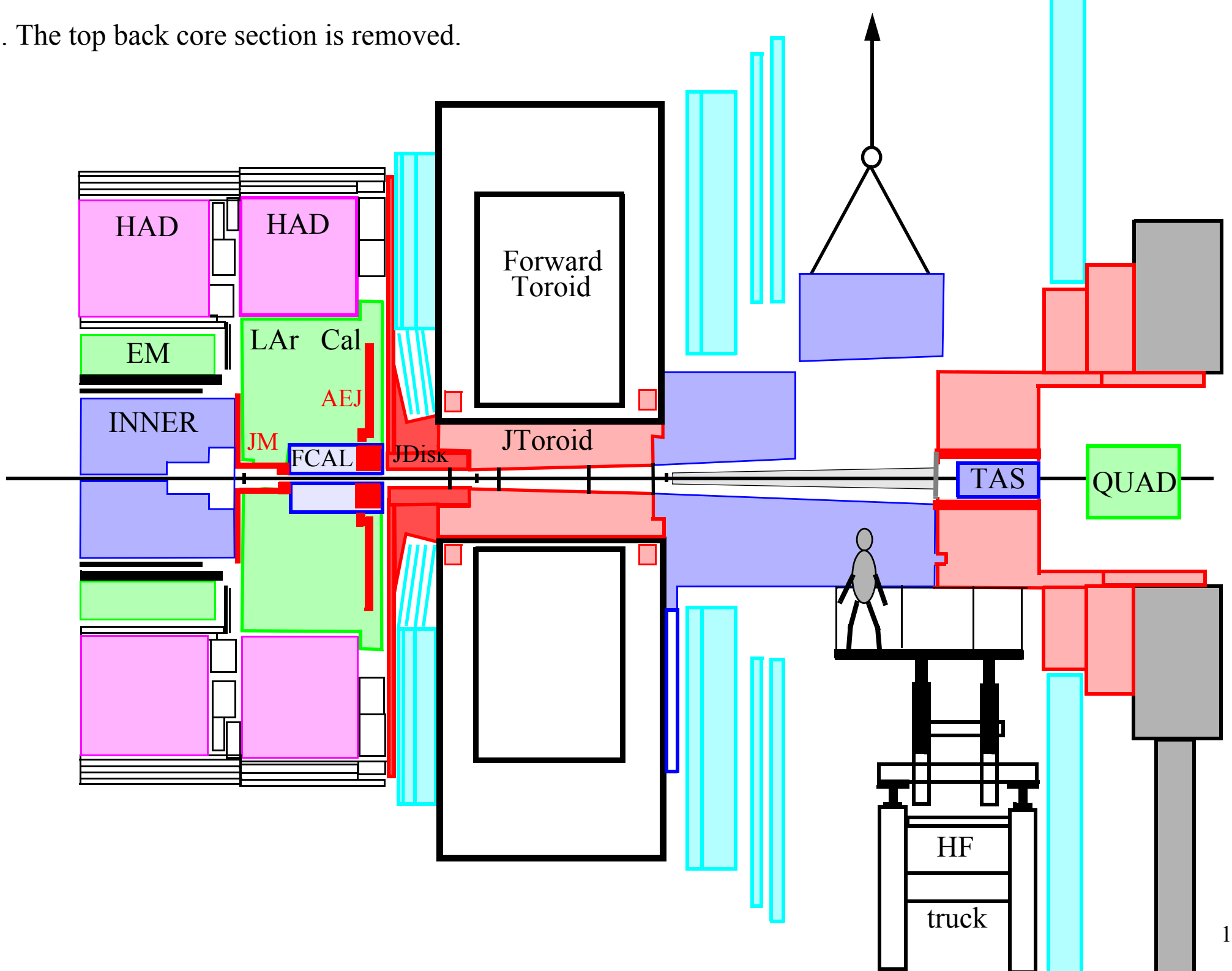
1. The octagonal section of the forward shield is removed.



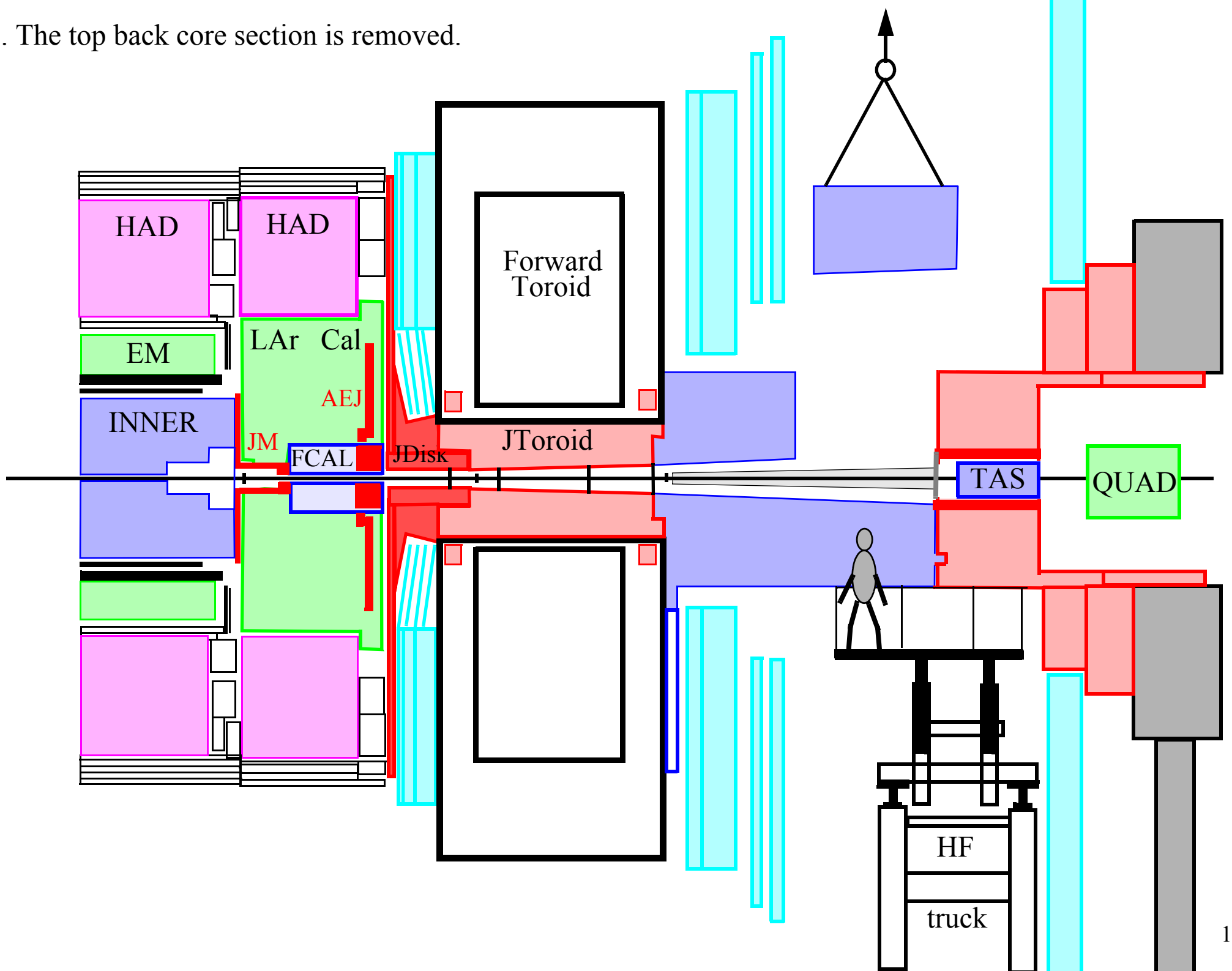
2. The top back core section is removed.



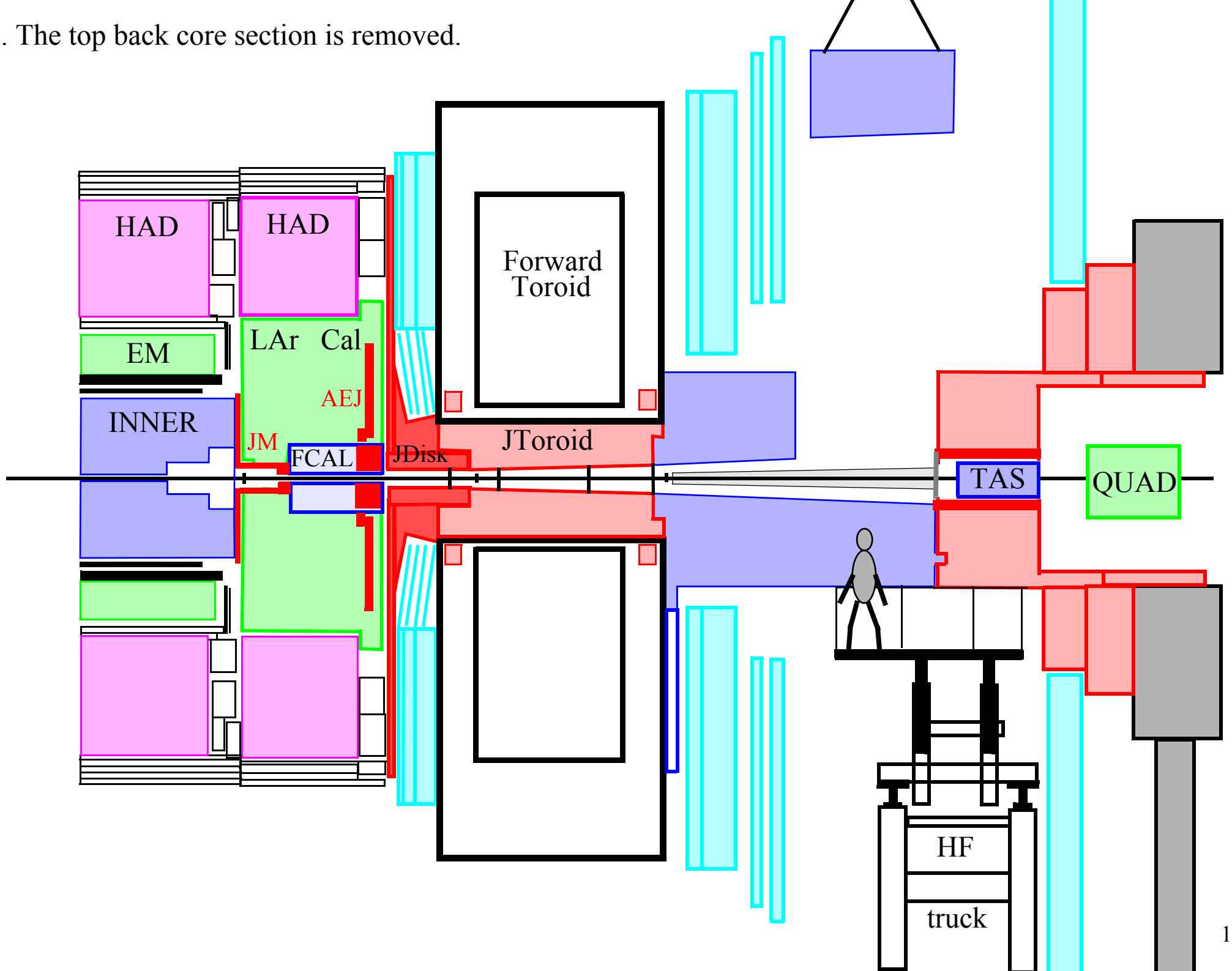
2. The top back core section is removed.



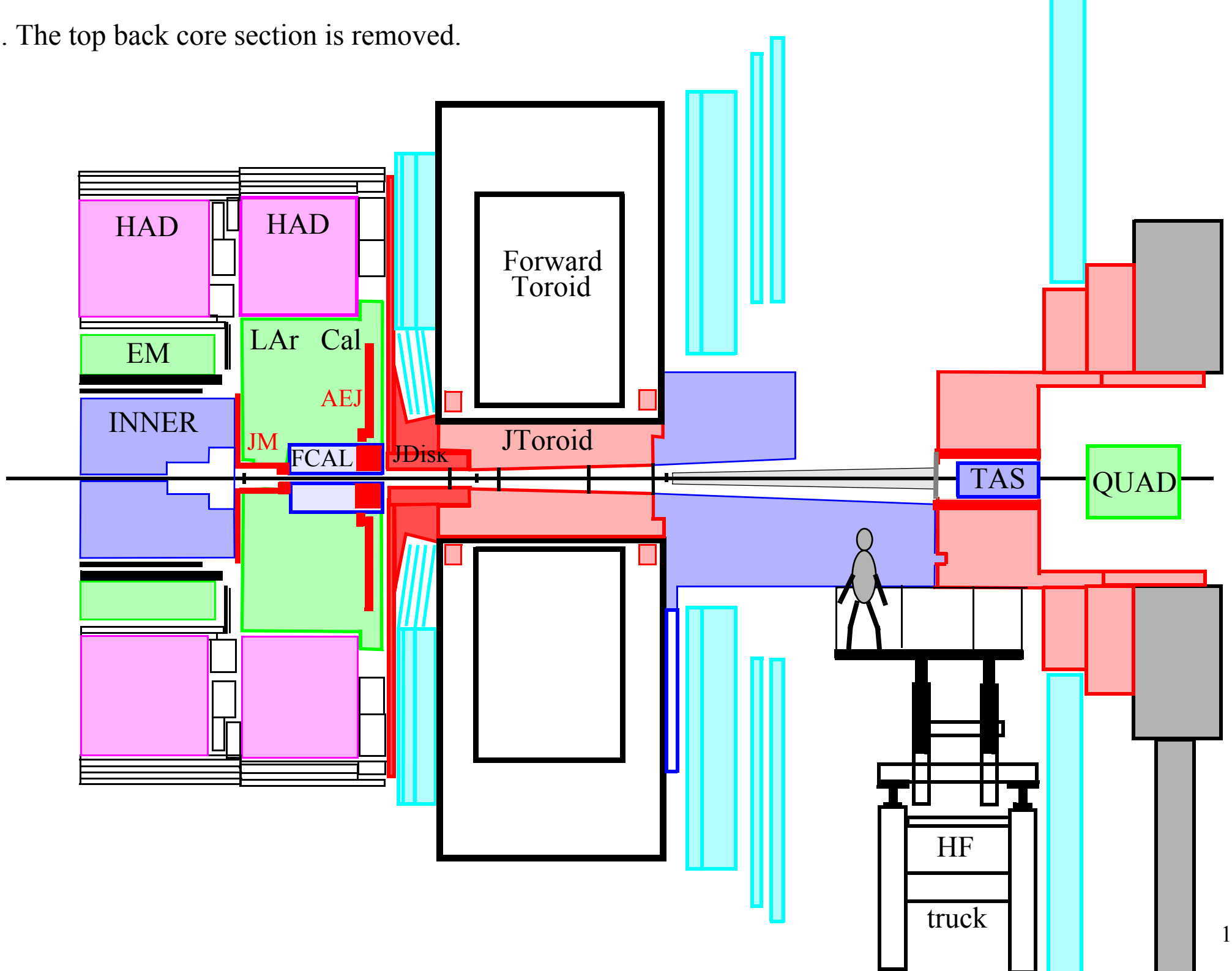
2. The top back core section is removed.



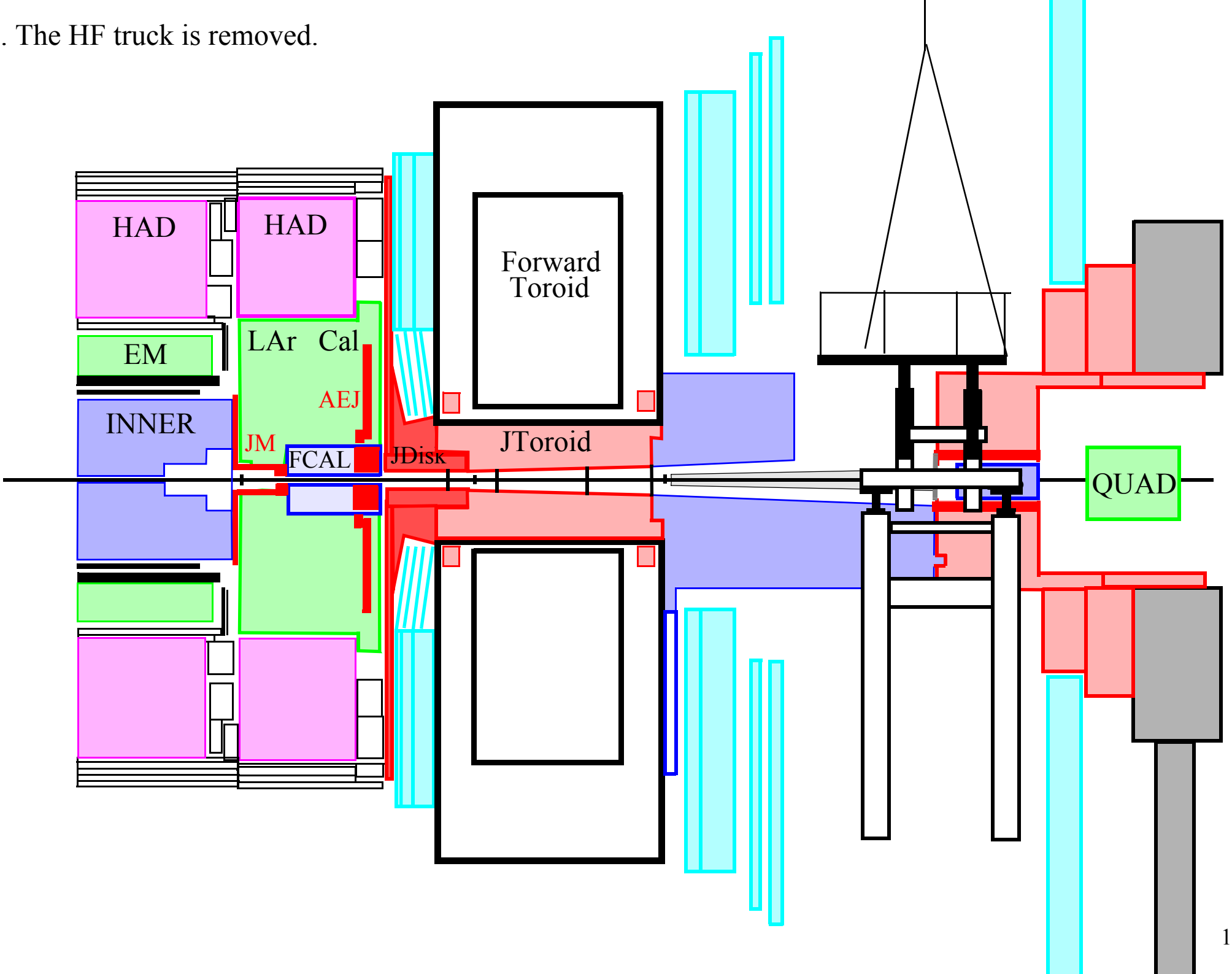
2. The top back core section is removed.



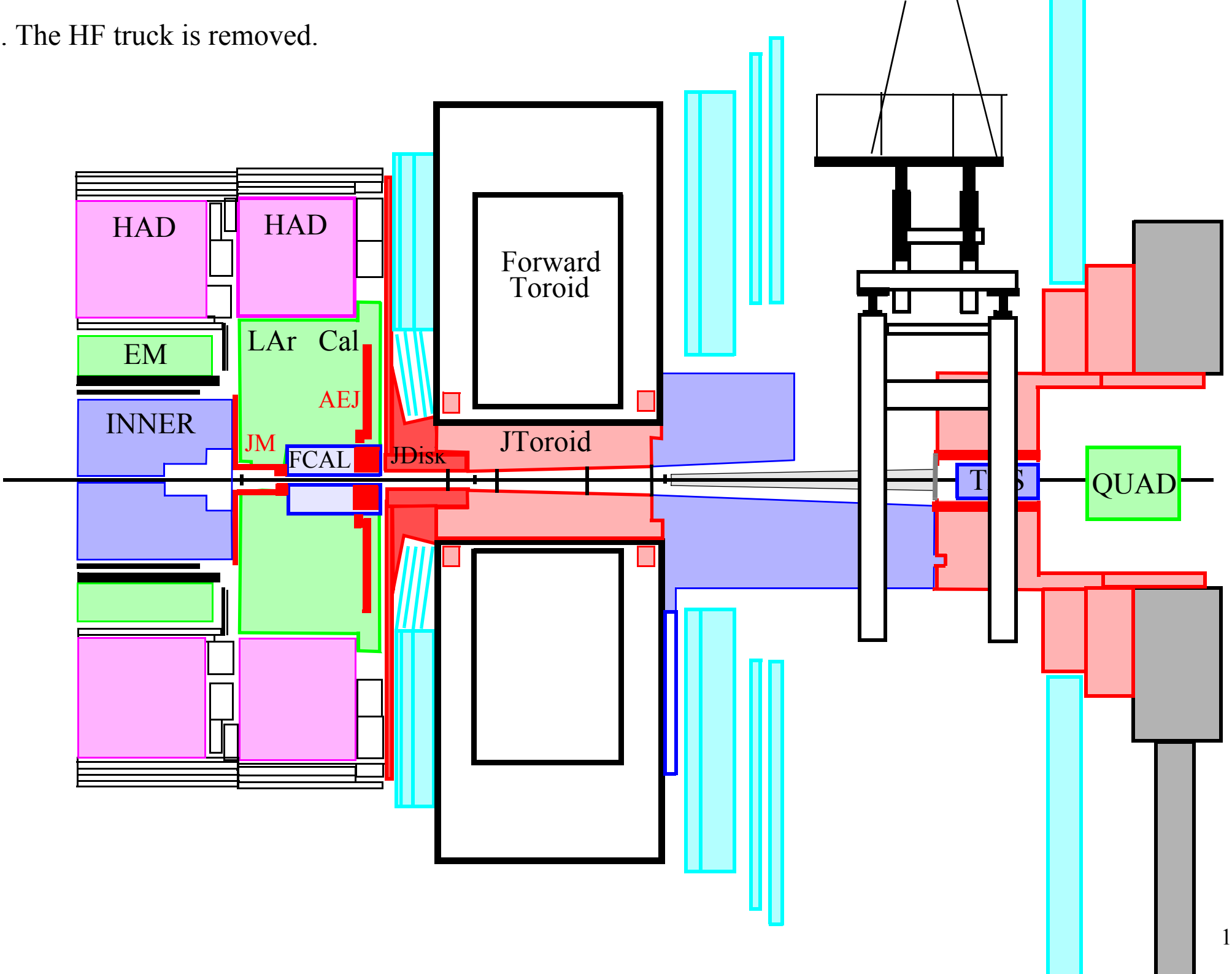
2. The top back core section is removed.



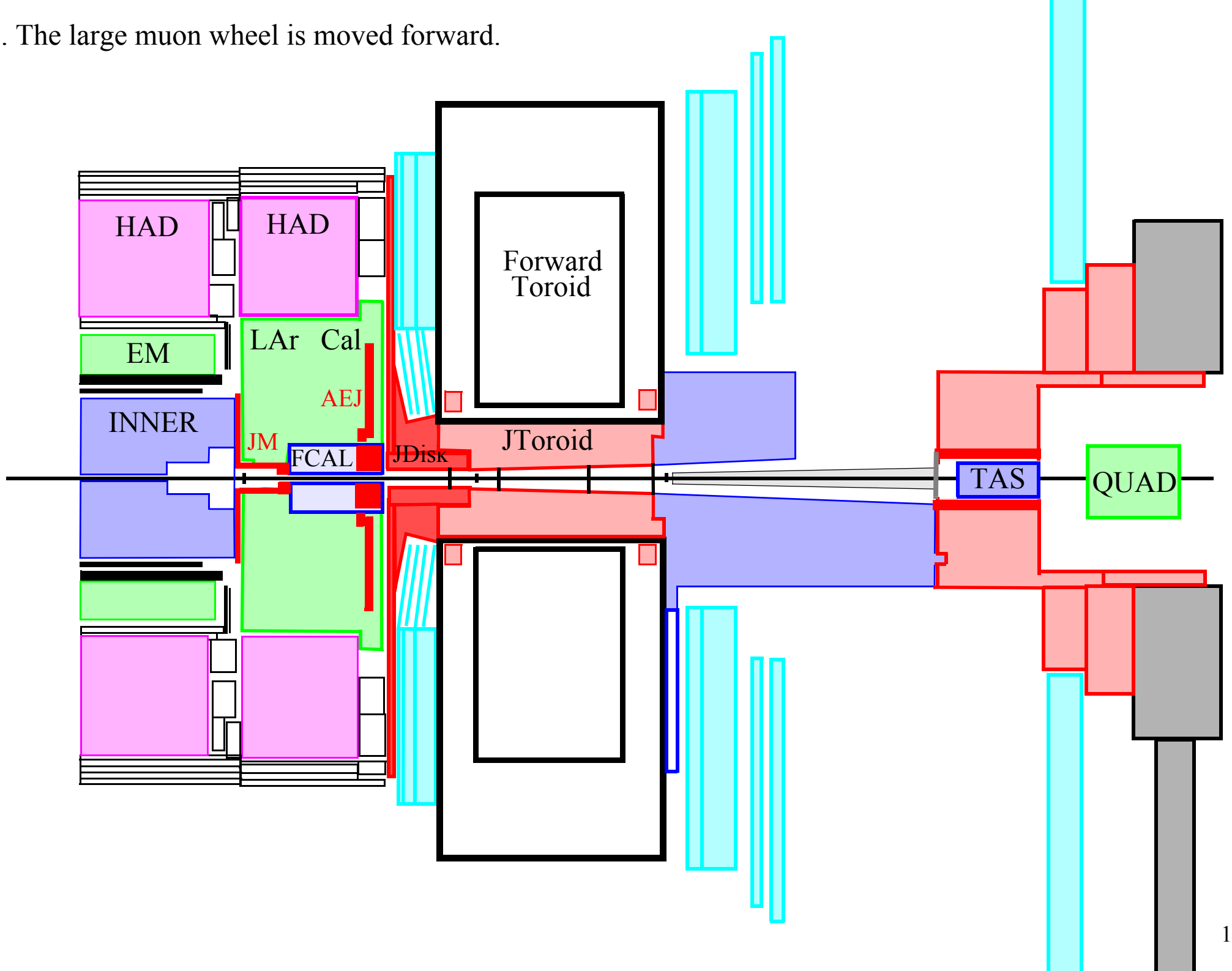
3. The HF truck is removed.



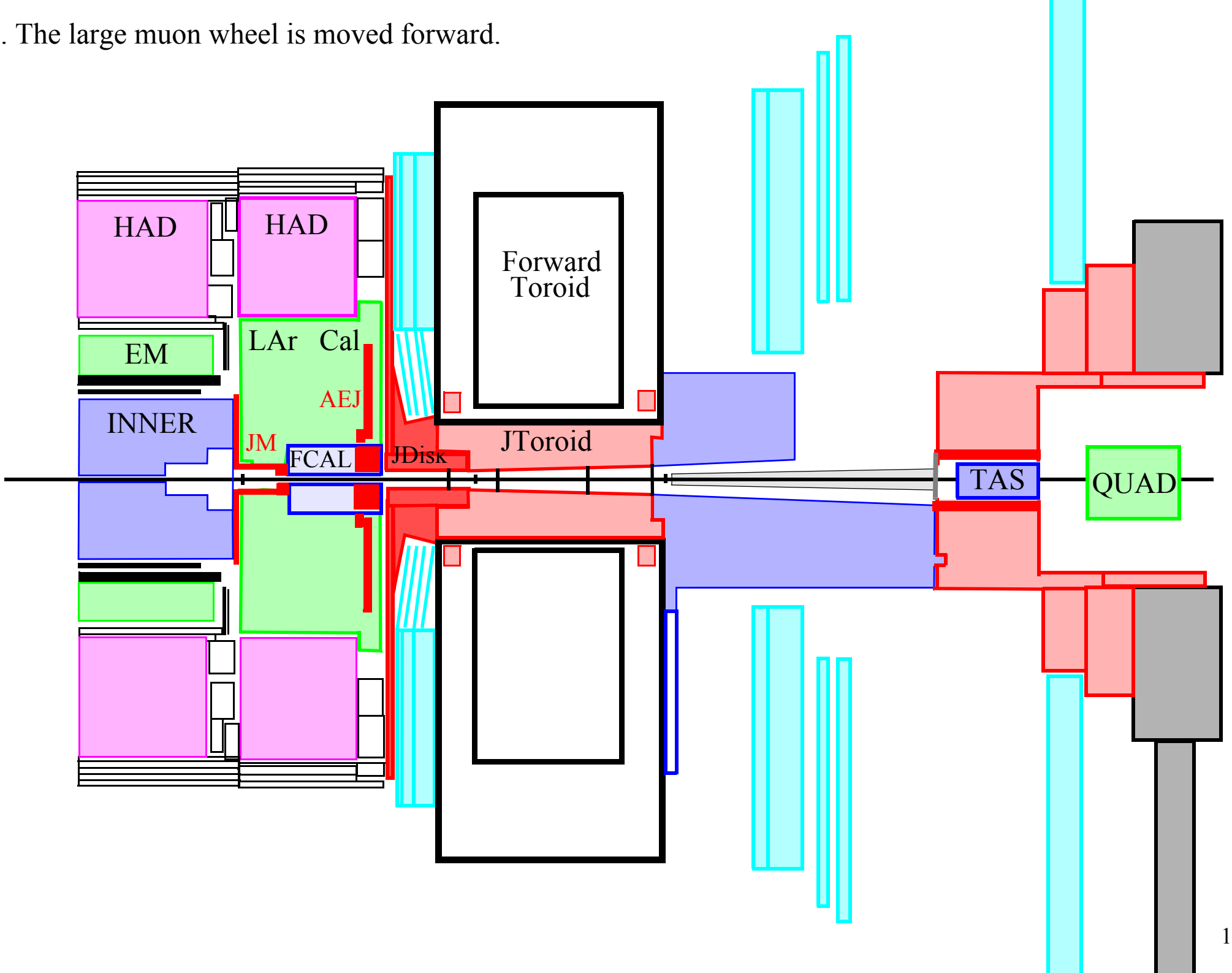
3. The HF truck is removed.



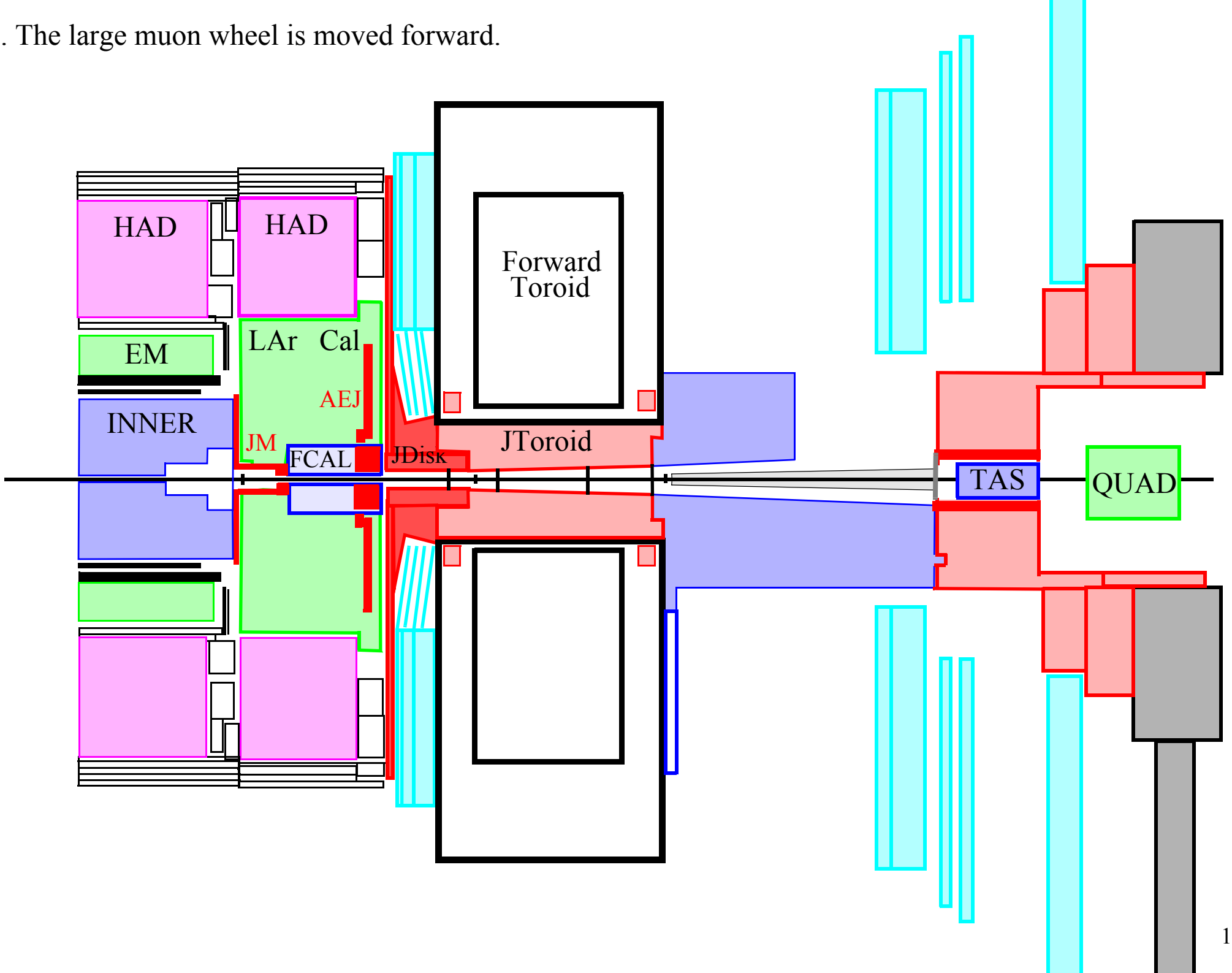
4. The large muon wheel is moved forward.



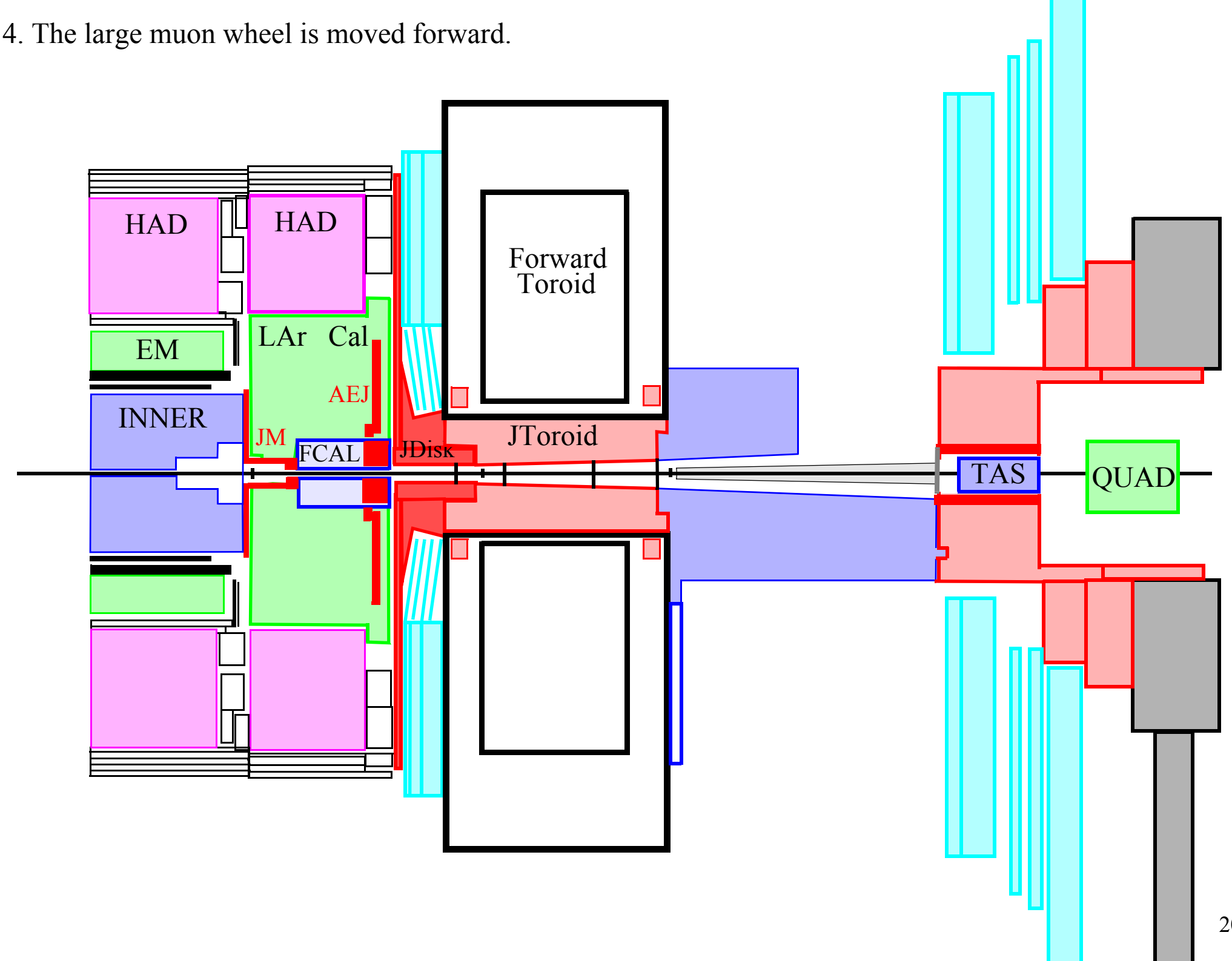
4. The large muon wheel is moved forward.



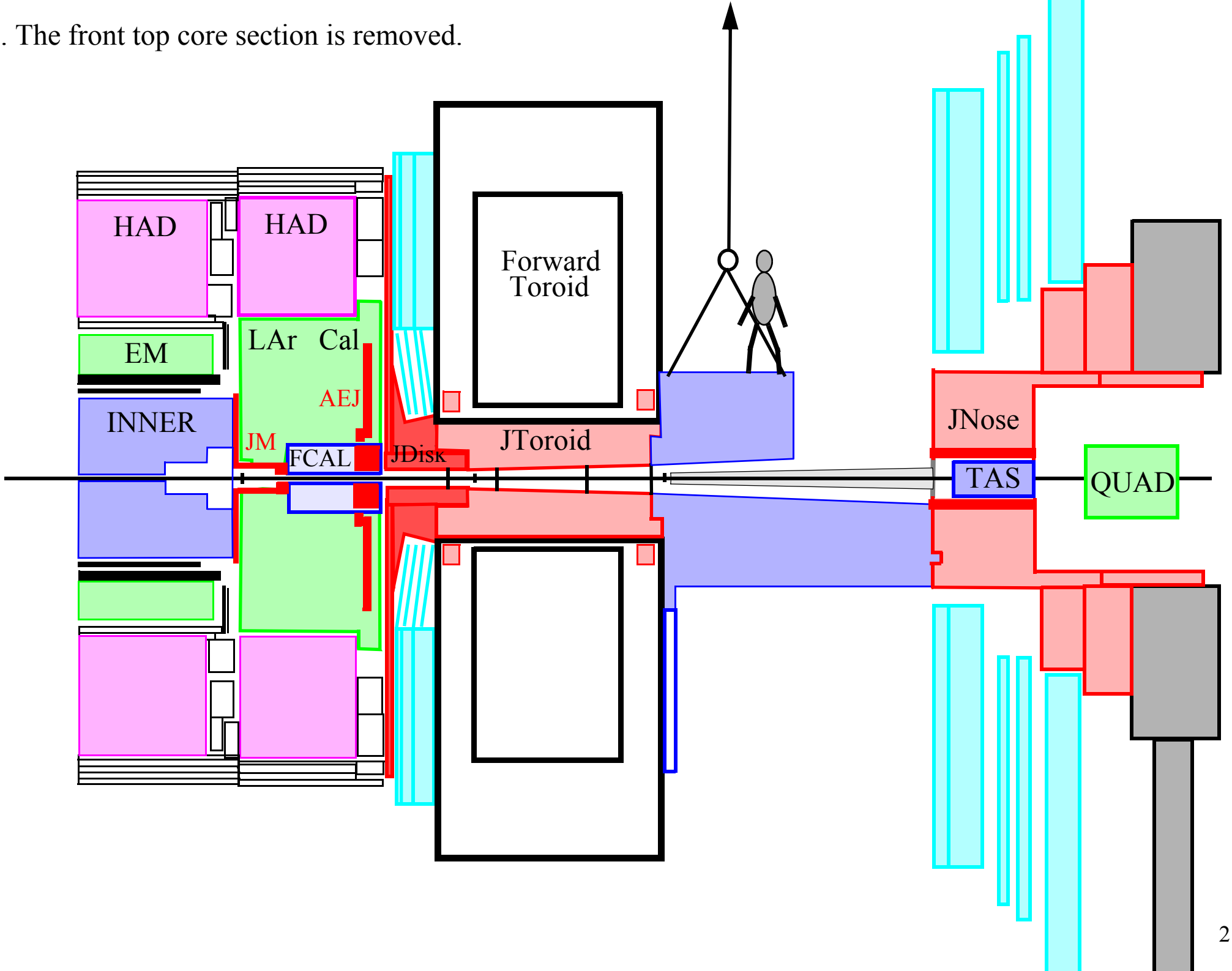
4. The large muon wheel is moved forward.



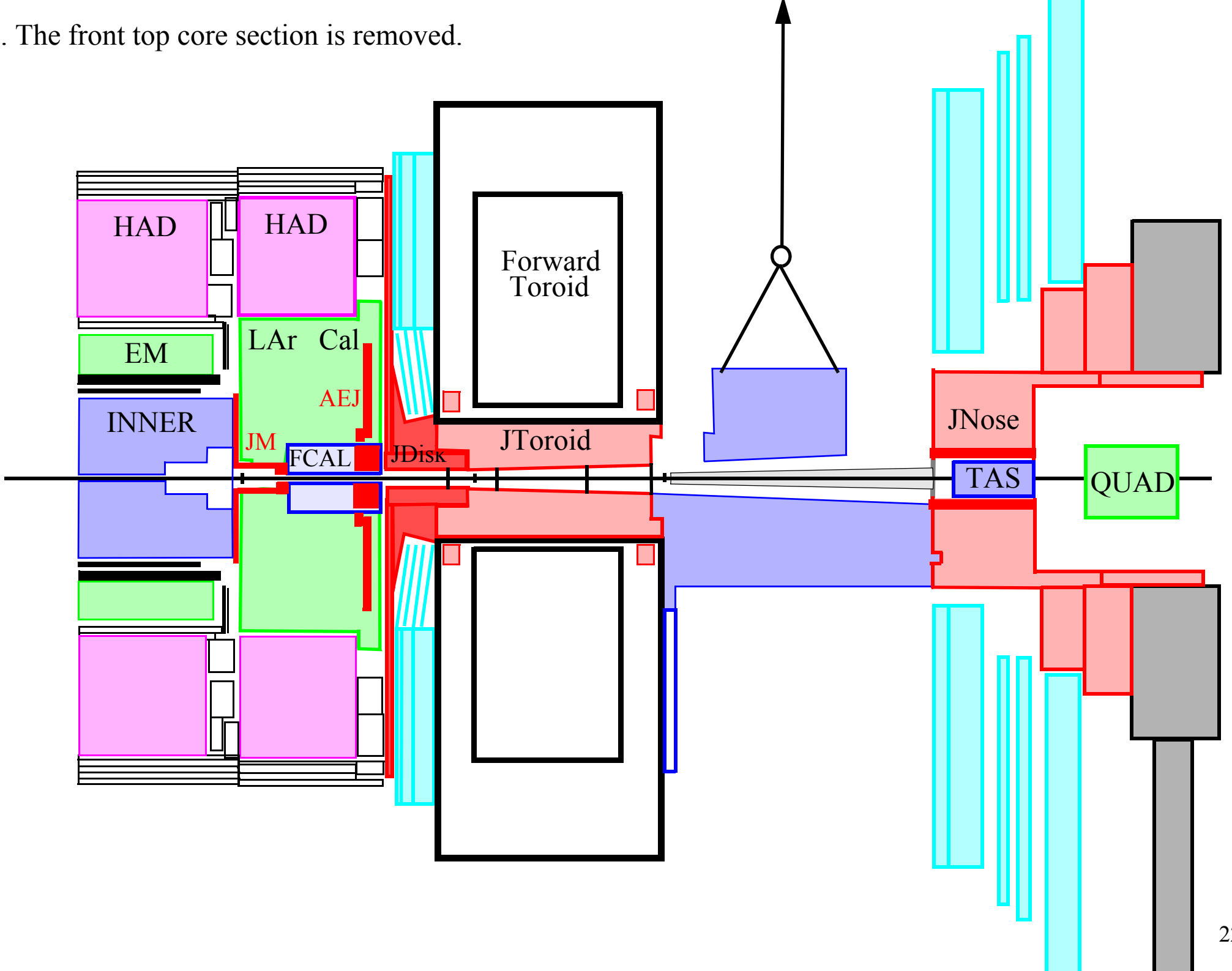
4. The large muon wheel is moved forward.



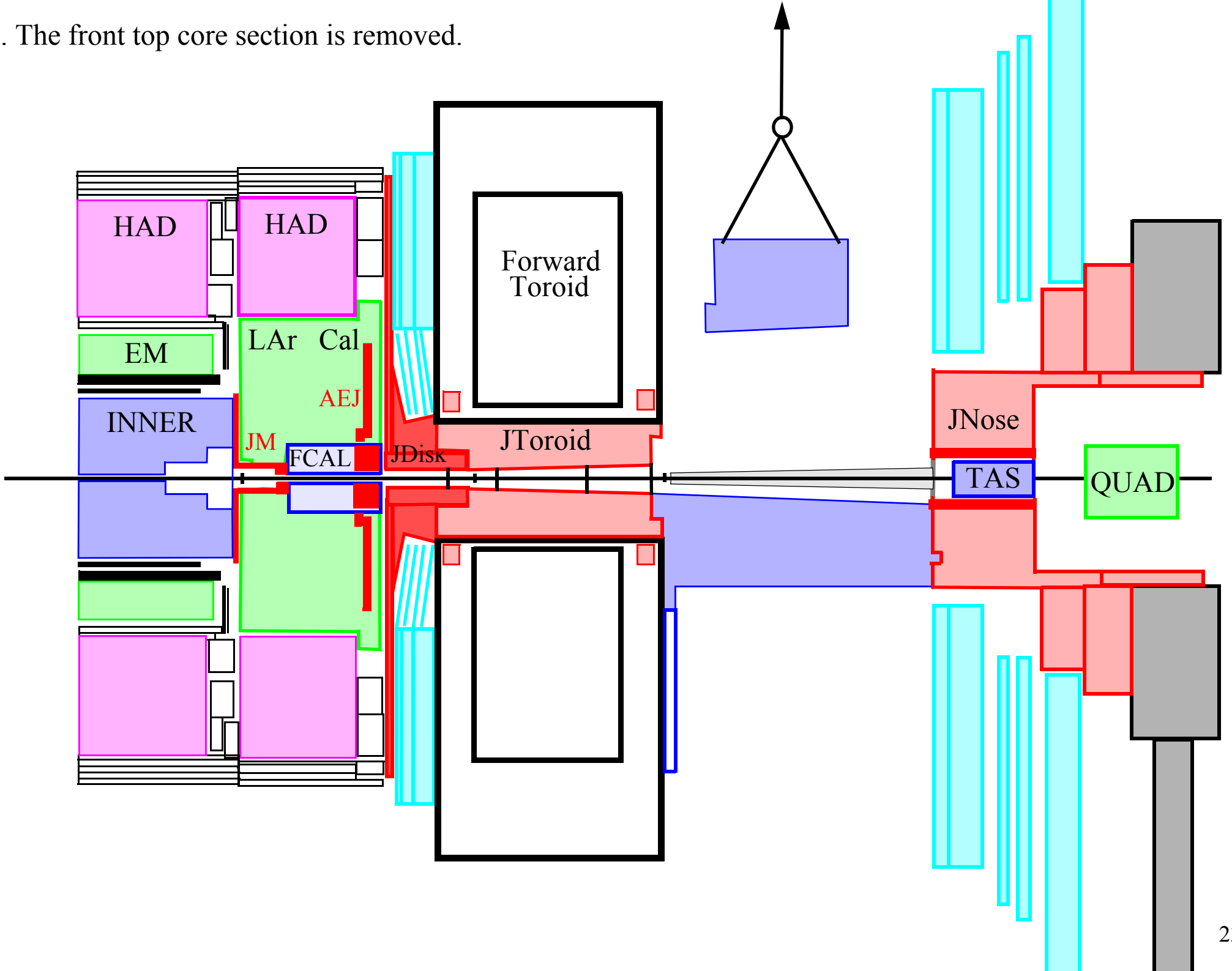
5. The front top core section is removed.



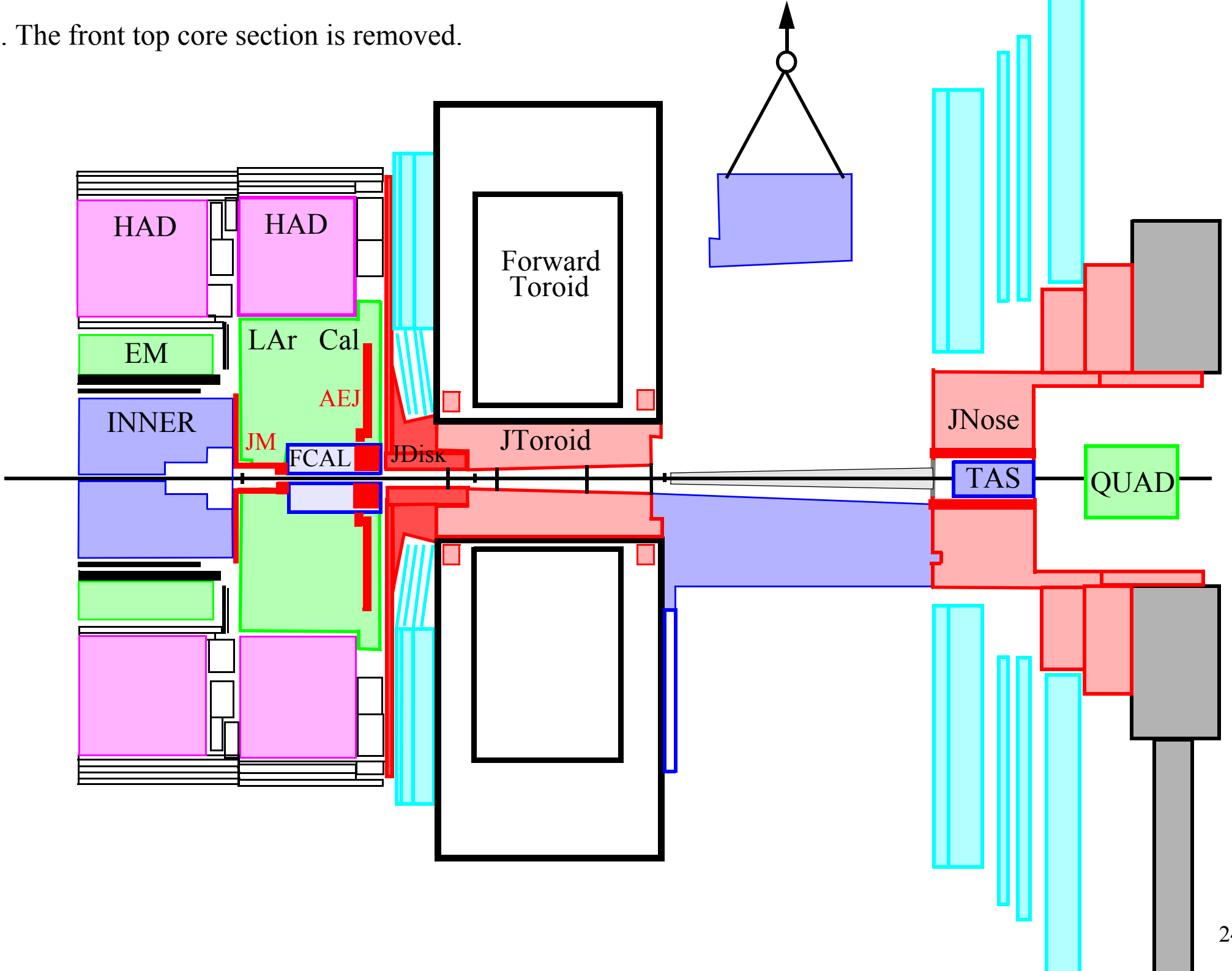
5. The front top core section is removed.



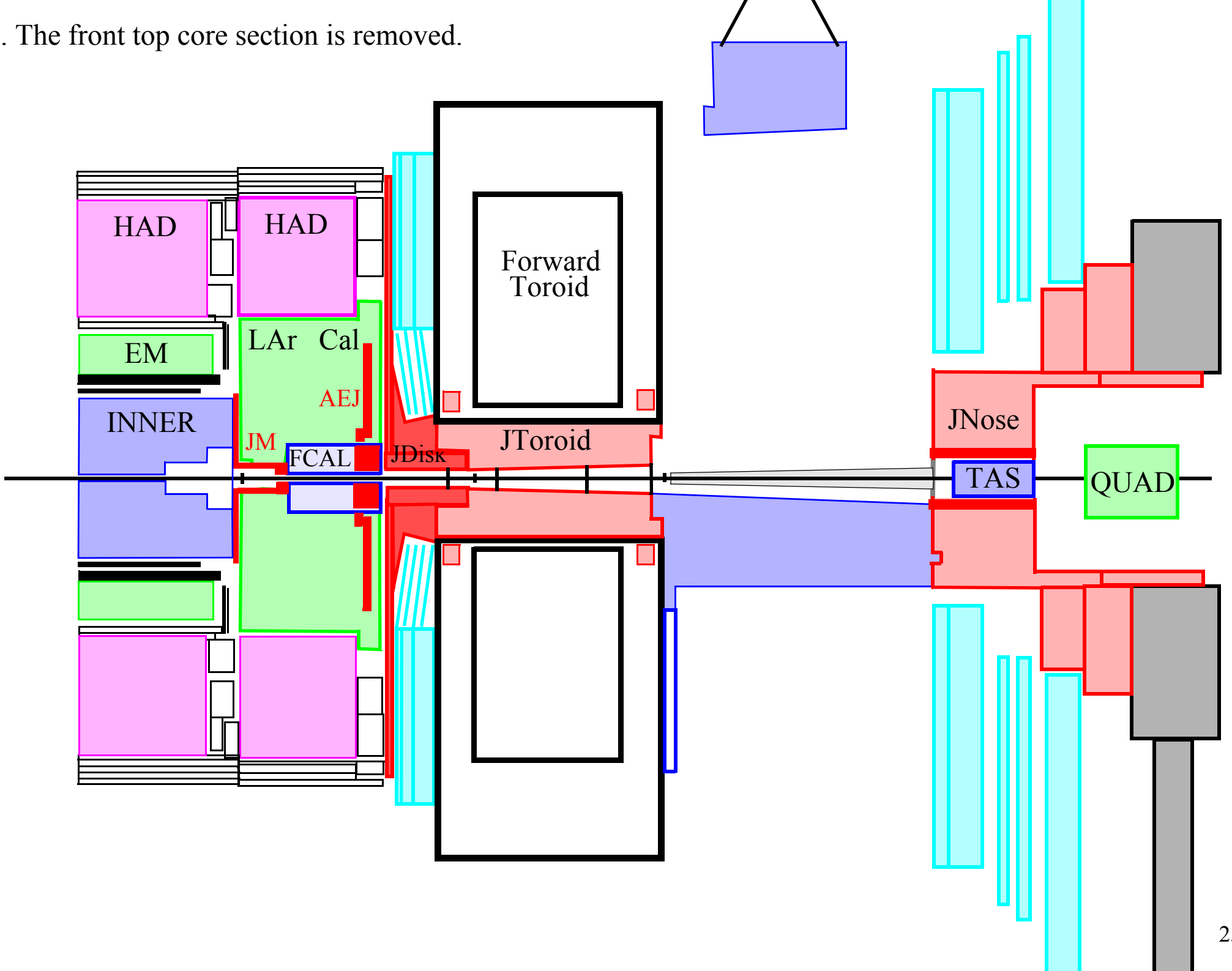
5. The front top core section is removed.



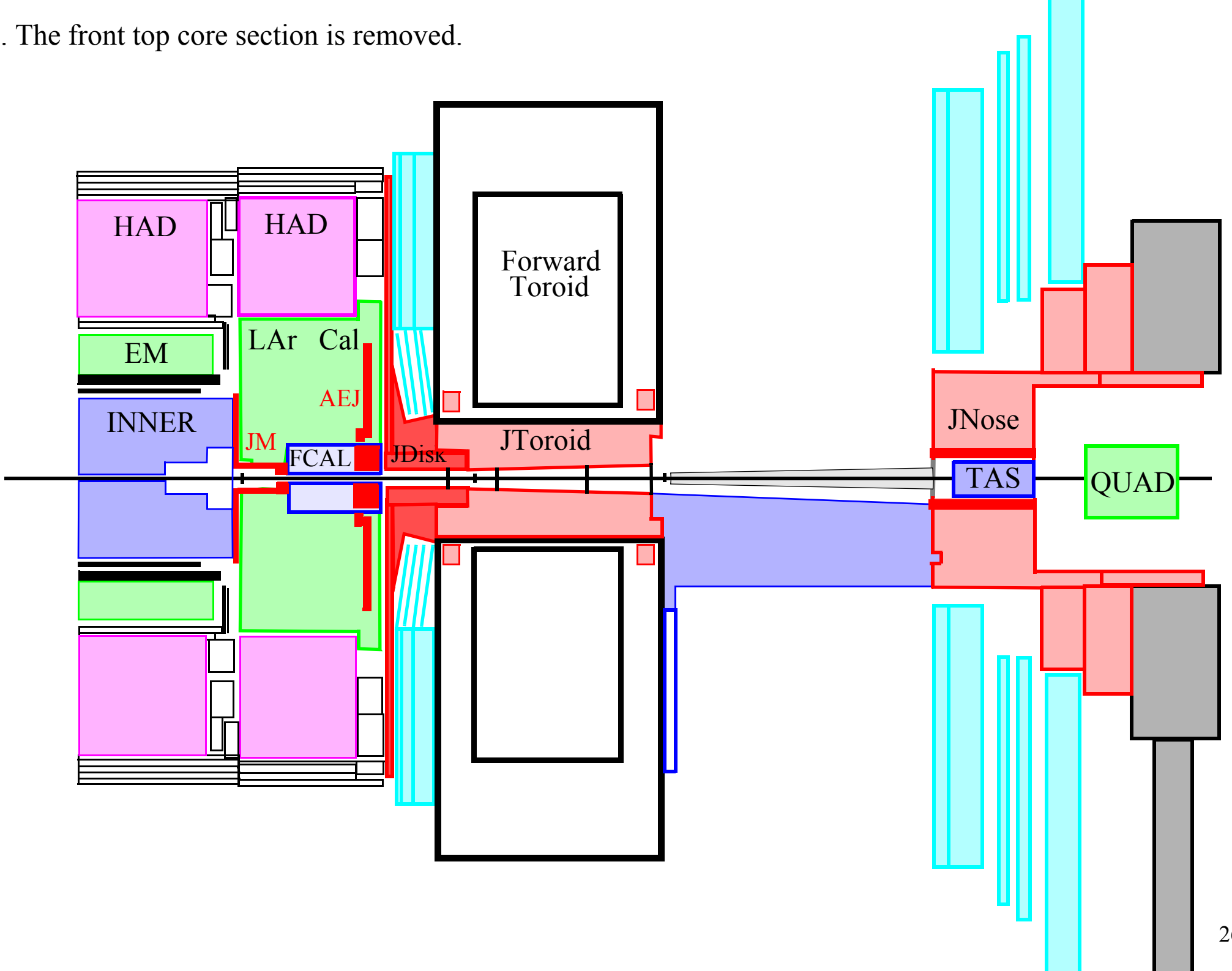
5. The front top core section is removed.



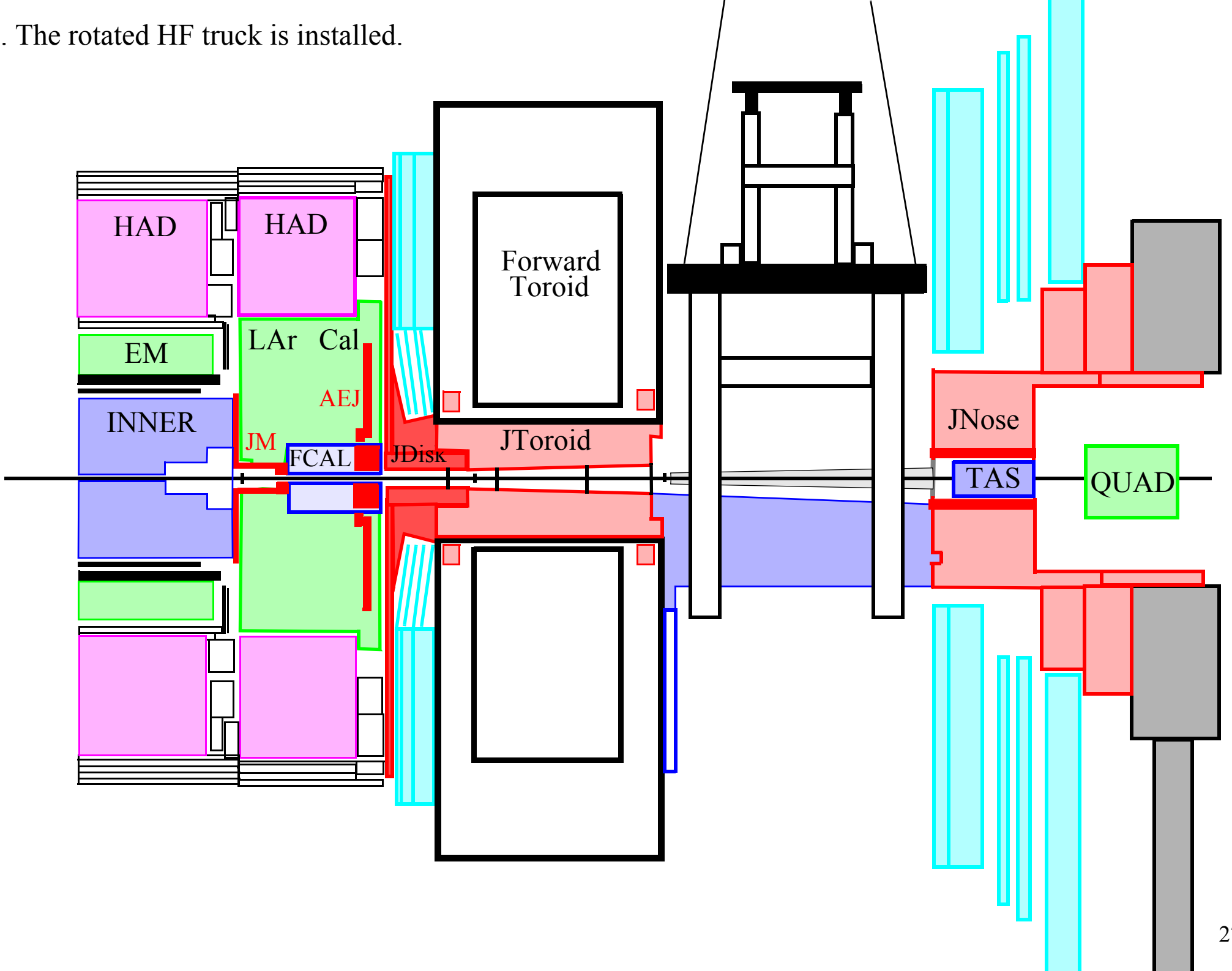
5. The front top core section is removed.



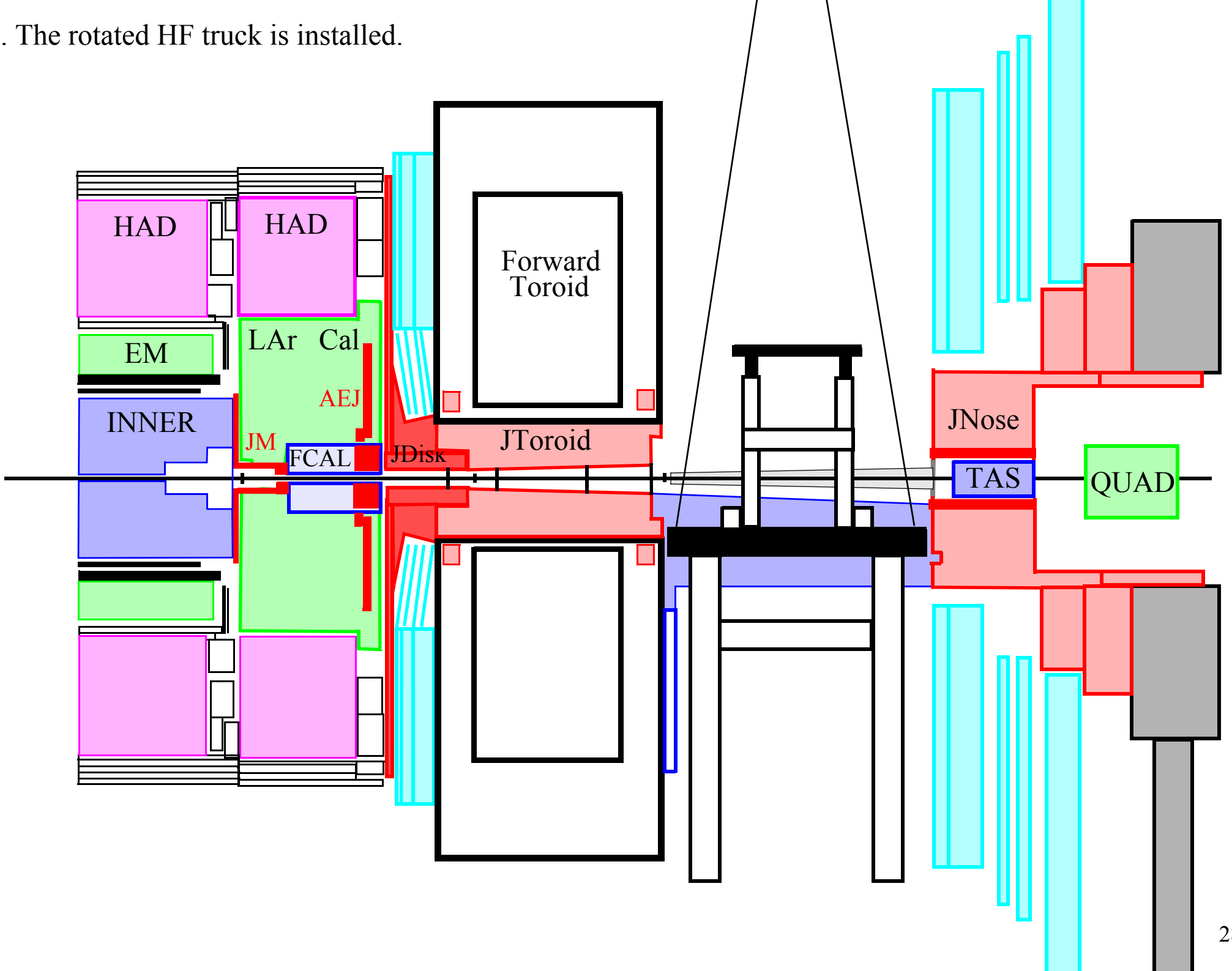
5. The front top core section is removed.



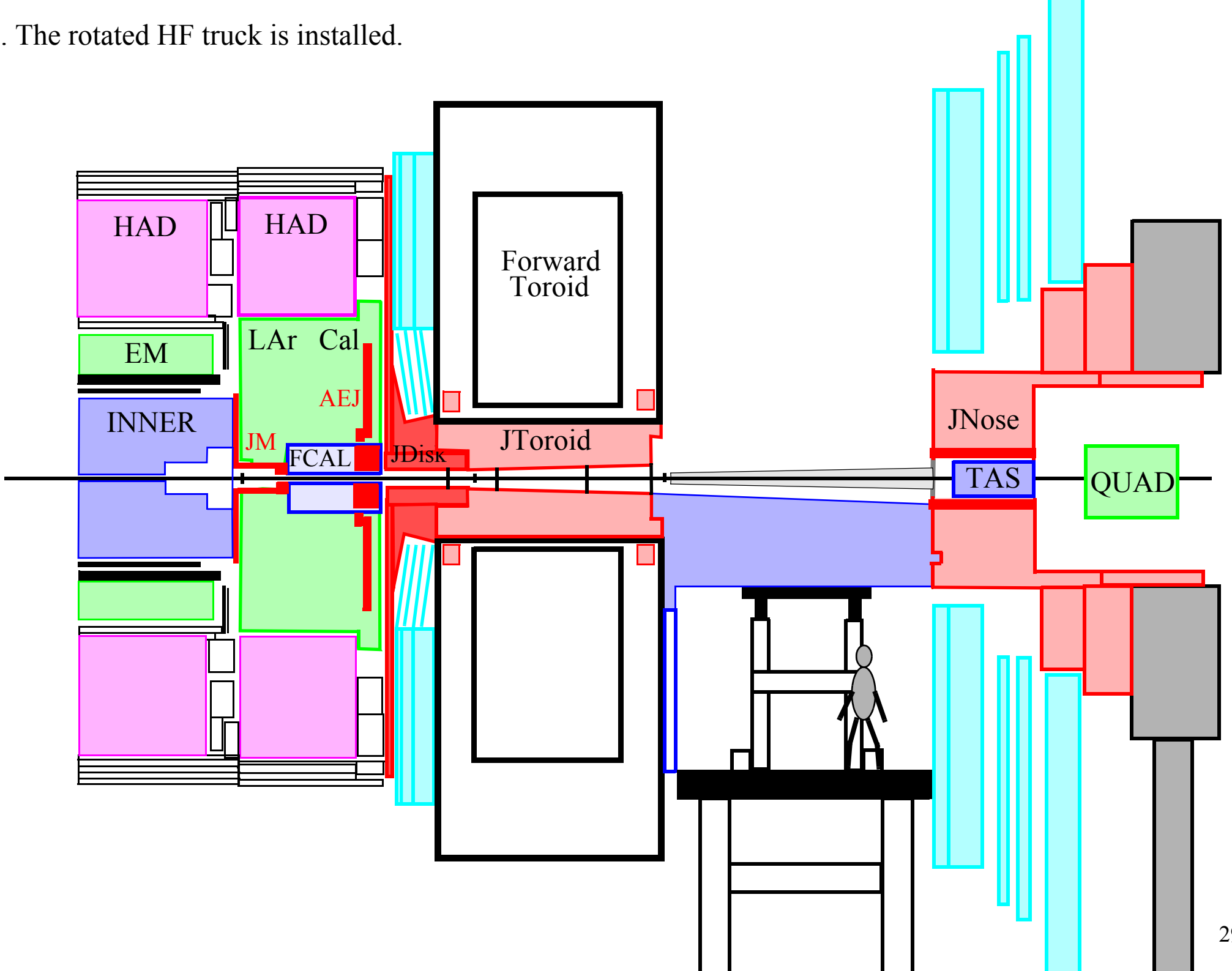
6. The rotated HF truck is installed.



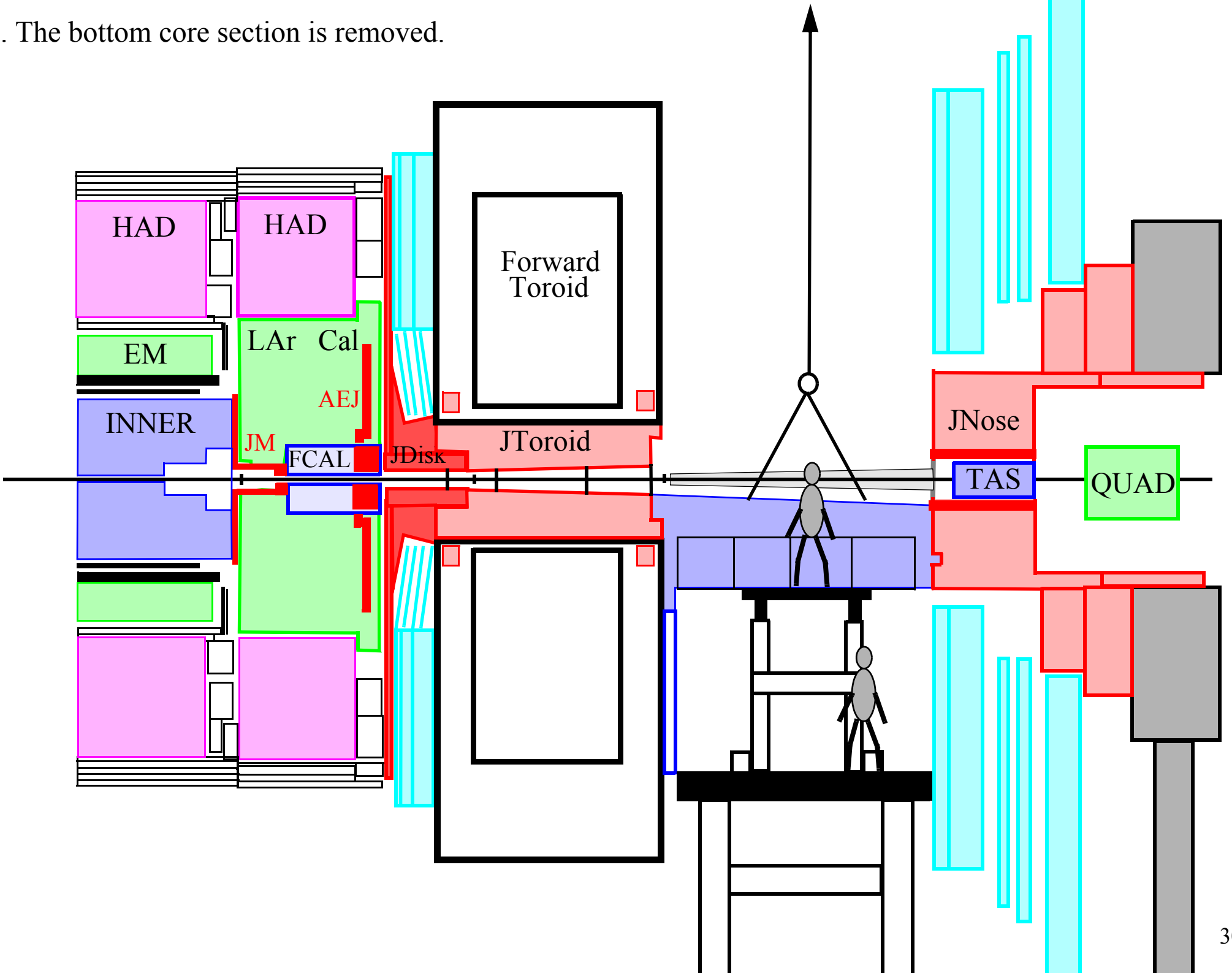
6. The rotated HF truck is installed.



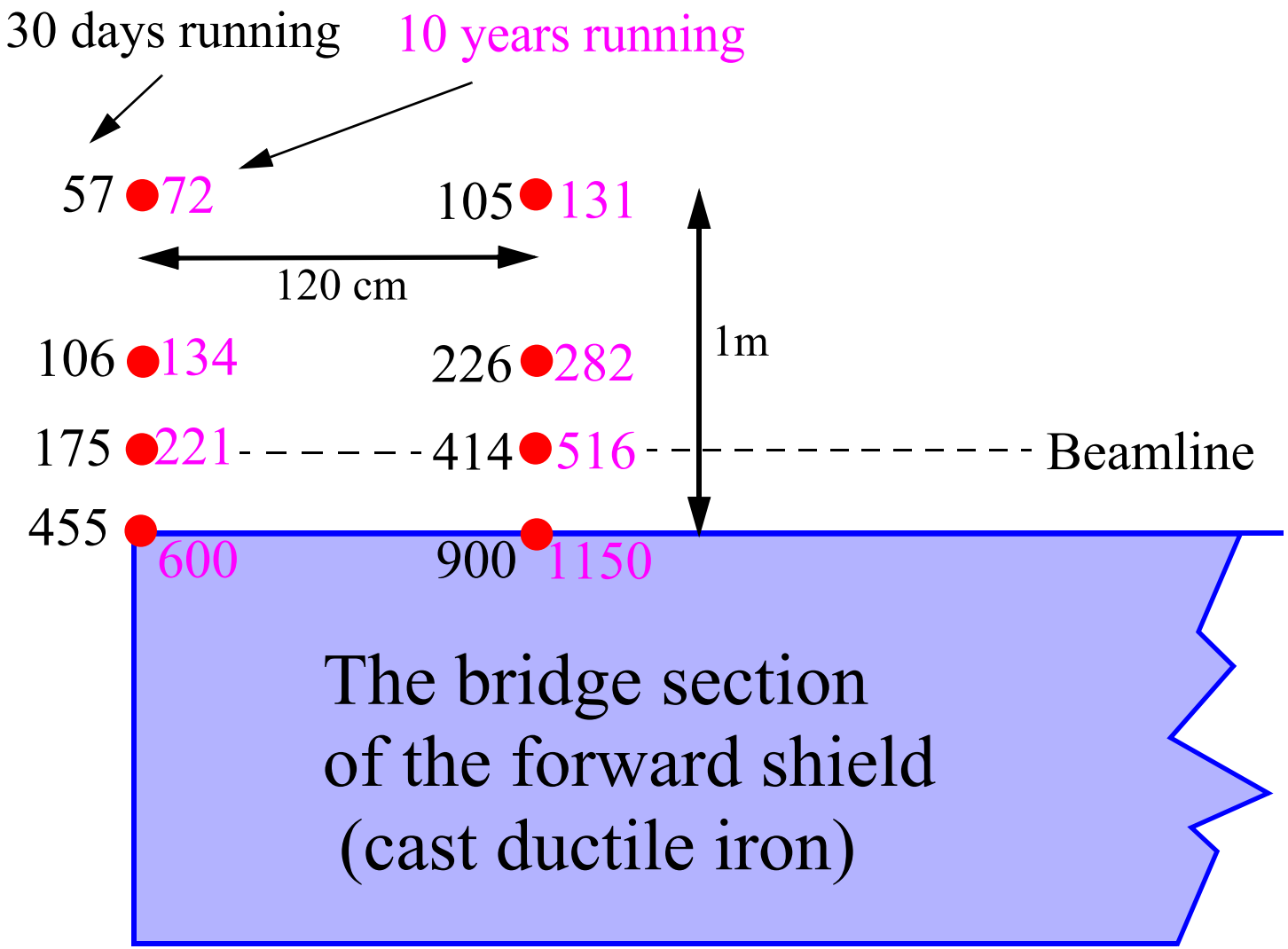
6. The rotated HF truck is installed.



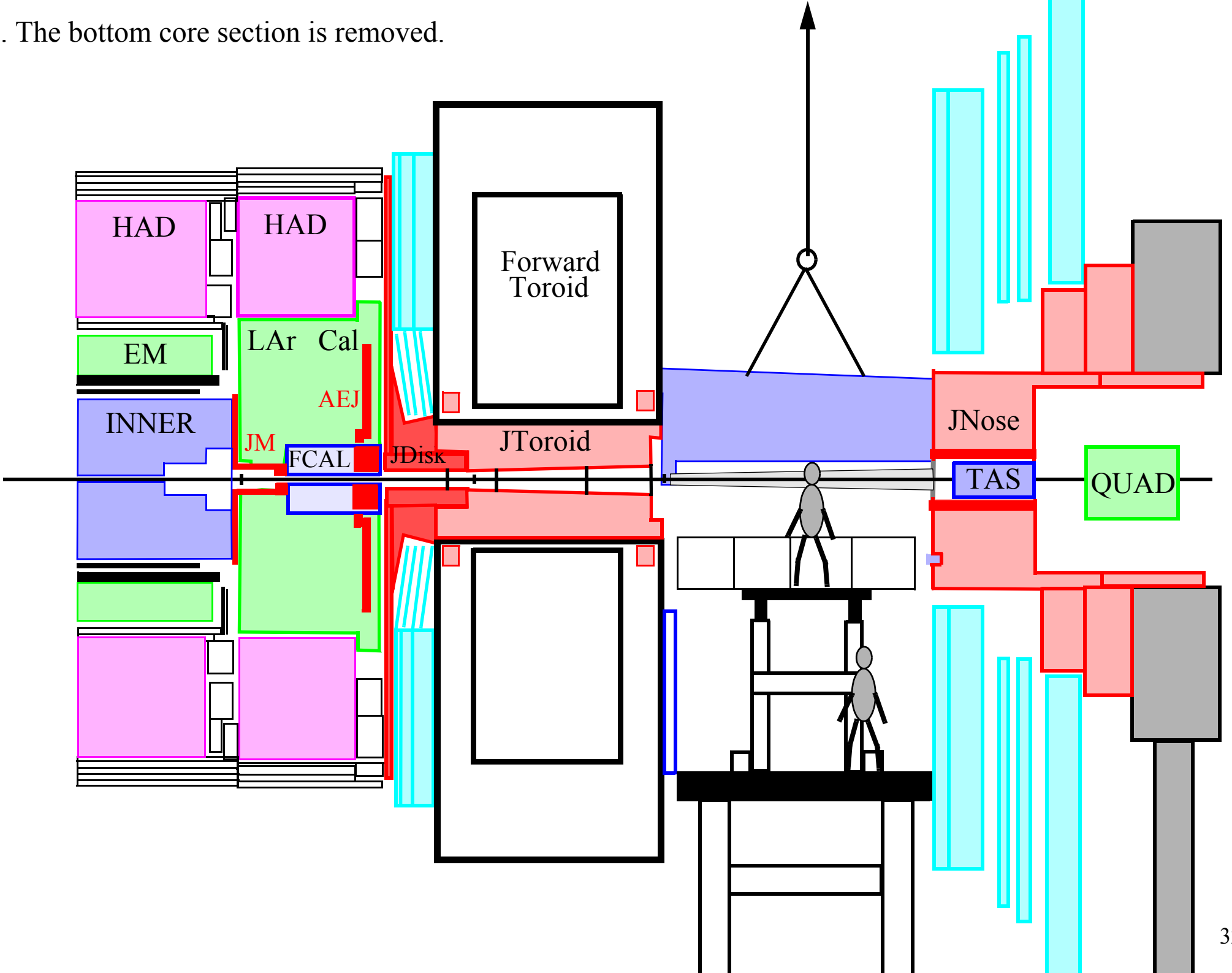
7. The bottom core section is removed.



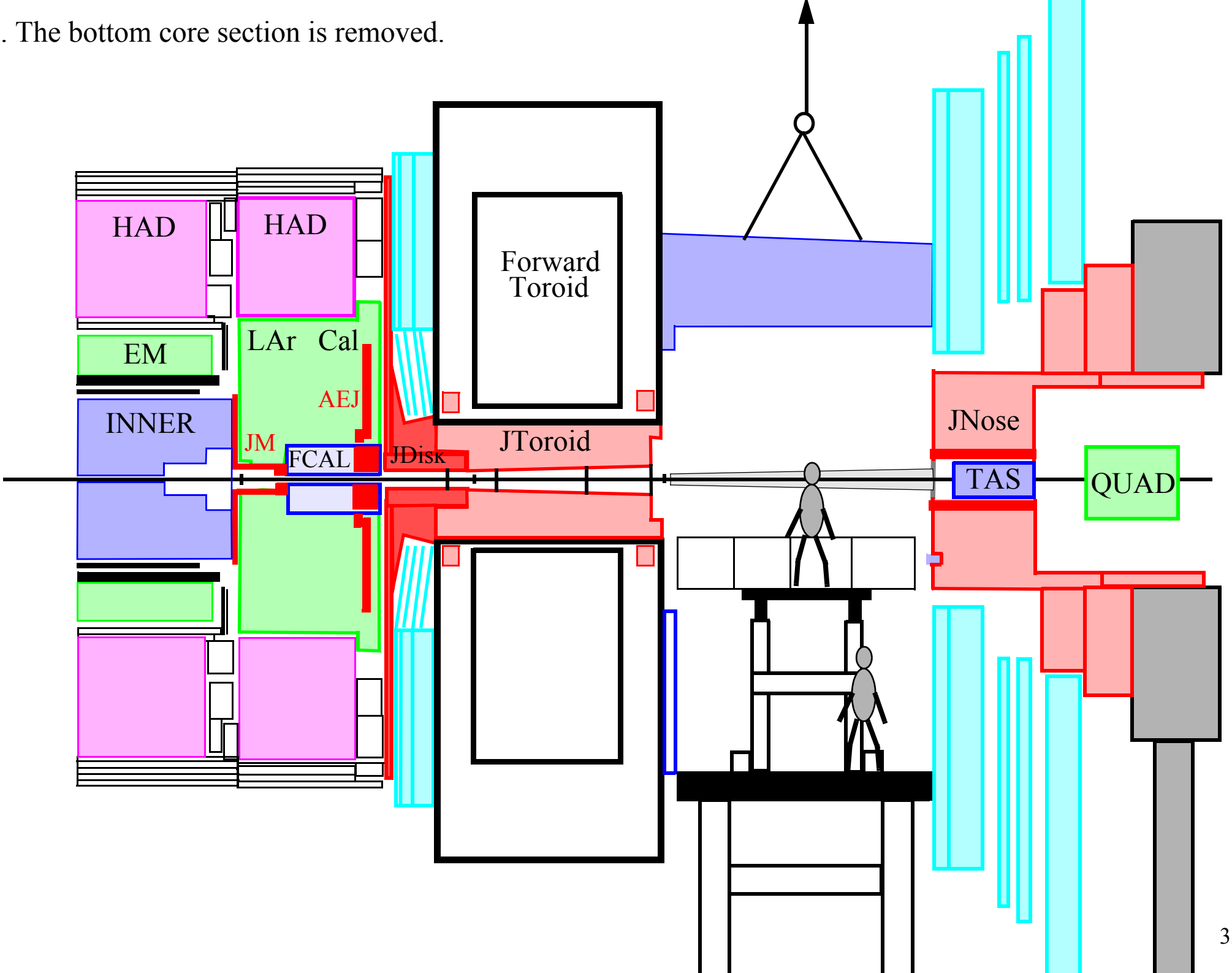
Dose rates in μSv/h after 1 day of cooling



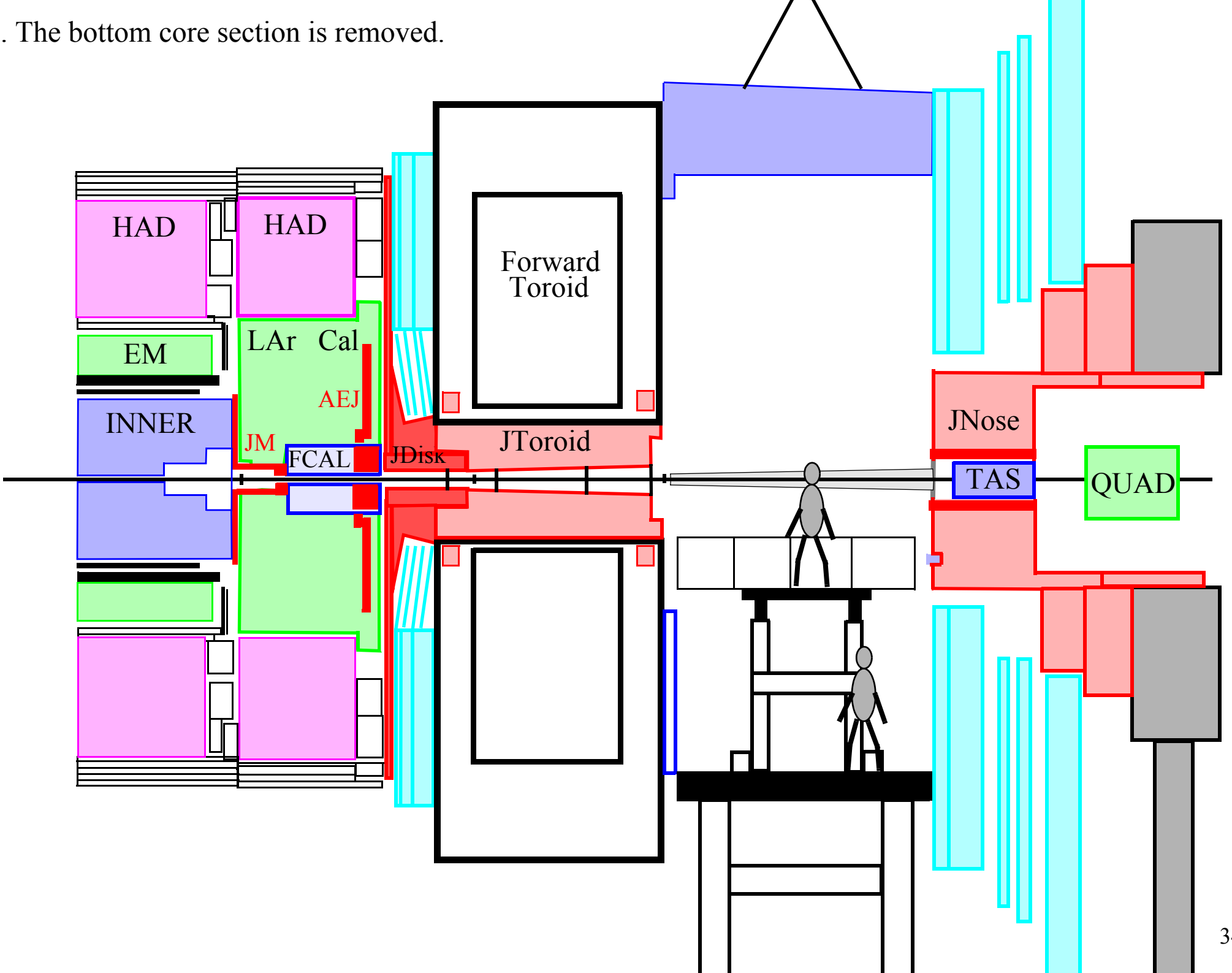
7. The bottom core section is removed.



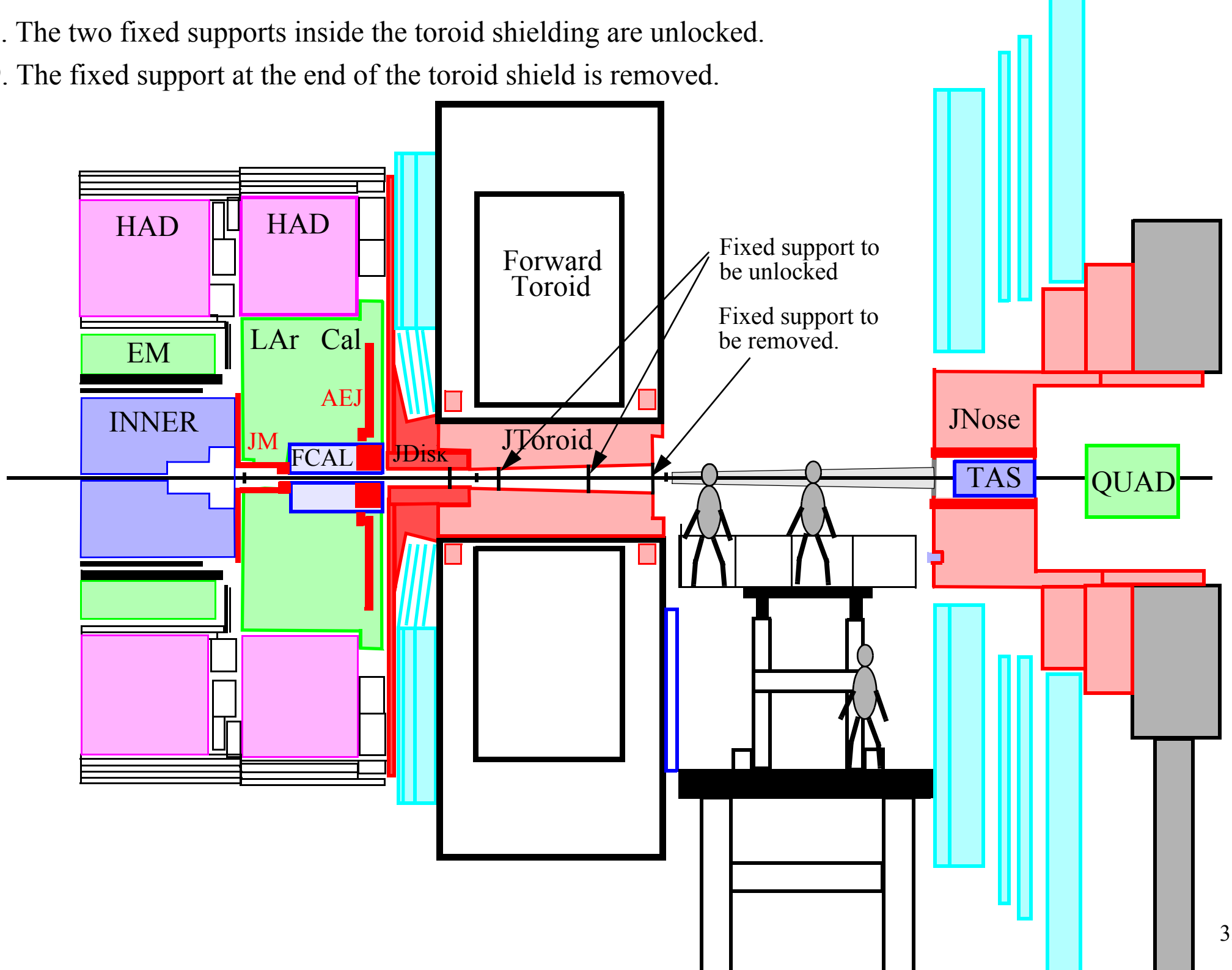
7. The bottom core section is removed.

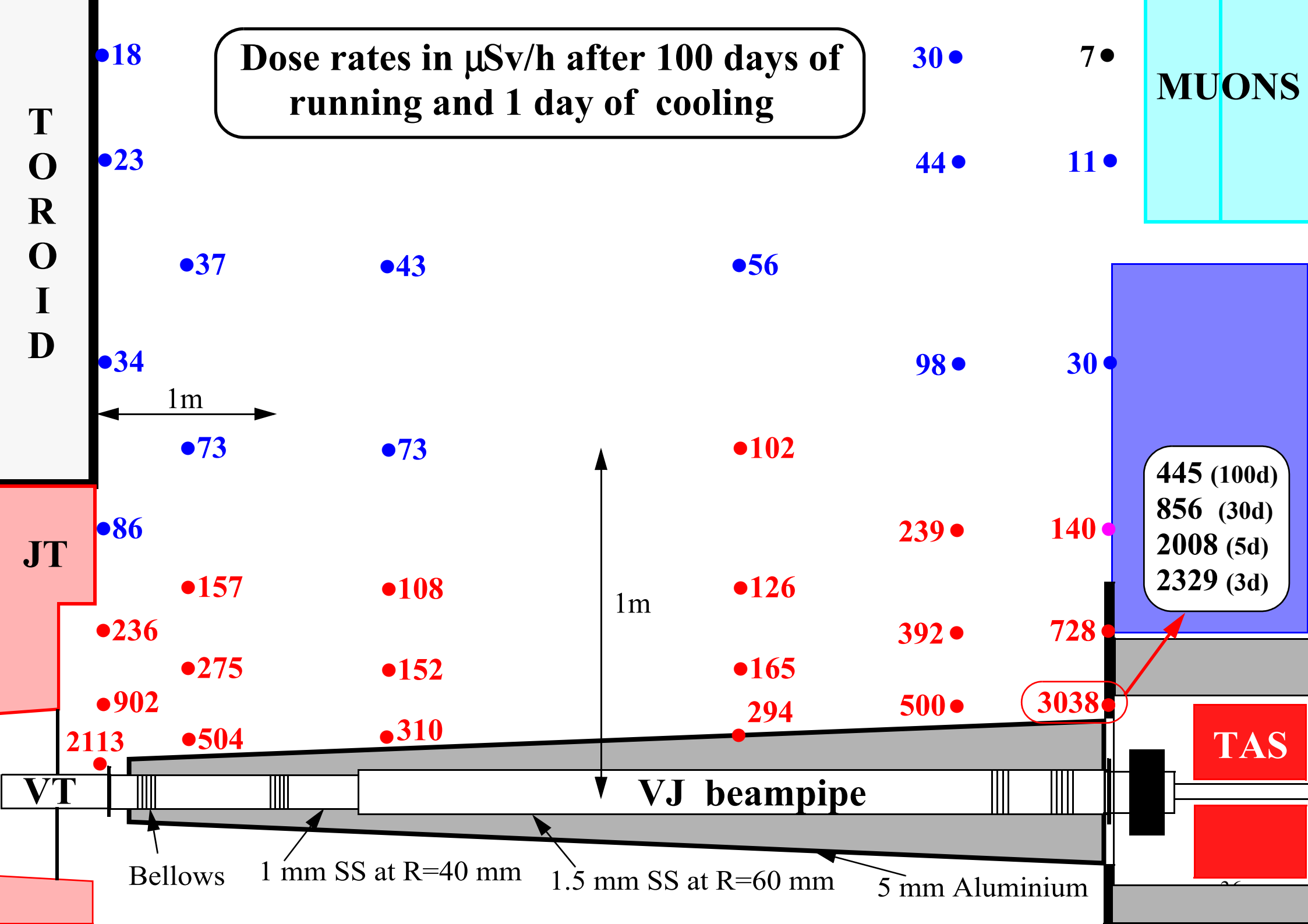


7. The bottom core section is removed.

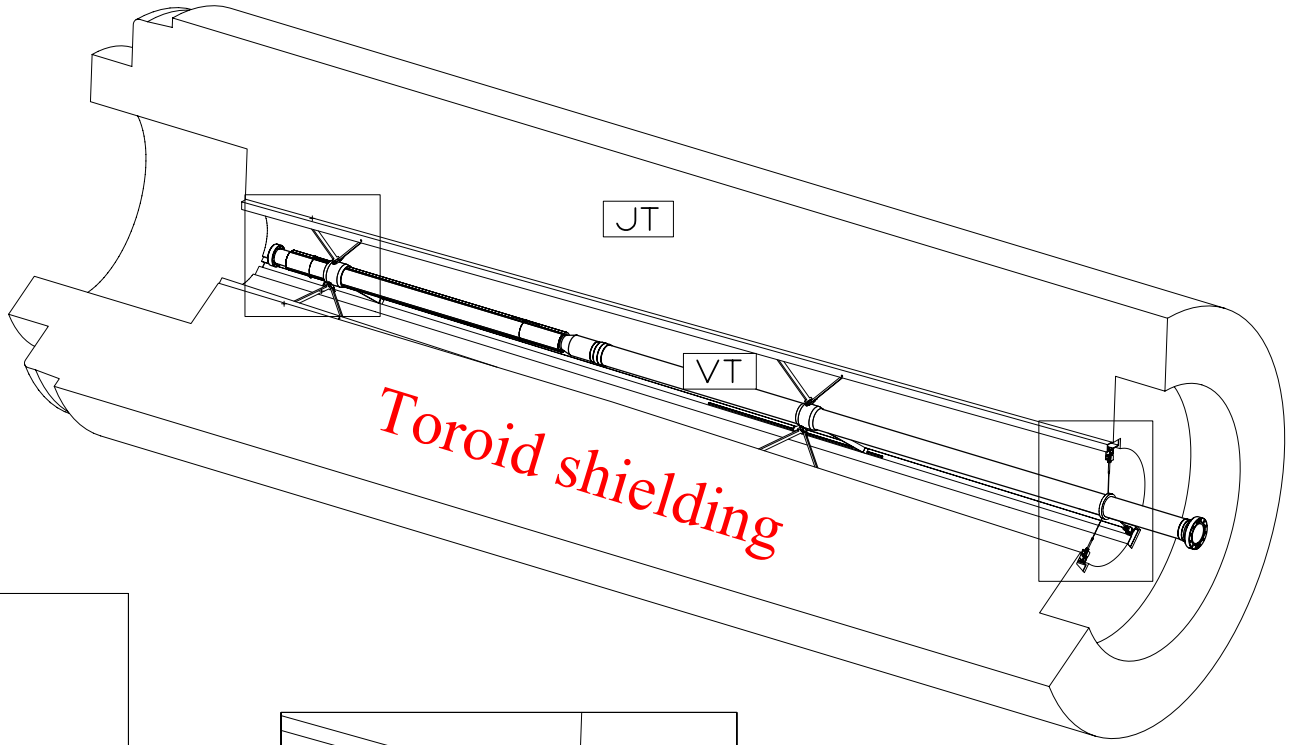


8. The two fixed supports inside the toroid shielding are unlocked.
9. The fixed support at the end of the toroid shield is removed.

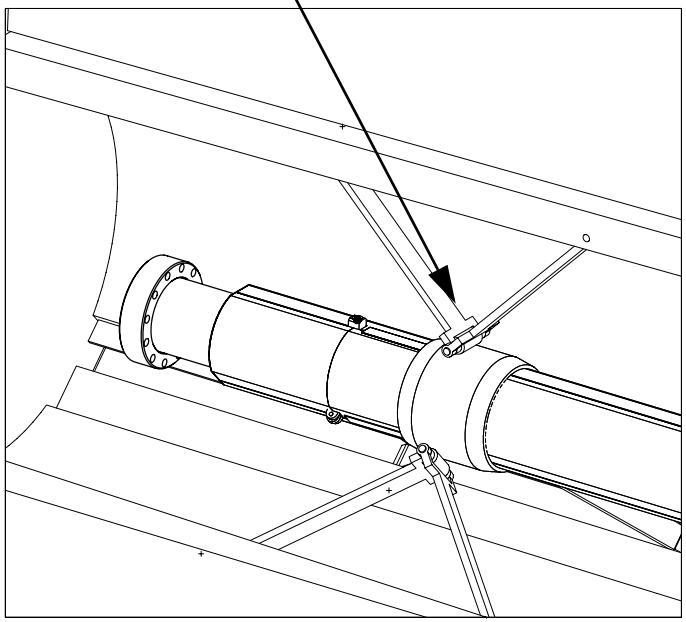


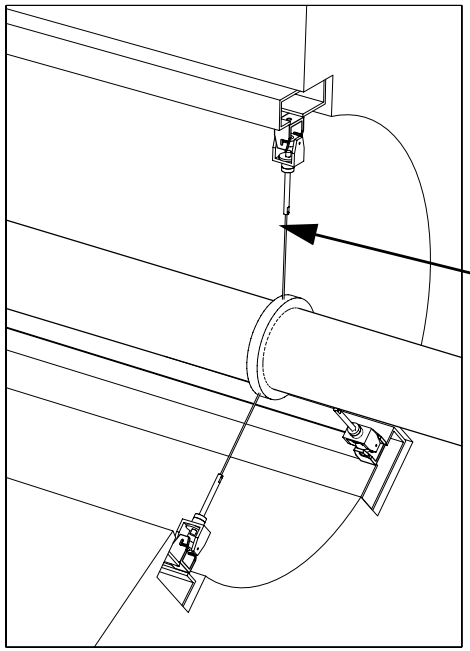

Dose rates in μSv/h after 100 days of running and 1 day of cooling
TOROID
MUONS
JT
VT
VJ beampipe
TAS
18
23
37
43
56
30
7
44
11
34
98
30
73
73
102
86
239
140
157
108
126
236
392
728
275
152
165
902
500
3038
2113
504
310
294
1m
1m
445 (100d)
856 (30d)
2008 (5d)
2329 (3d)
Bellows
1 mm SS at R=40 mm
1.5 mm SS at R=60 mm
5 mm Aluminium

Beampipe supports



This support has to be retracted.

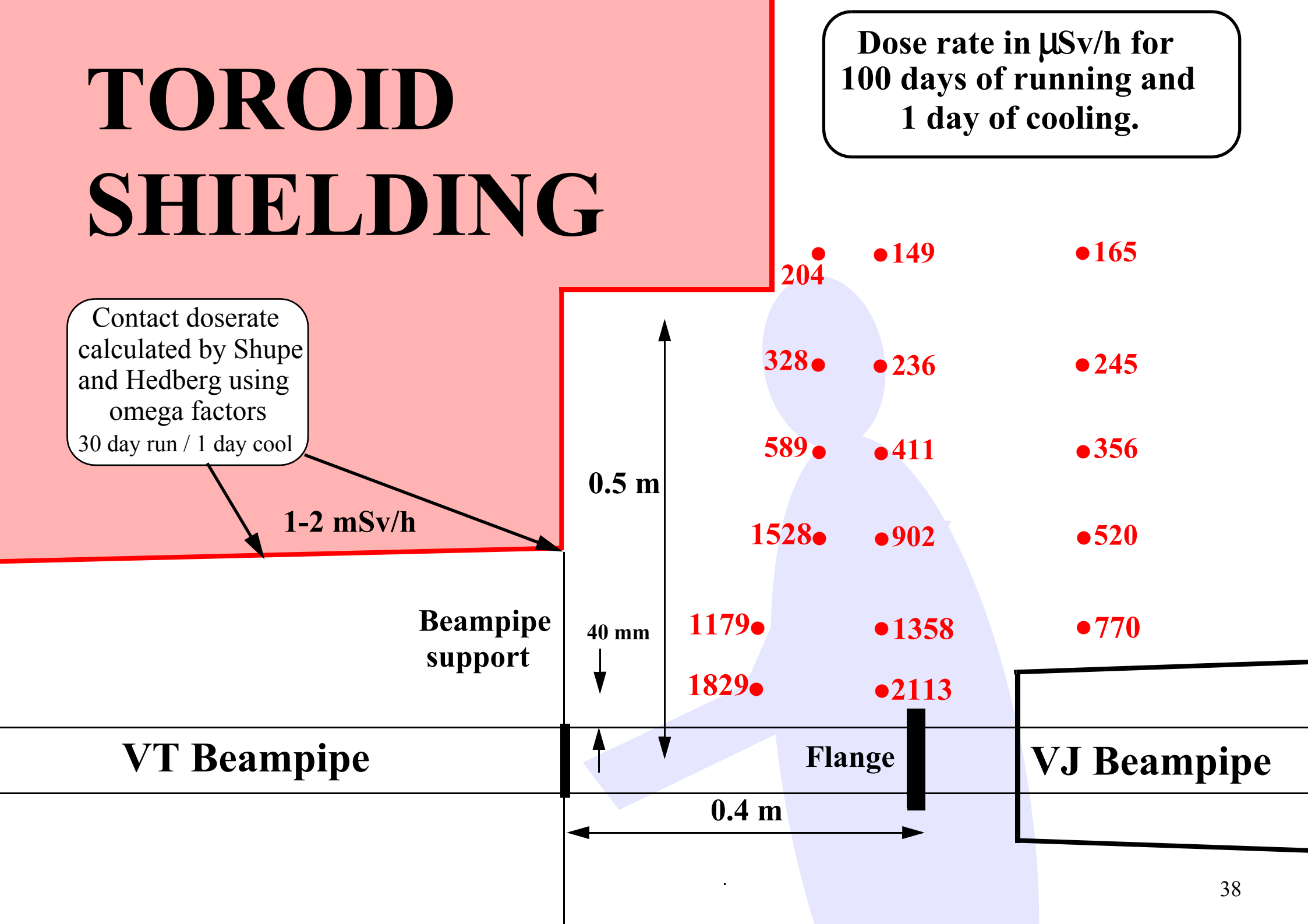




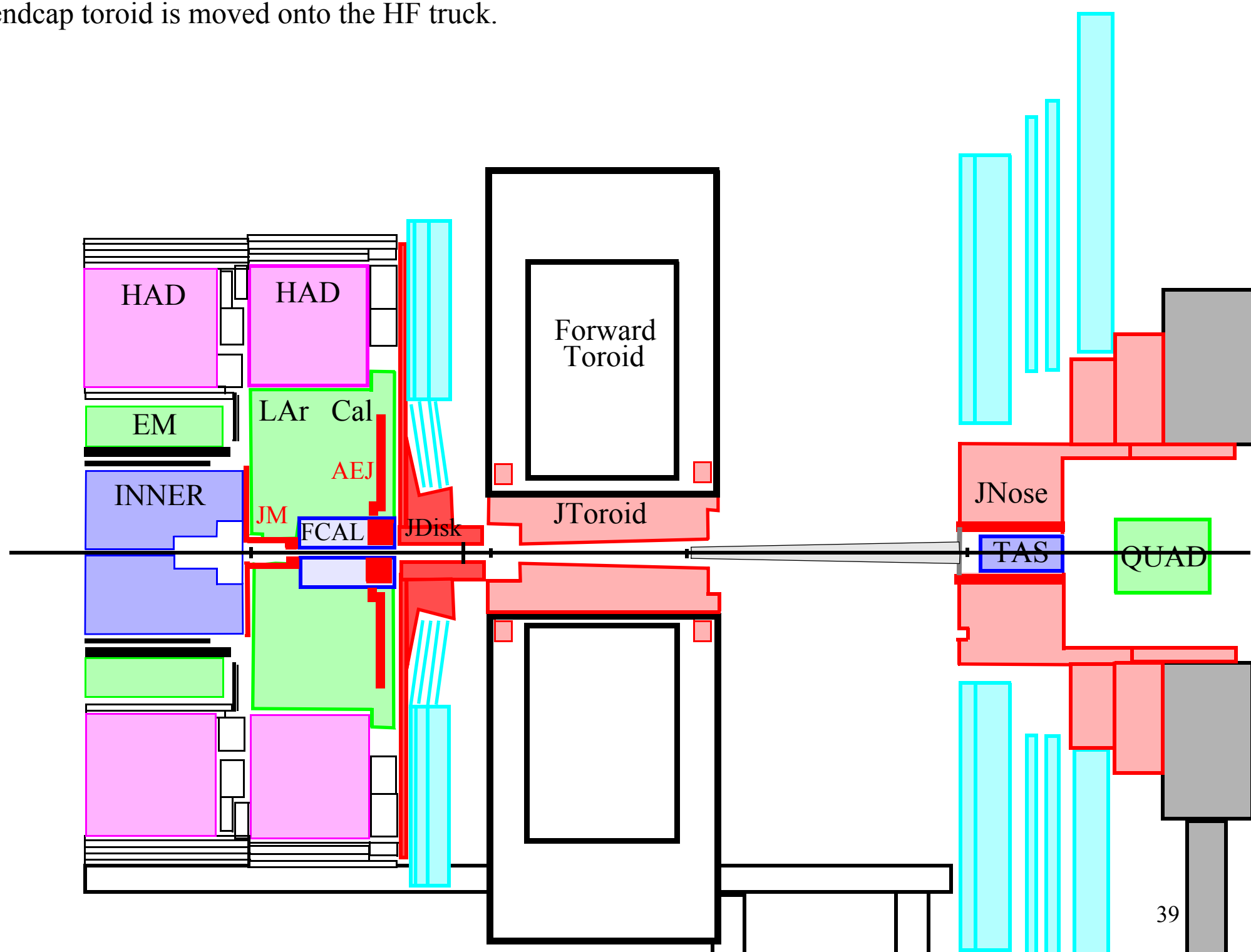
This support has to be removed and replaced by a support that rolls against the shielding.

TOROID SHIELDING

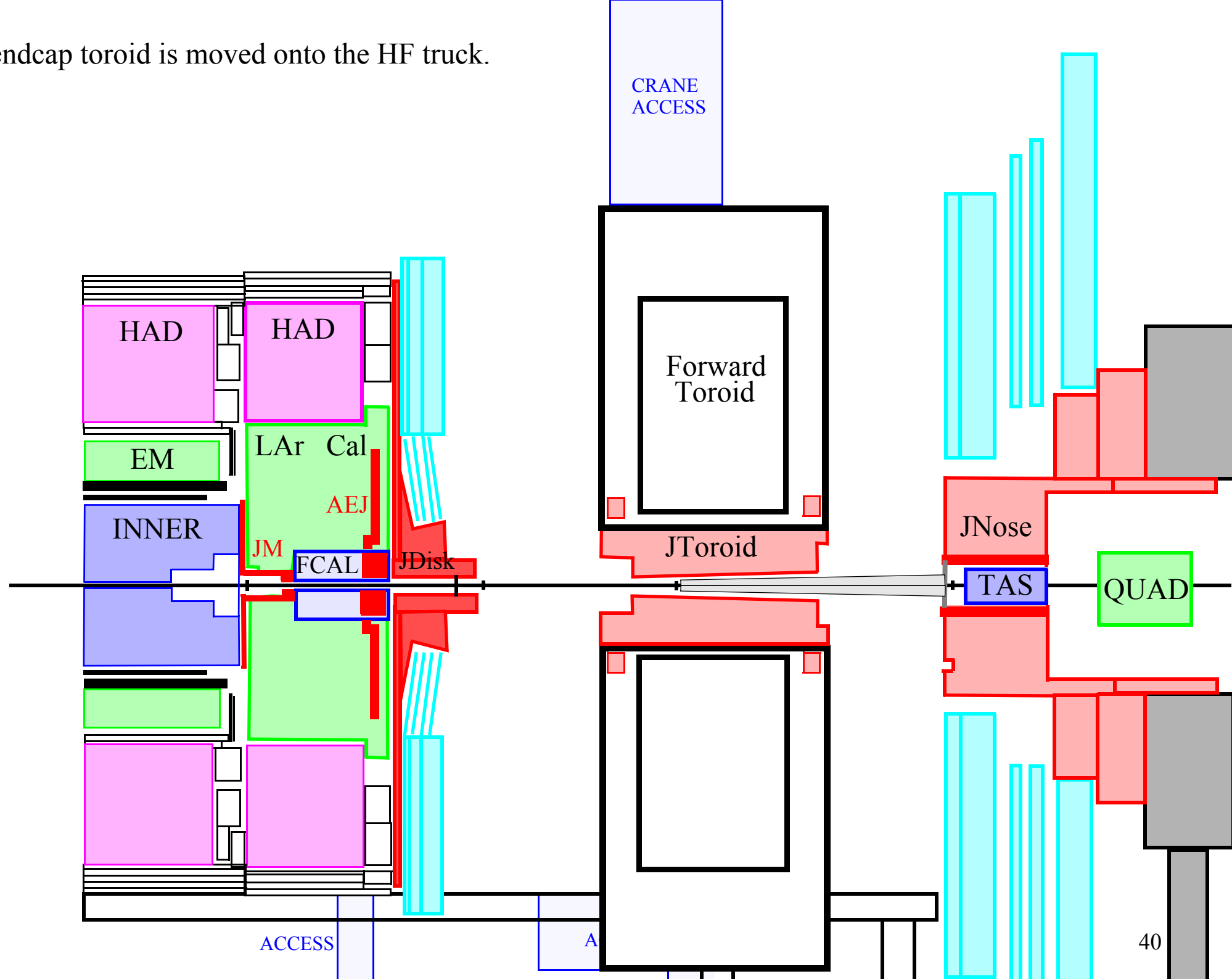
Dose rate in μSv/h for 100 days of running and 1 day of cooling.



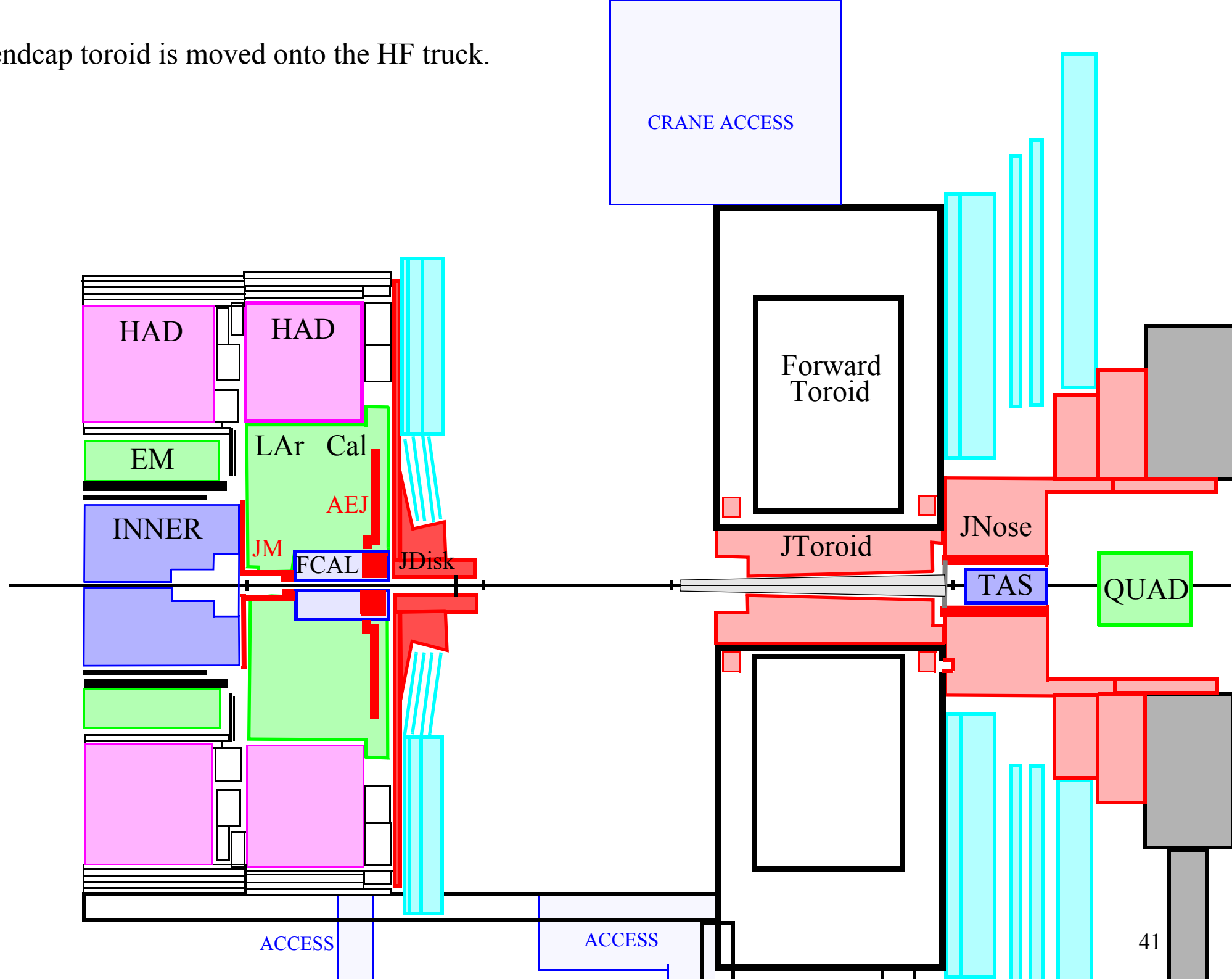
10. The endcap toroid is moved onto the HF truck.



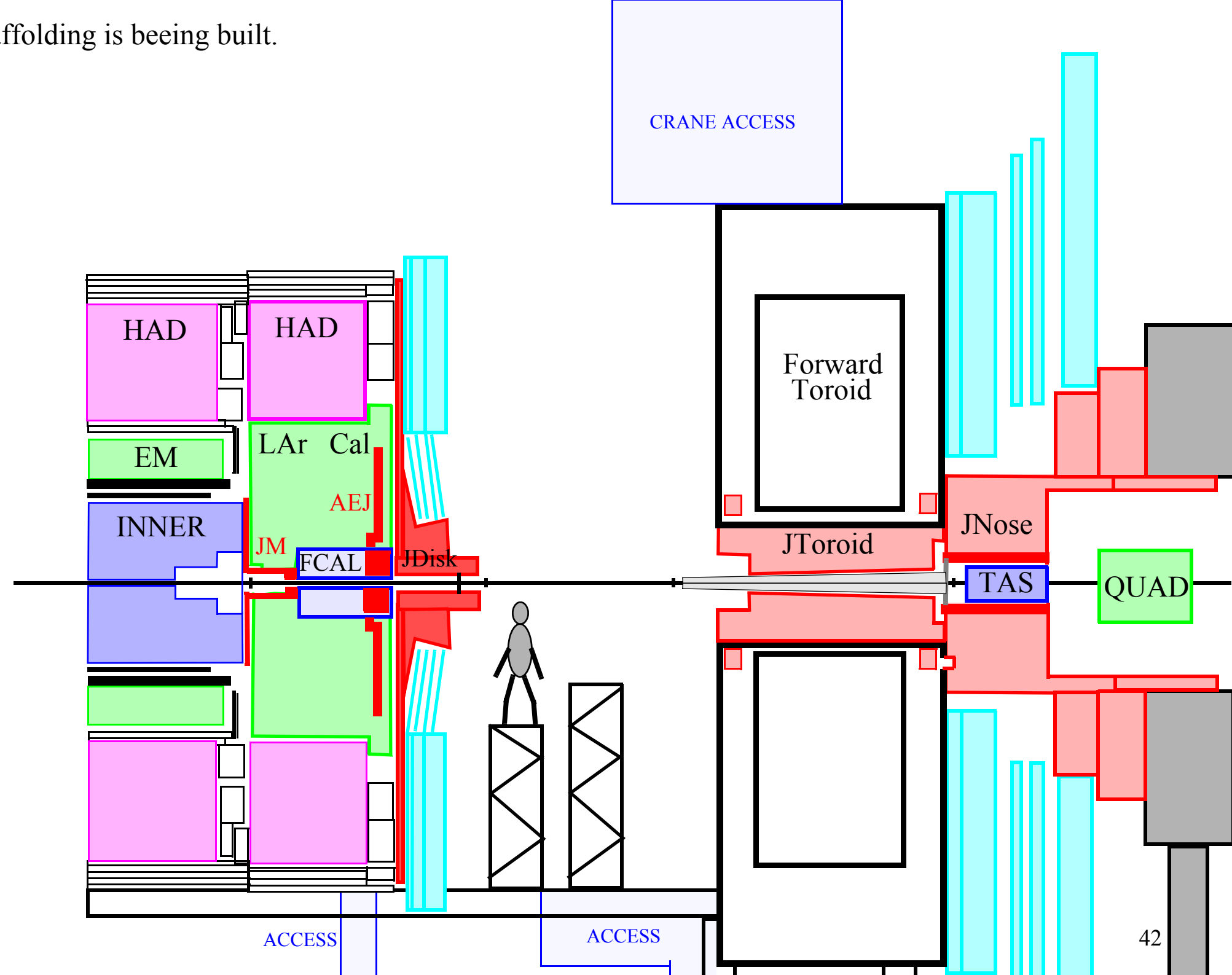
10. The endcap toroid is moved onto the HF truck.



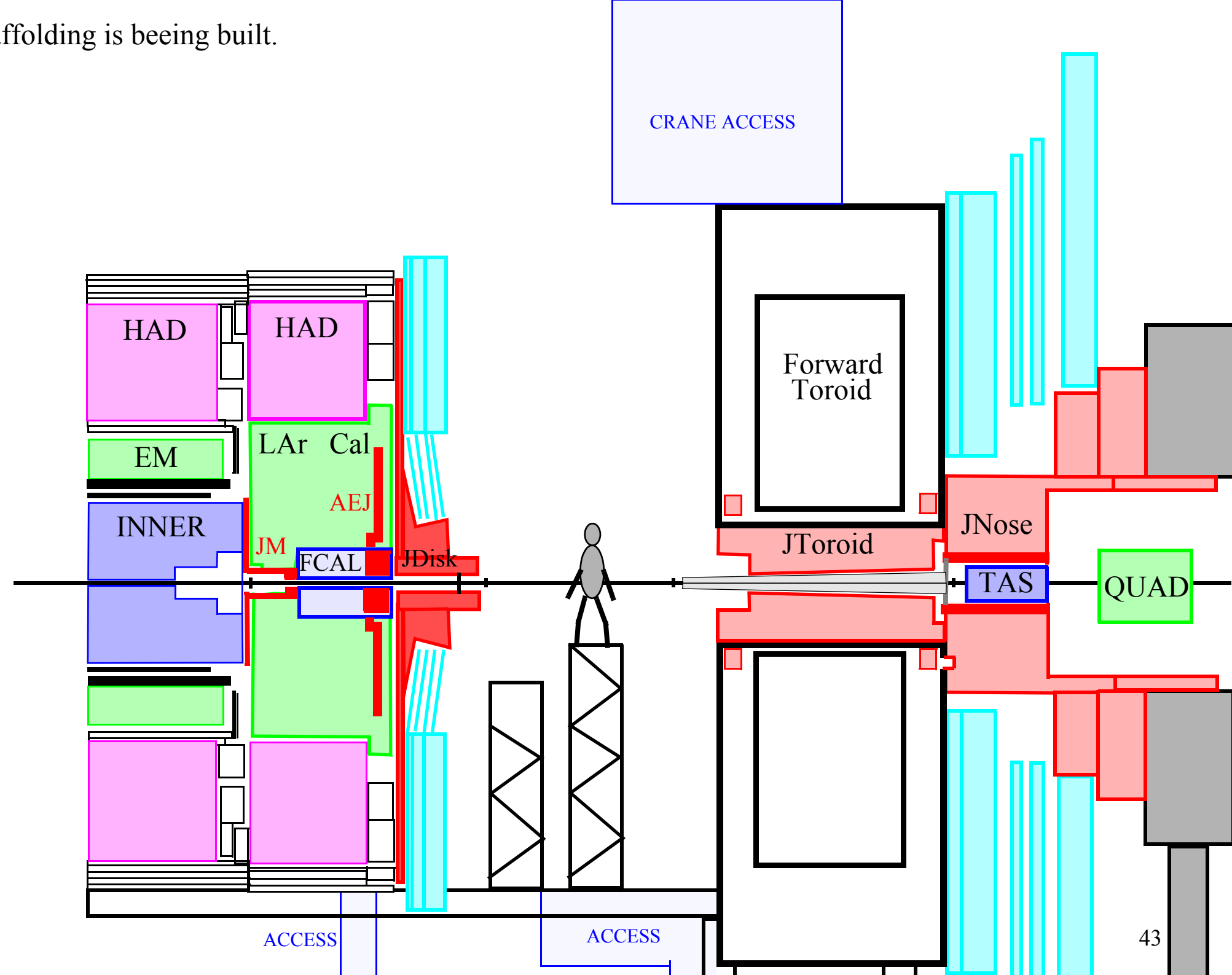
10. The endcap toroid is moved onto the HF truck.



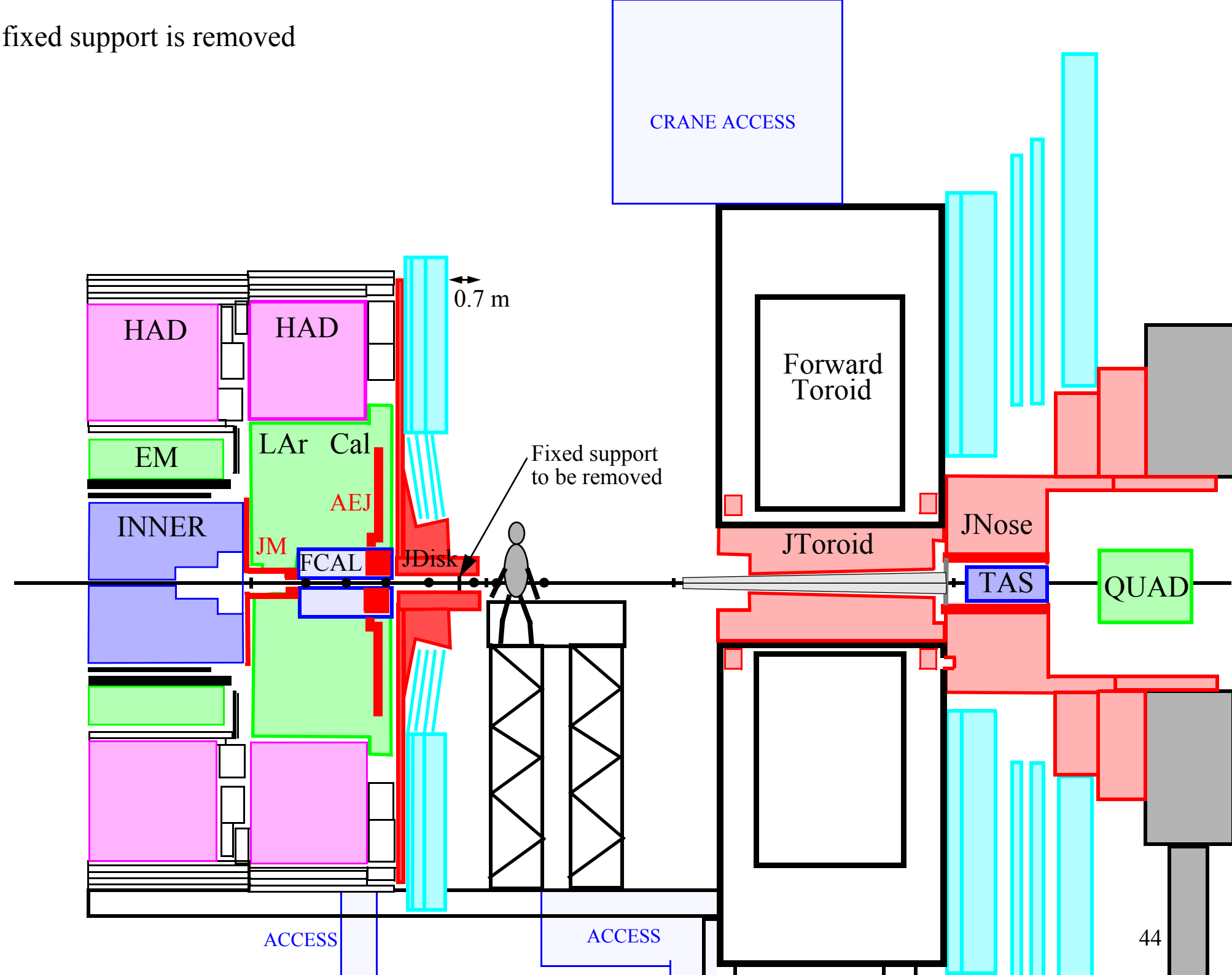
11. Scaffolding is beeing built.



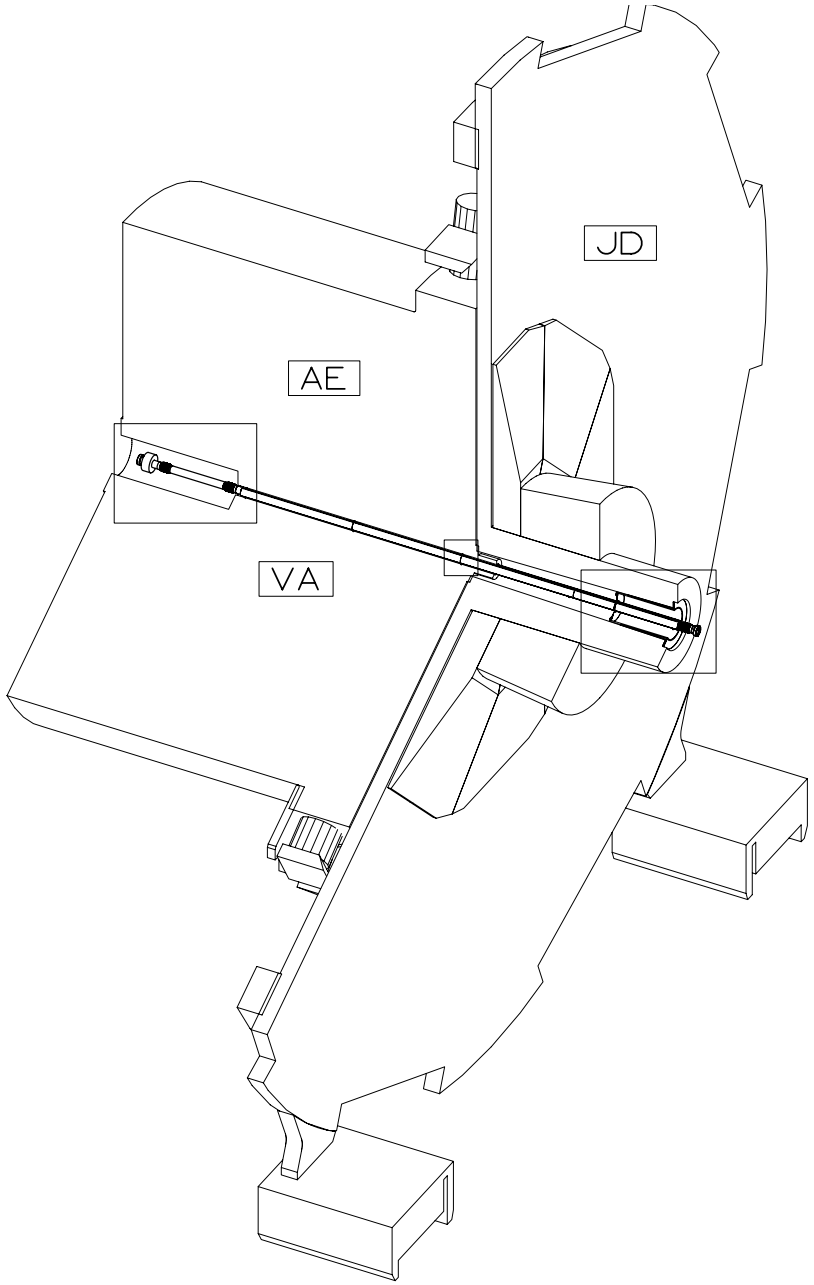
11. Scaffolding is beeing built.

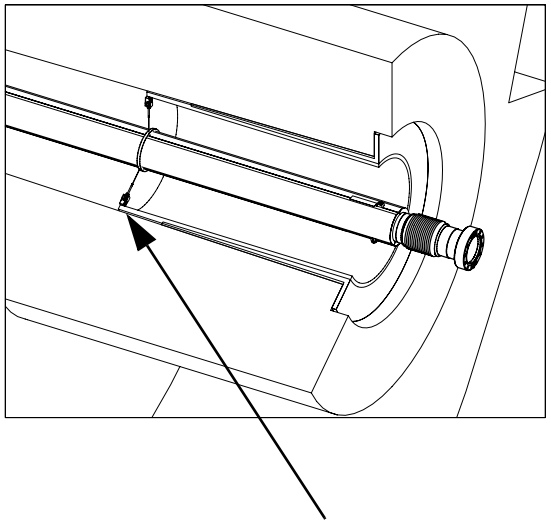


12. The fixed support is removed

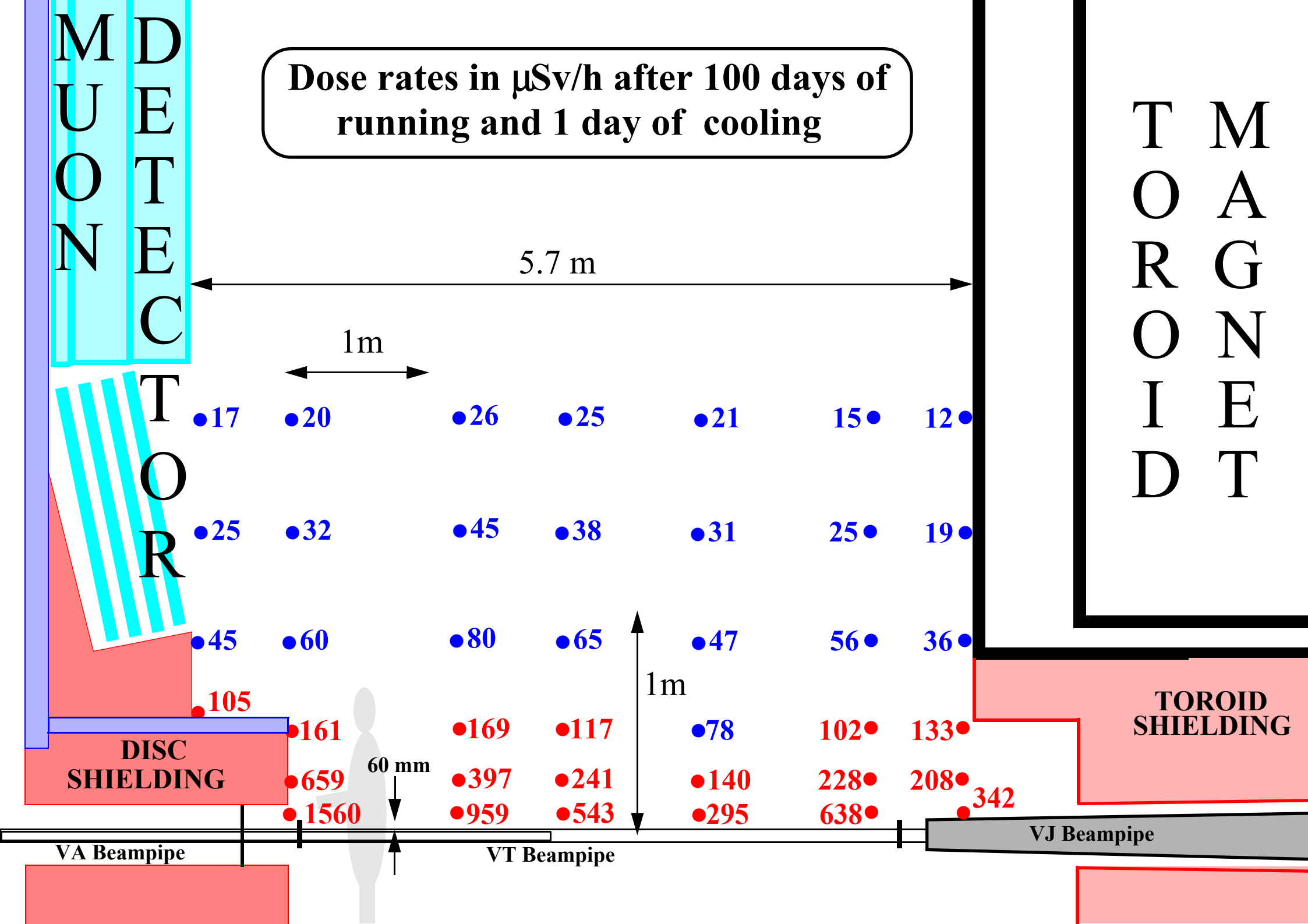


Beampipe supports

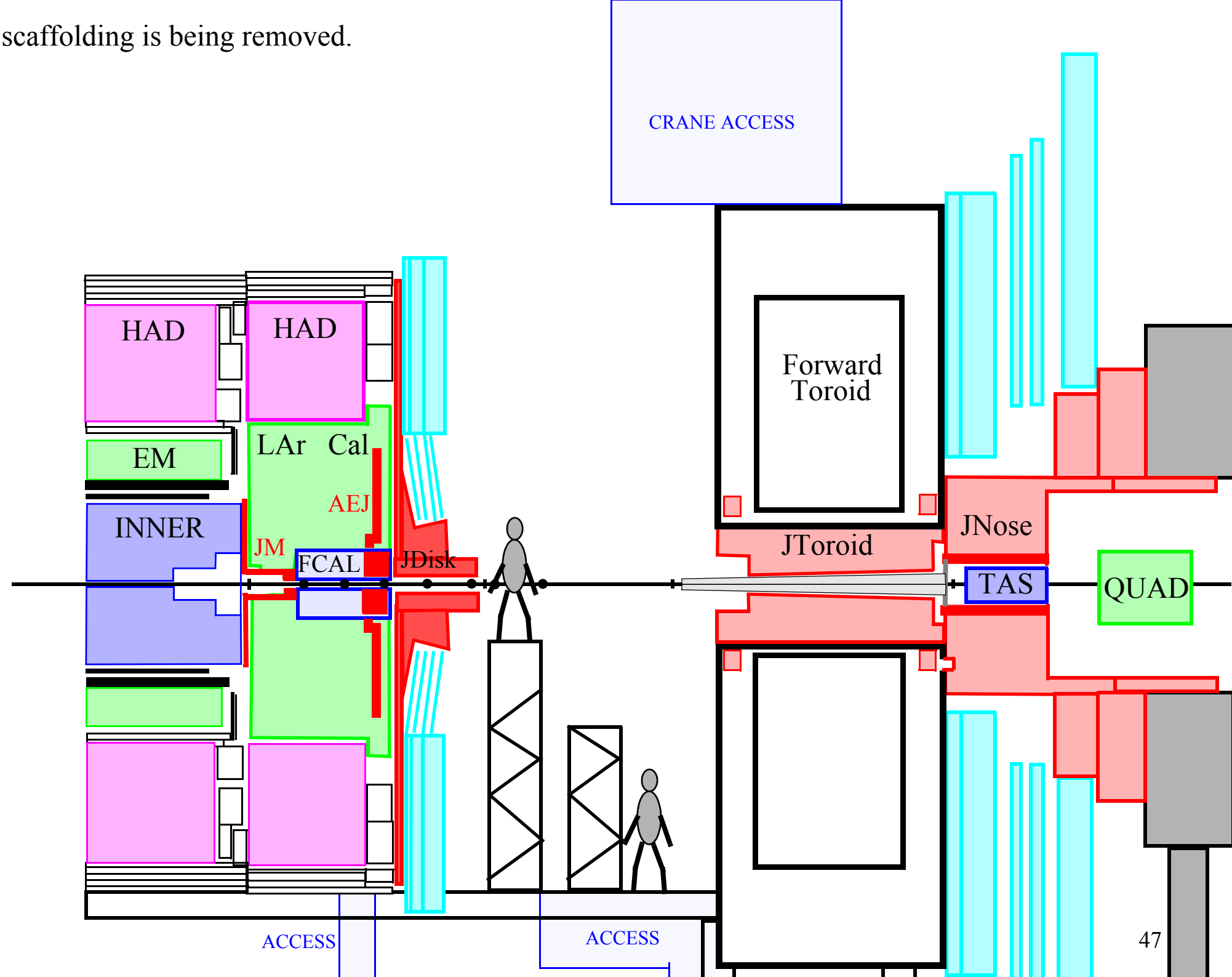




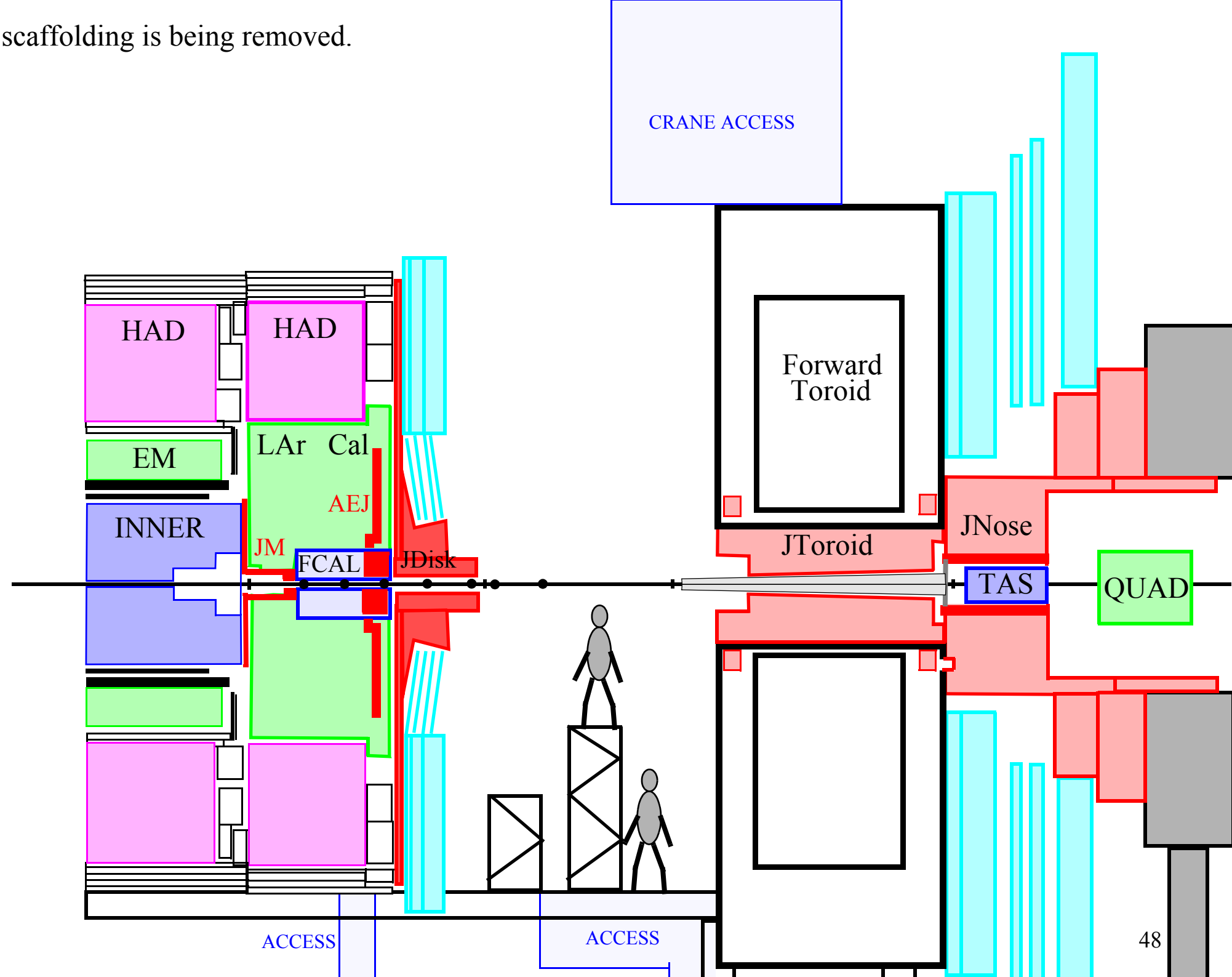
This support has to be removed.


Dose rates in μSv/h after 100 days of running and 1 day of cooling
MUON DETECTOR
TOROID MAGNET
5.7 m
1m
17
20
26
25
21
15
12
25
32
45
38
31
25
19
45
60
80
65
47
56
36
105
161
169
117
78
102
133
659
397
241
140
228
208
1560
959
543
295
638
342
1m
60 mm
DISC SHIELDING
TOROID SHIELDING
VA Beampipe
VT Beampipe
VJ Beampipe

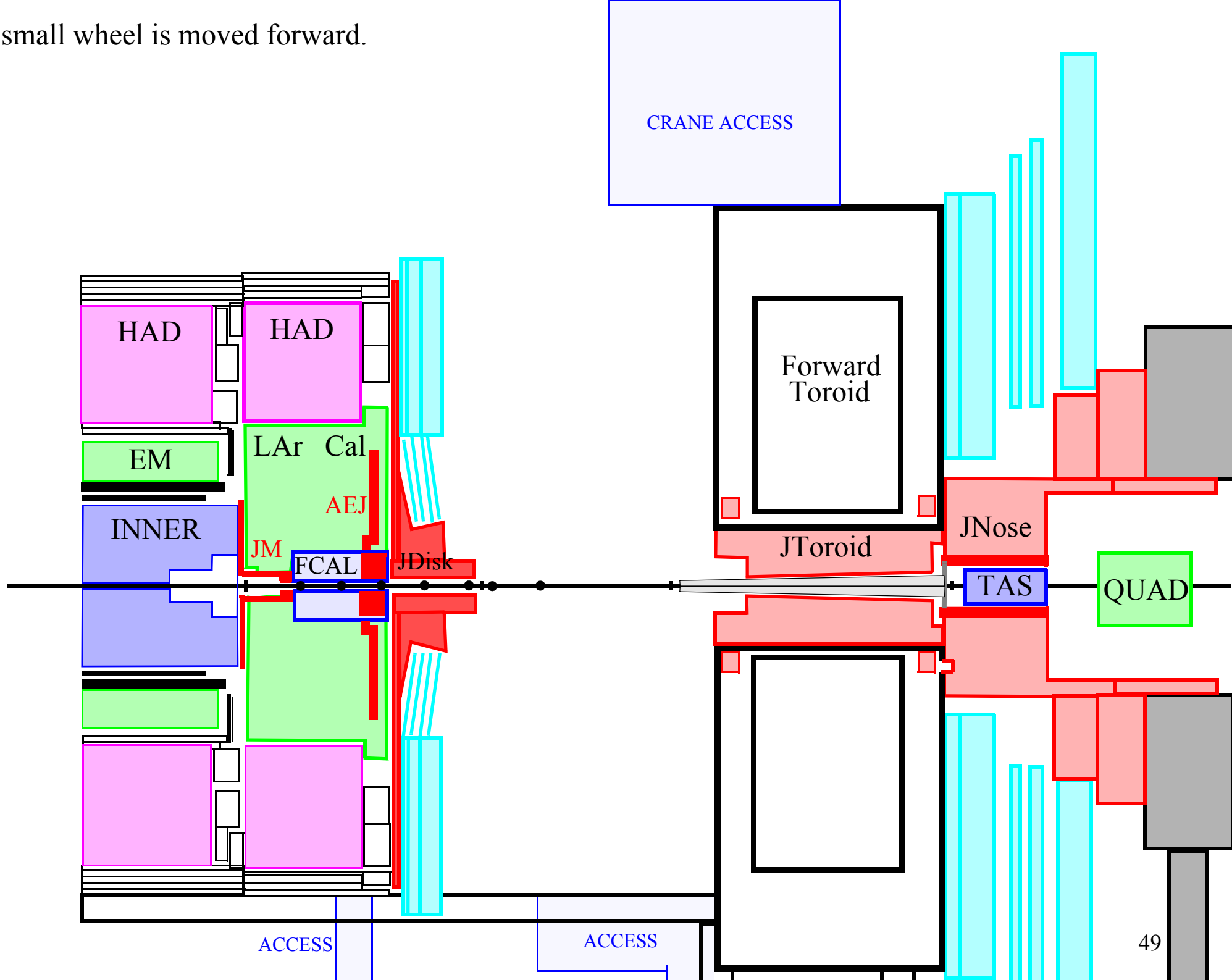
13. The scaffolding is being removed.



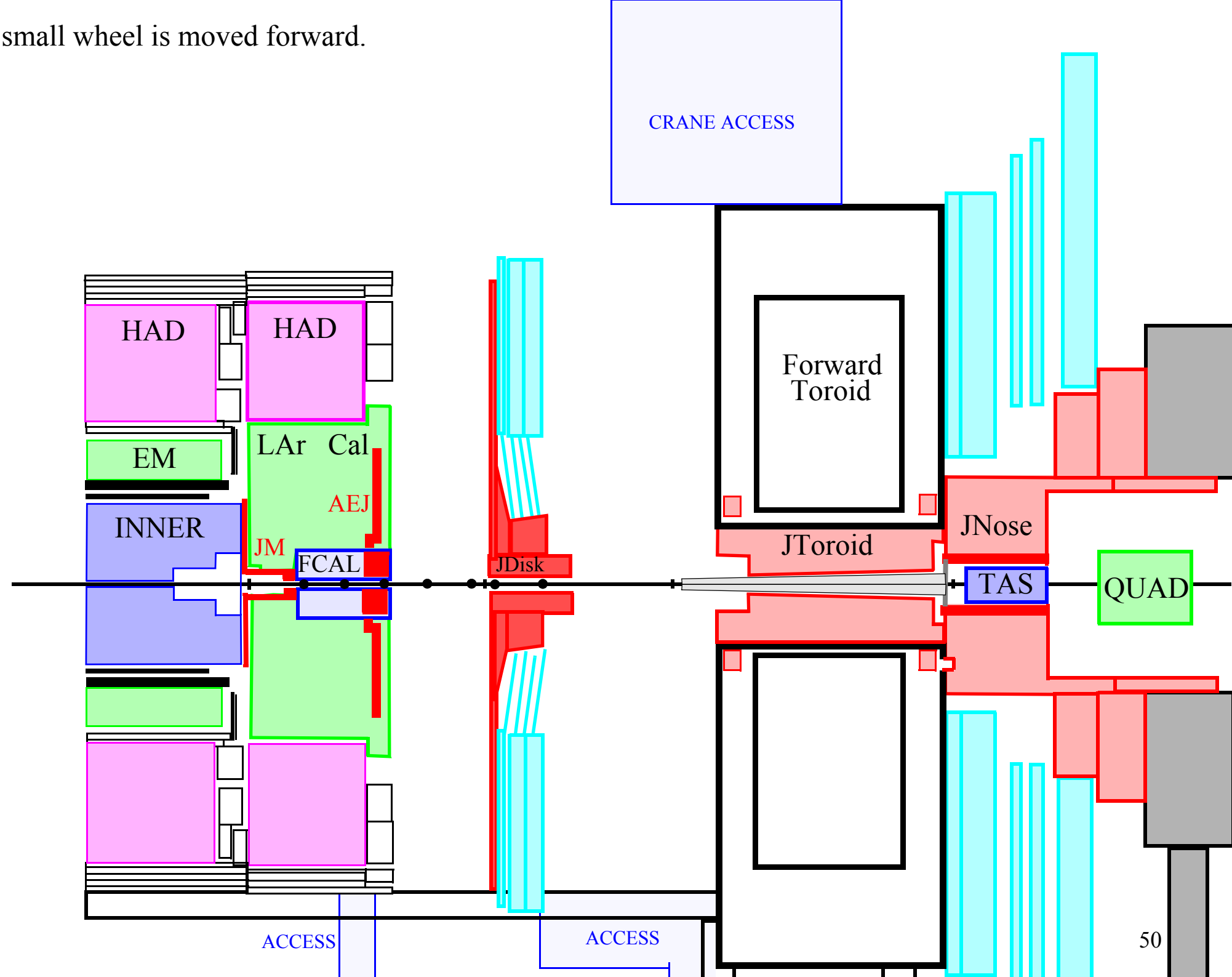
13. The scaffolding is being removed.



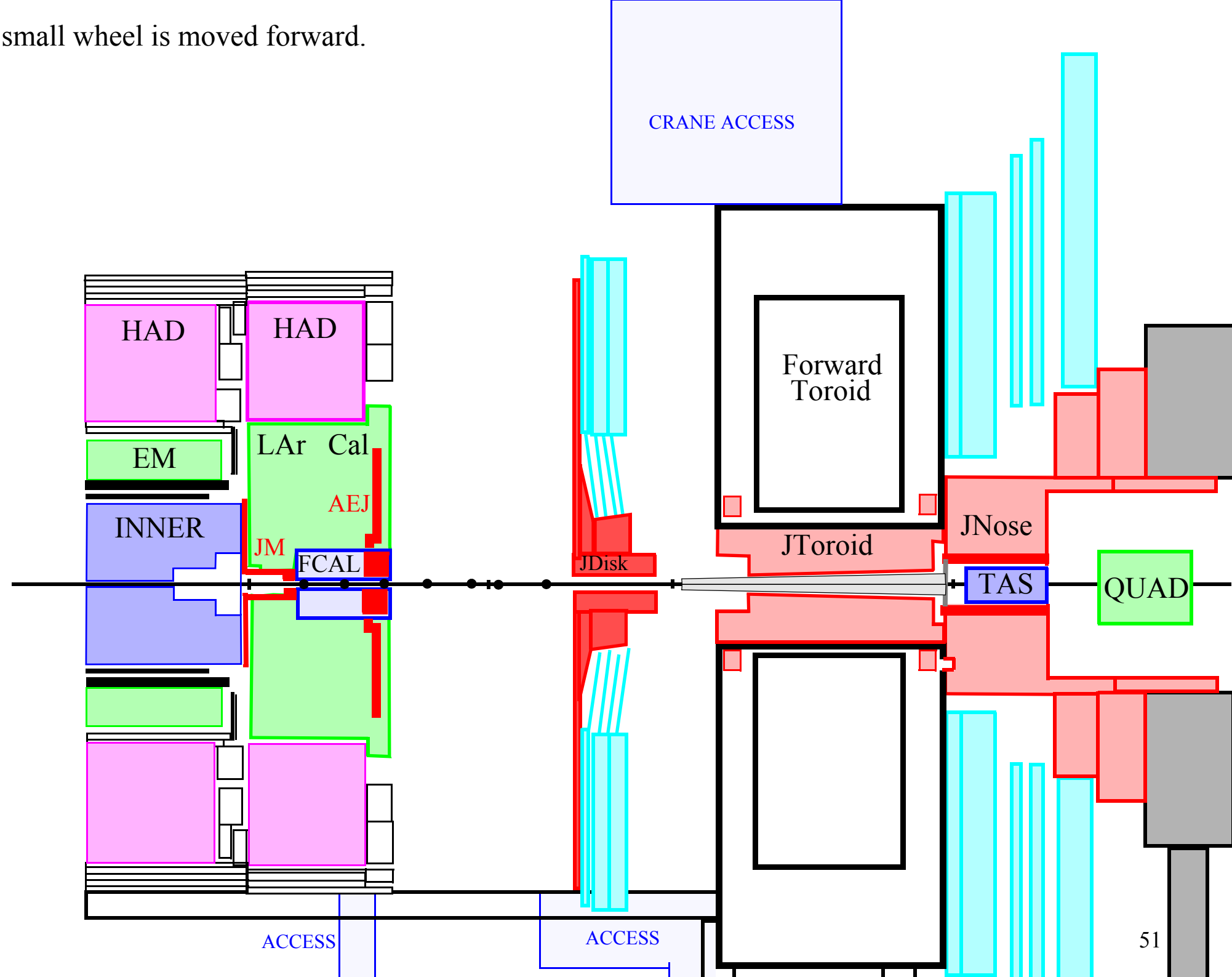
14. The small wheel is moved forward.



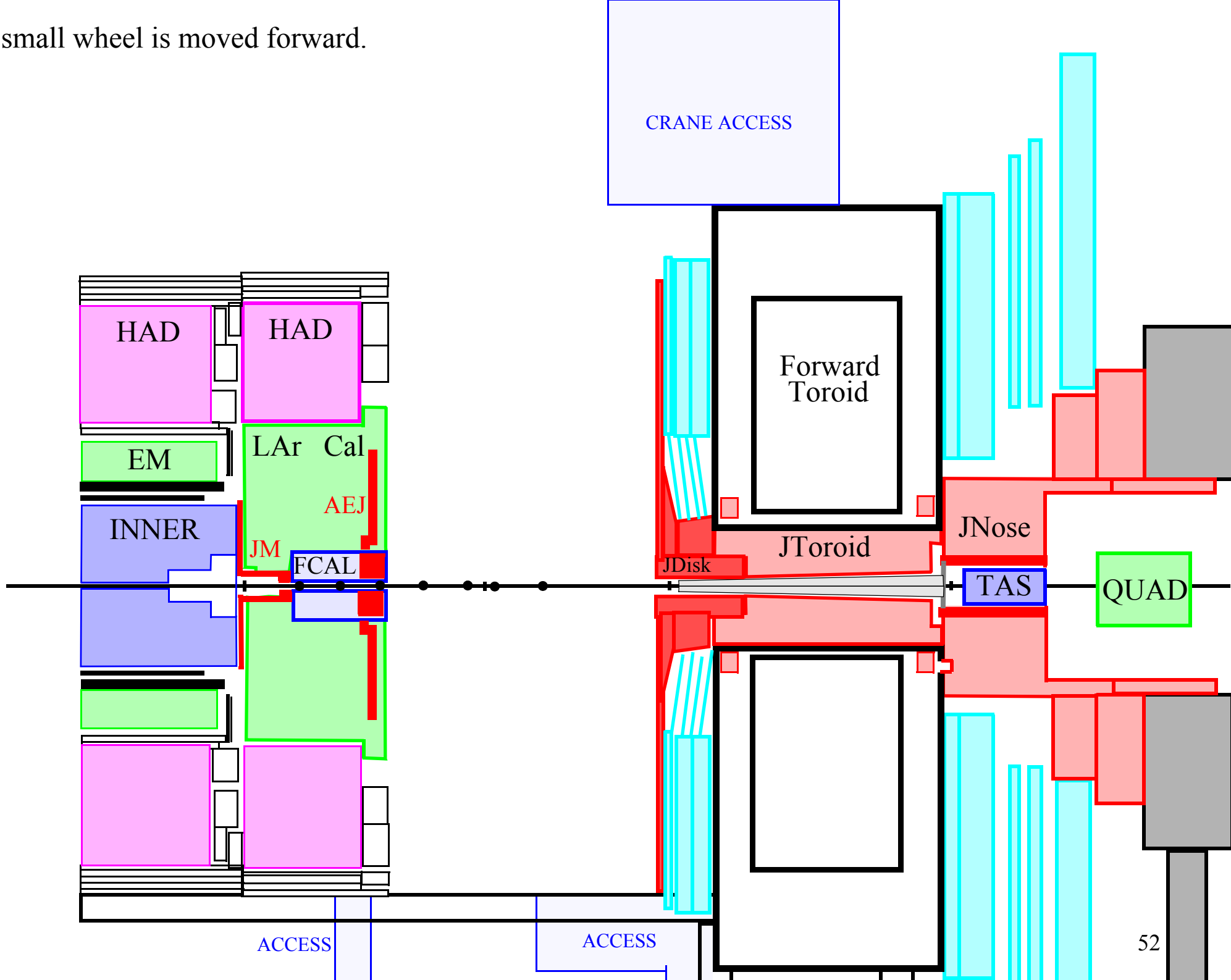
14. The small wheel is moved forward.



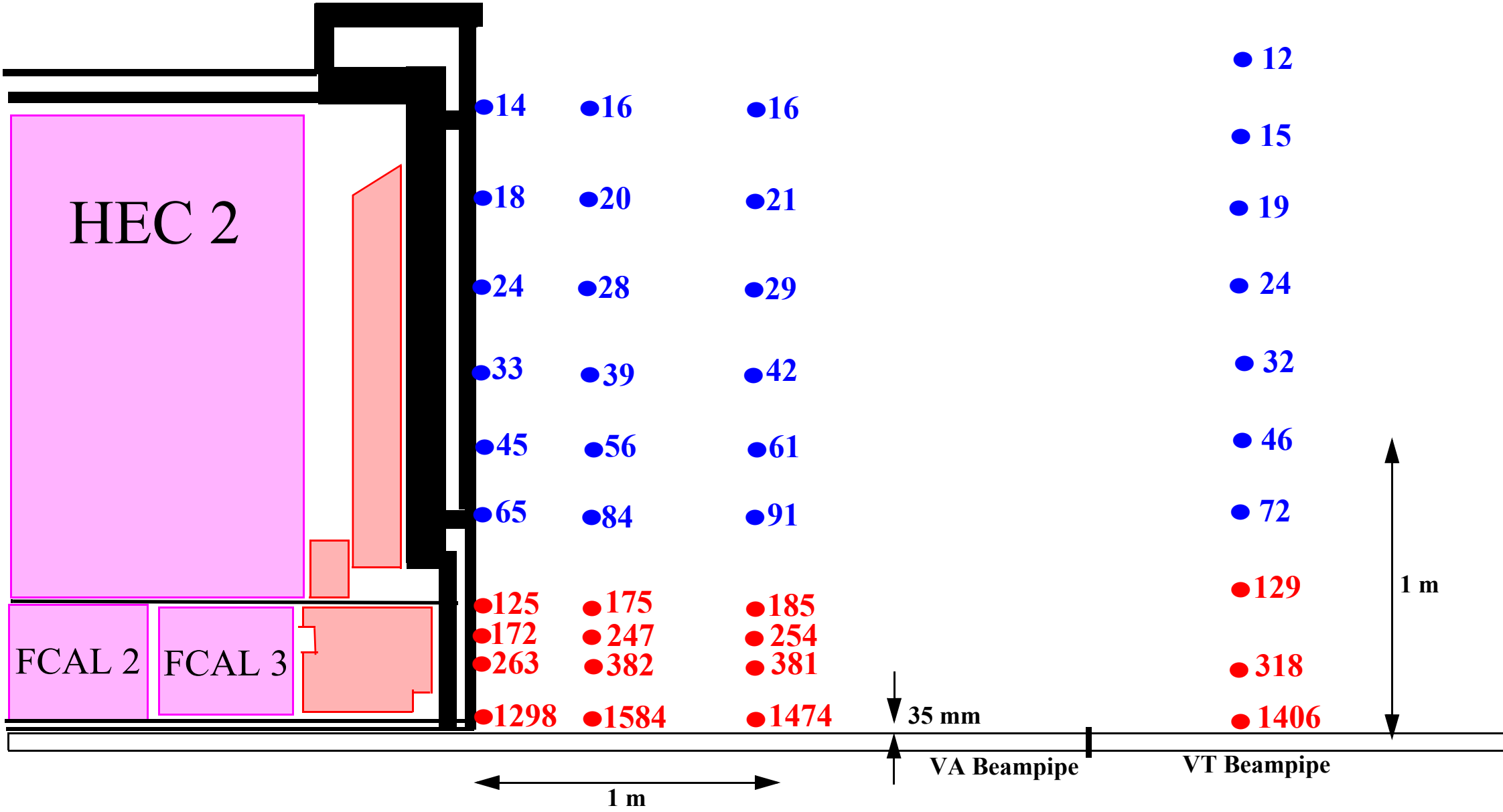
14. The small wheel is moved forward.



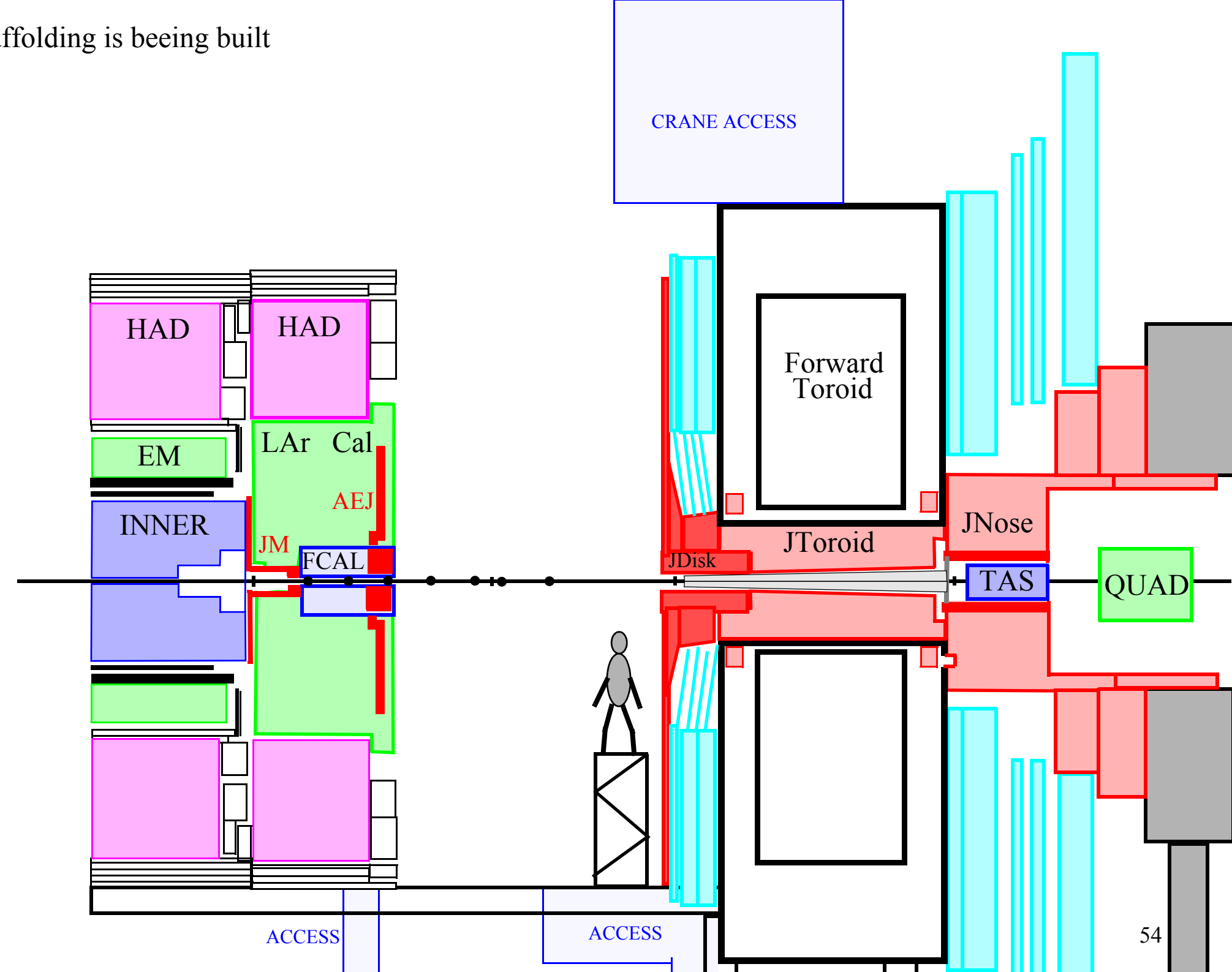
14. The small wheel is moved forward.



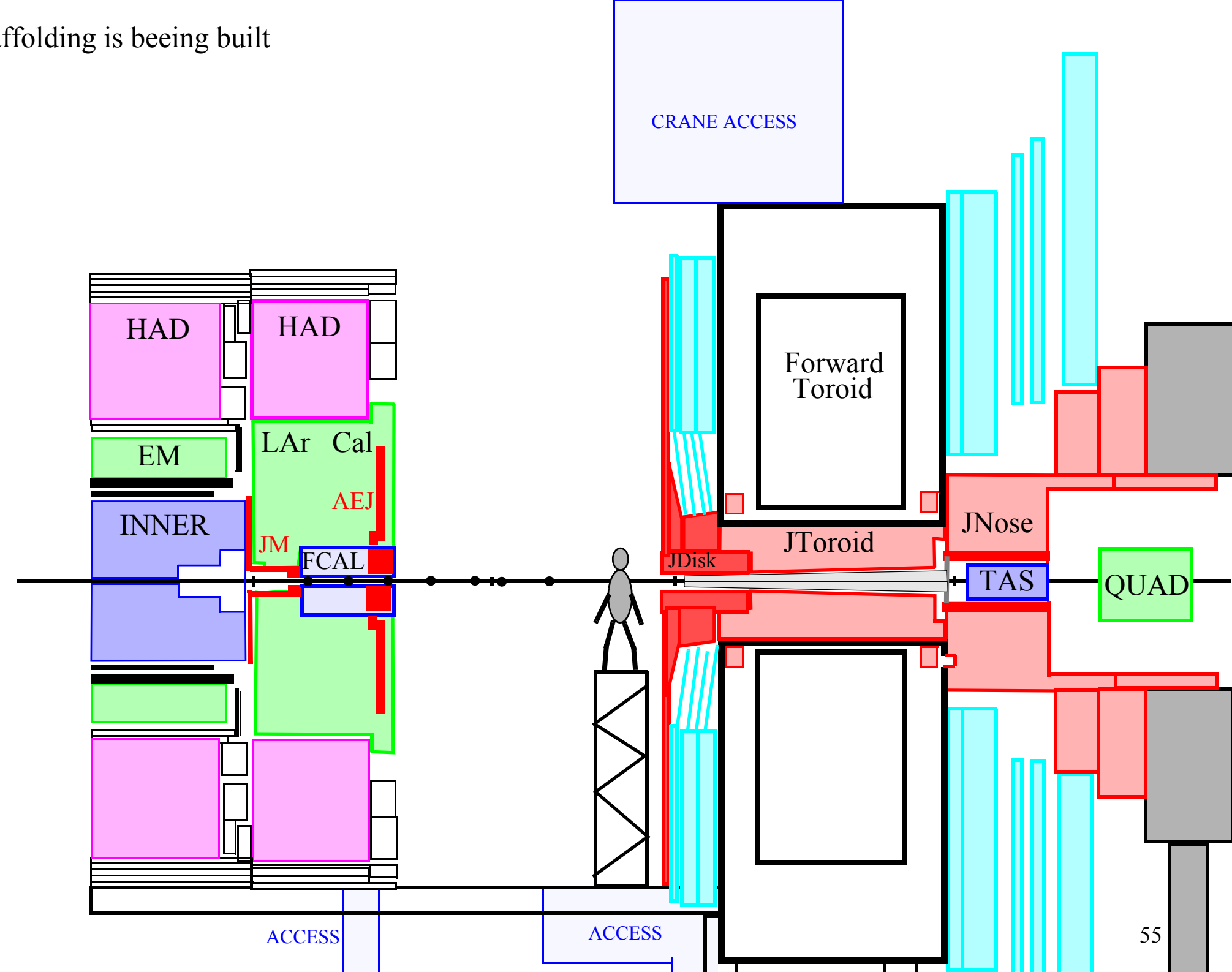
Dose rates in μSv/h after 100 days of running and 5 days cooling



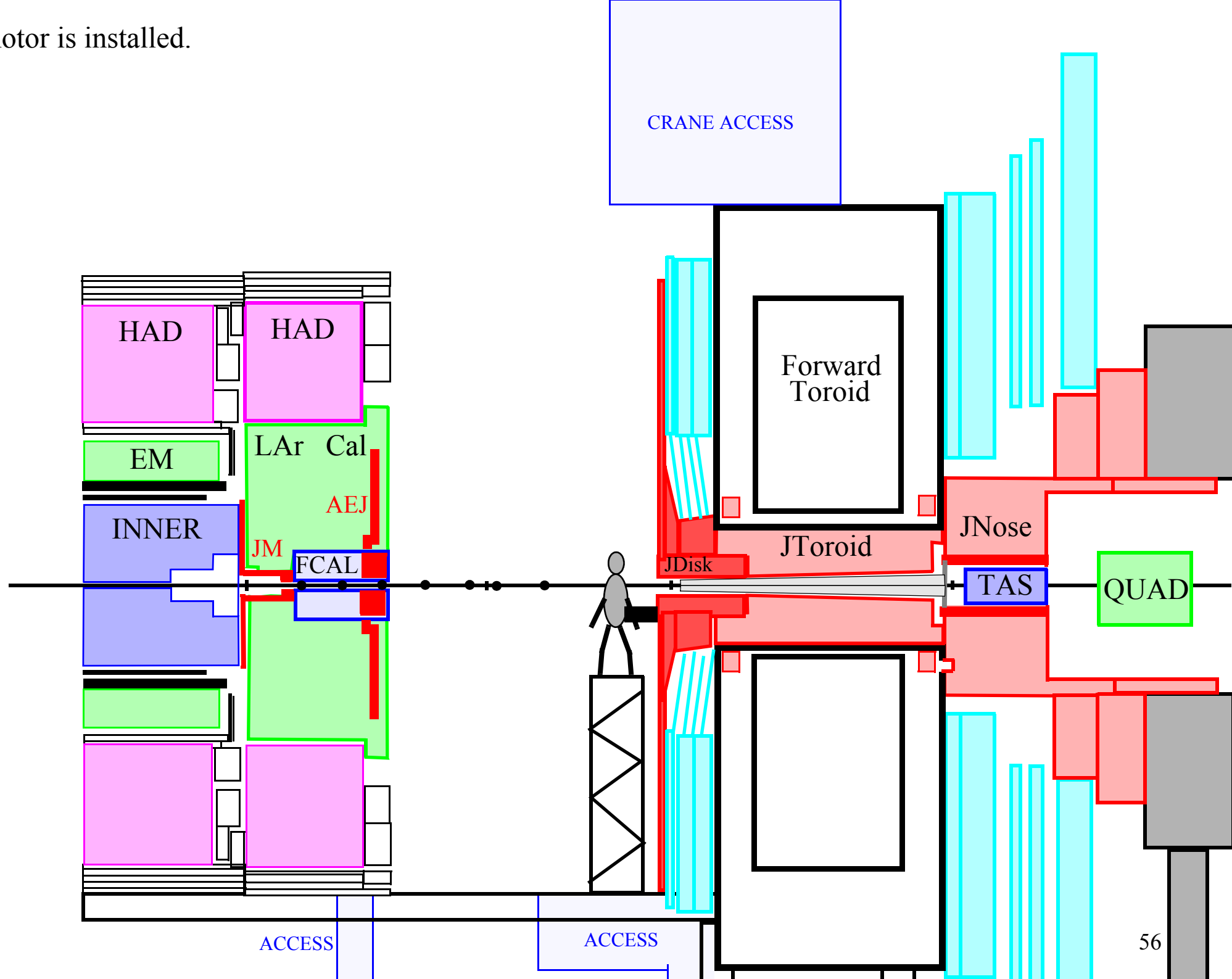
15. Scaffolding is beeing built

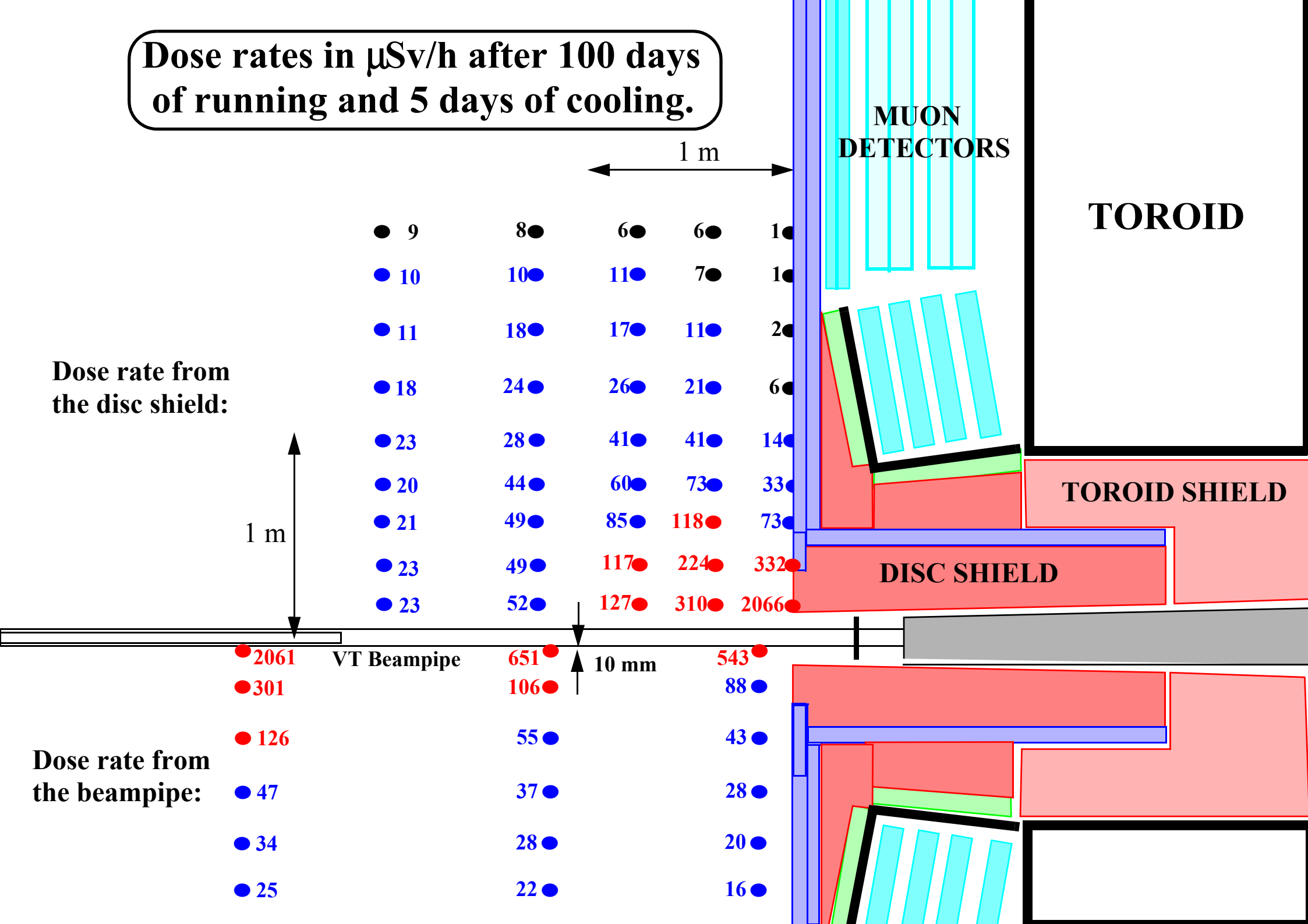


15. Scaffolding is beeing built

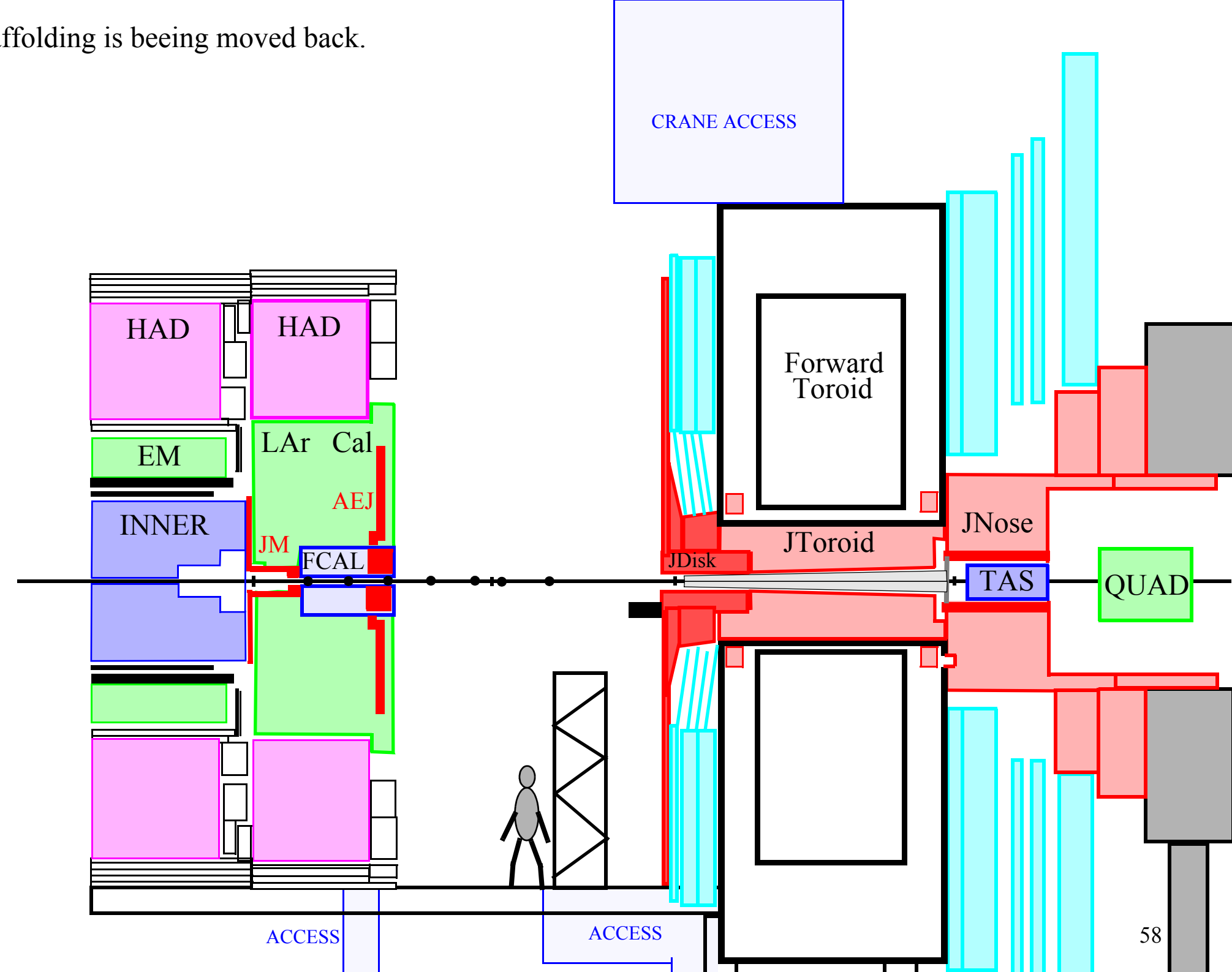


16. A motor is installed.

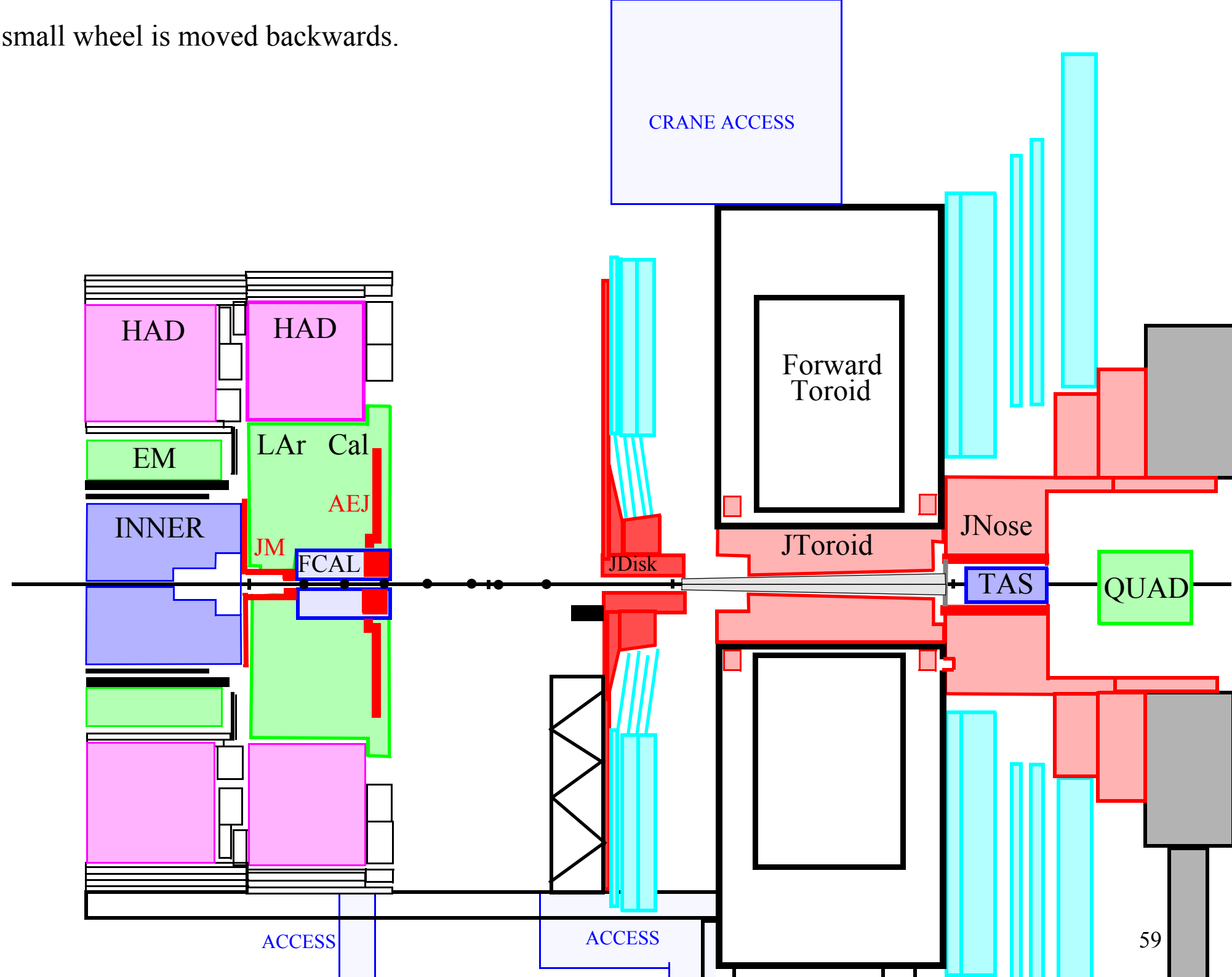



Dose rates in μSv/h after 100 days of running and 5 days of cooling.
1 m
MUON DETECTORS
TOROID
TOROID SHIELD
DISC SHIELD
Dose rate from the disc shield:
1 m
9
8
6
6
1
10
10
11
7
1
11
18
17
11
2
18
24
26
21
6
23
28
41
41
14
20
44
60
73
33
21
49
85
118
73
23
49
117
224
332
23
52
127
310
2066
VT Beampipe
10 mm
2061
651
543
301
106
88
126
55
43
Dose rate from the beampipe:
47
37
28
34
28
20
25
22
16

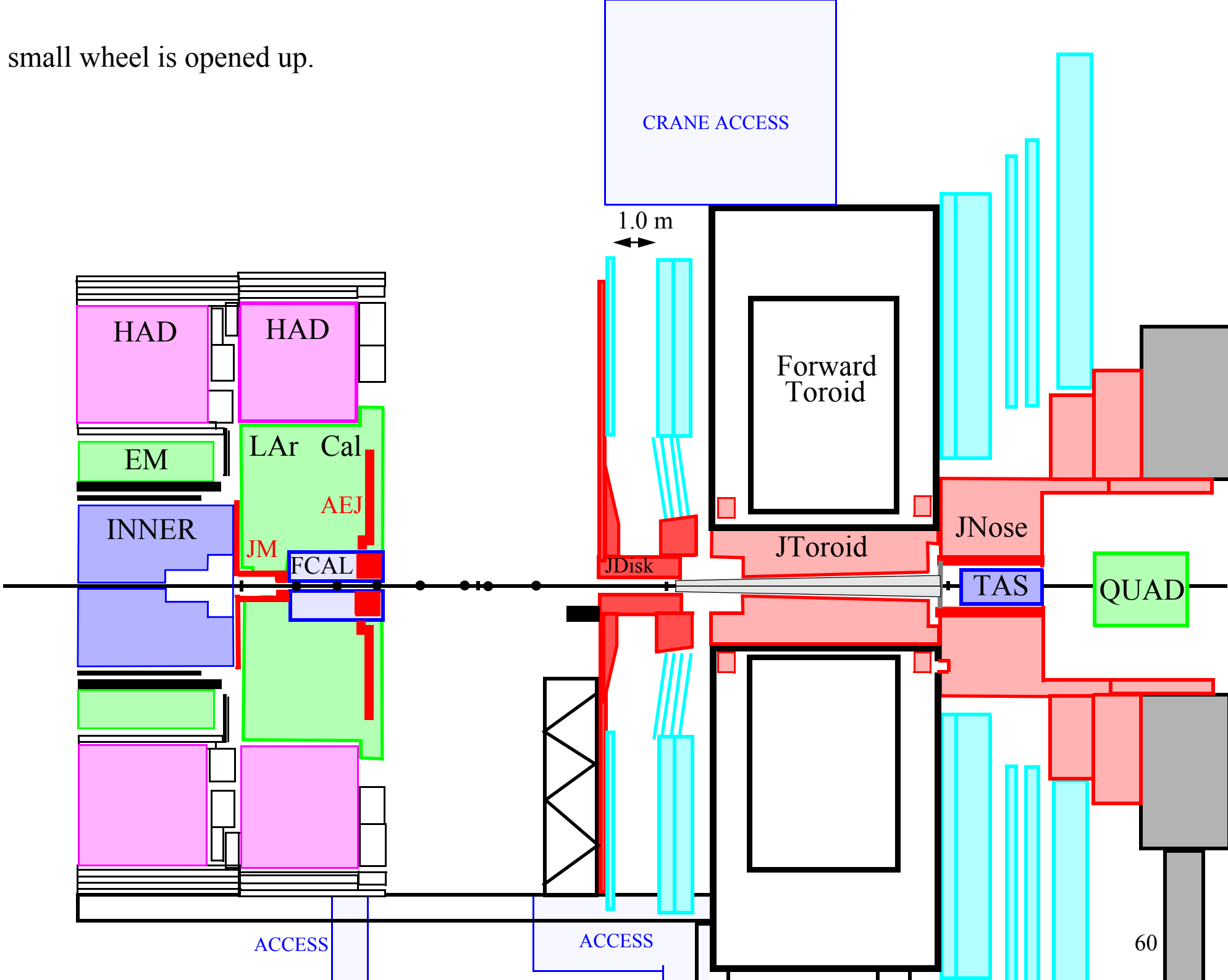
17. Scaffolding is beeing moved back.

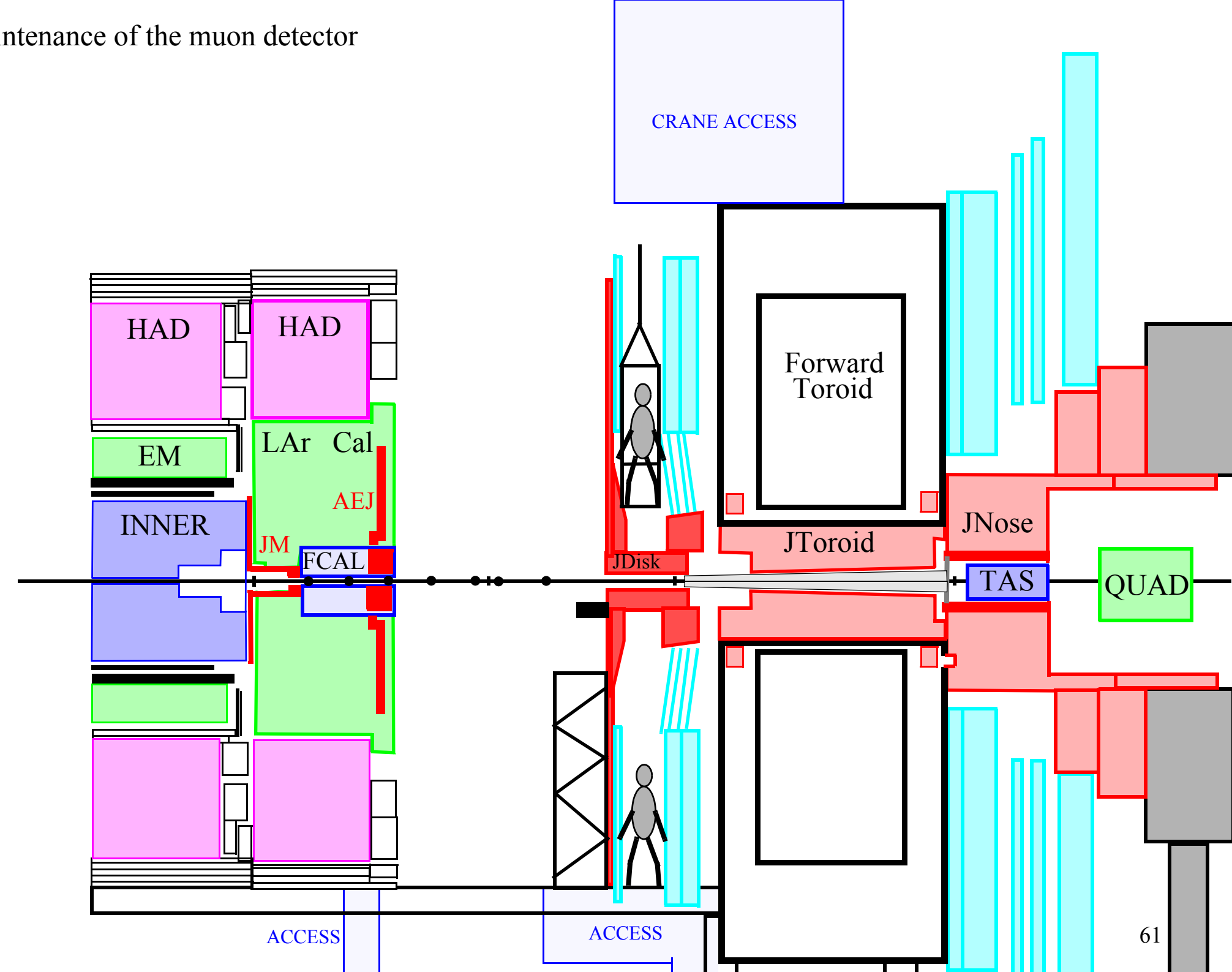


18. The small wheel is moved backwards.

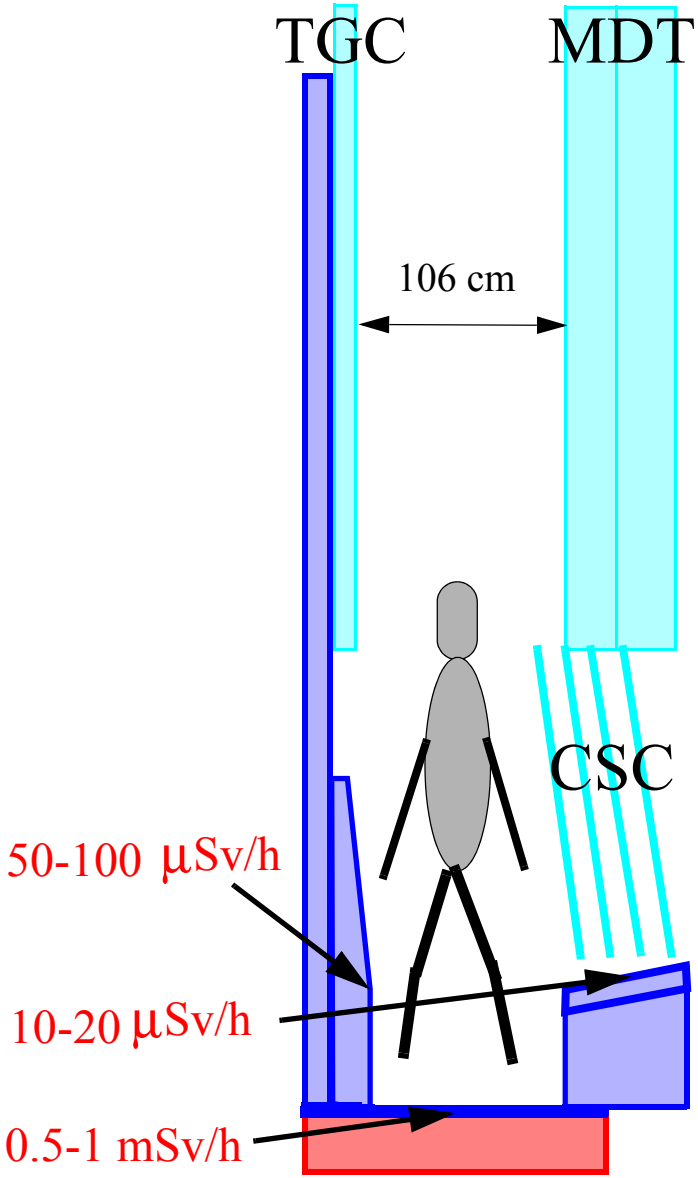


19. The small wheel is opened up.

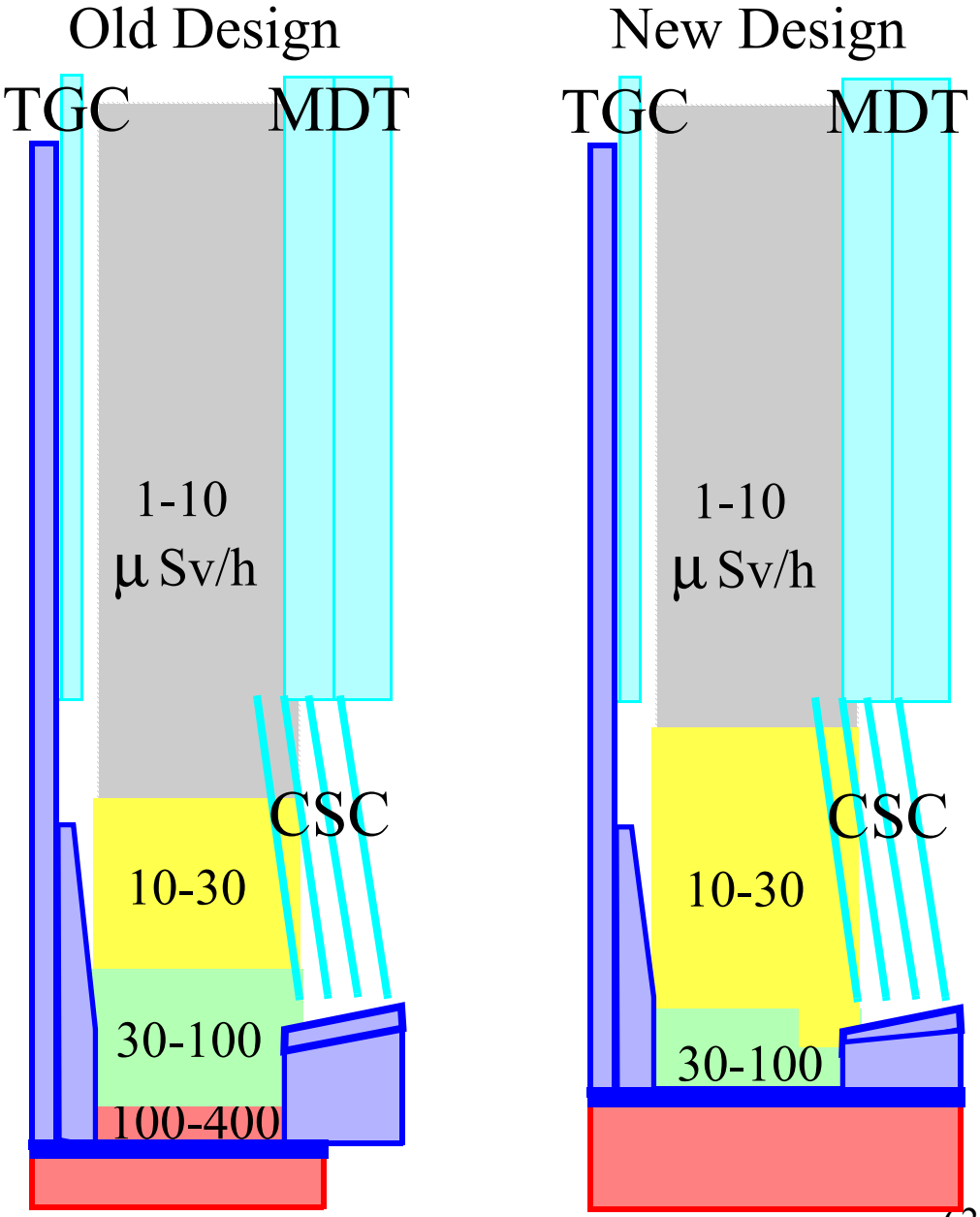



CRANE ACCESS
HAD
HAD
EM
LAr Cal
AEJ
INNER
JM
FCAL
JDisk
Forward
Toroid
JToroid
JNose
TAS
QUAD
ACCESS
ACCESS

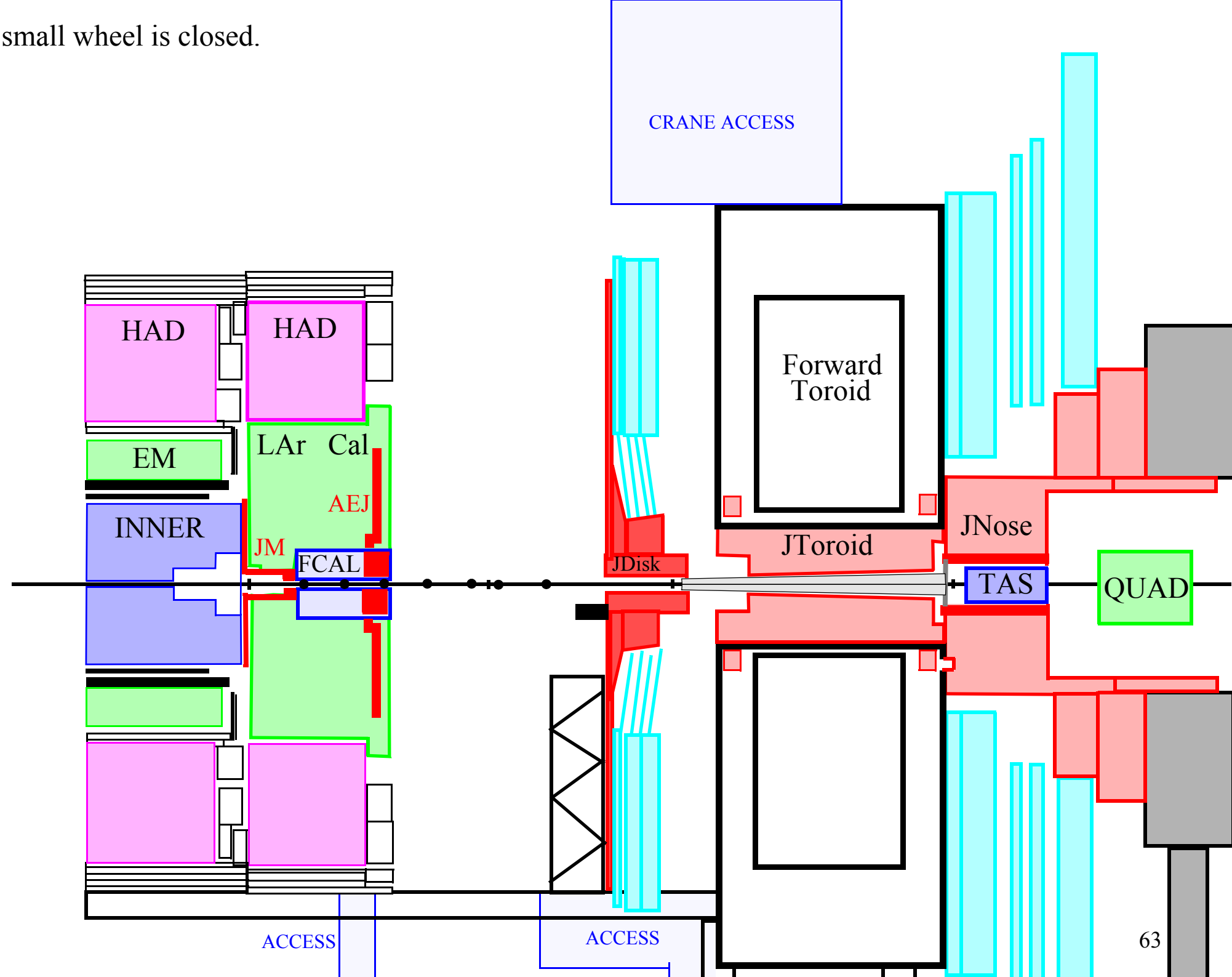
Contact doserate calculated by Shupe and Hedberg using omega factors.
30 day run / 1 day cooling



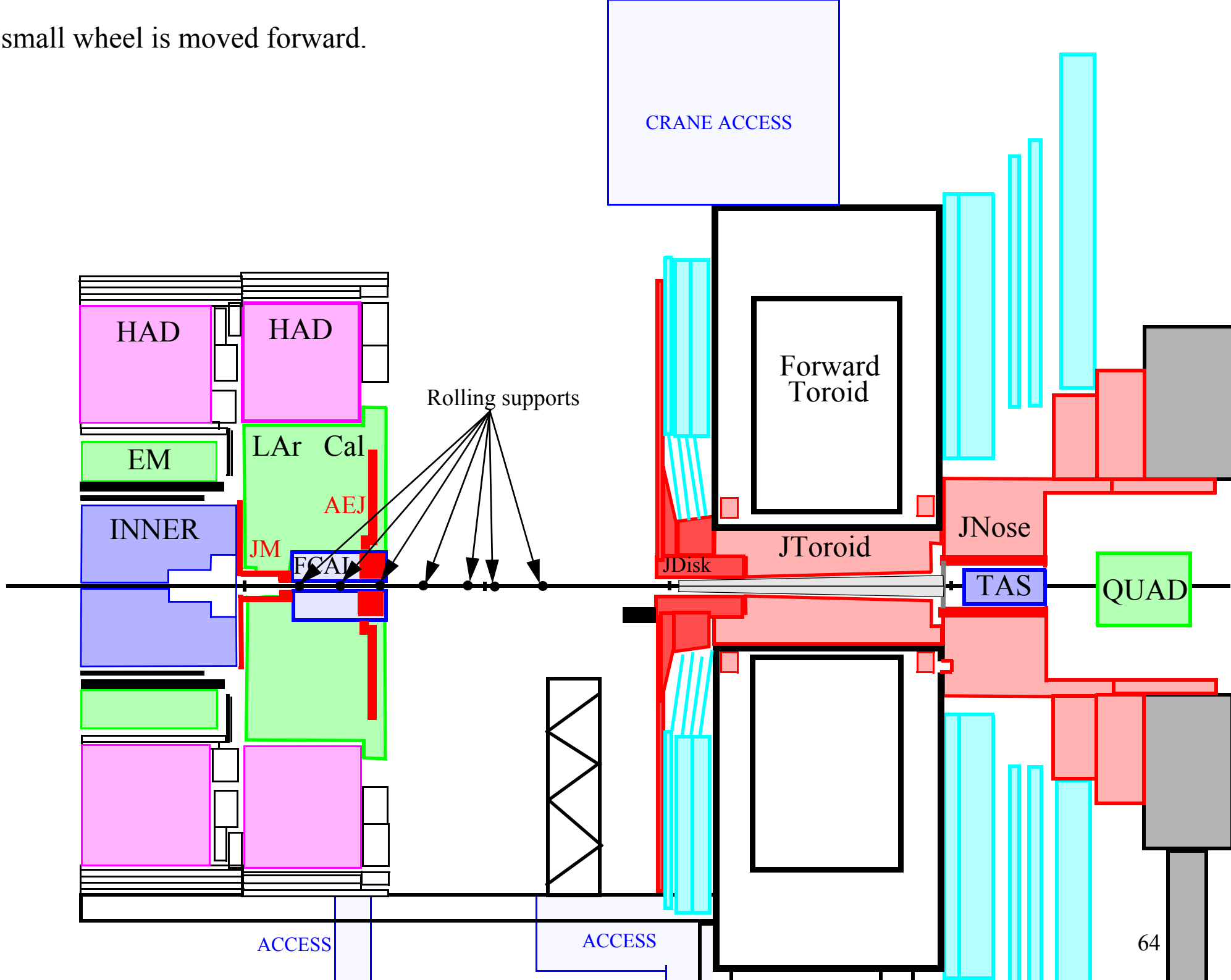
Doserates in the small wheel after 100 days of running and 5 days of cooling.
Calculation by M. Morev.



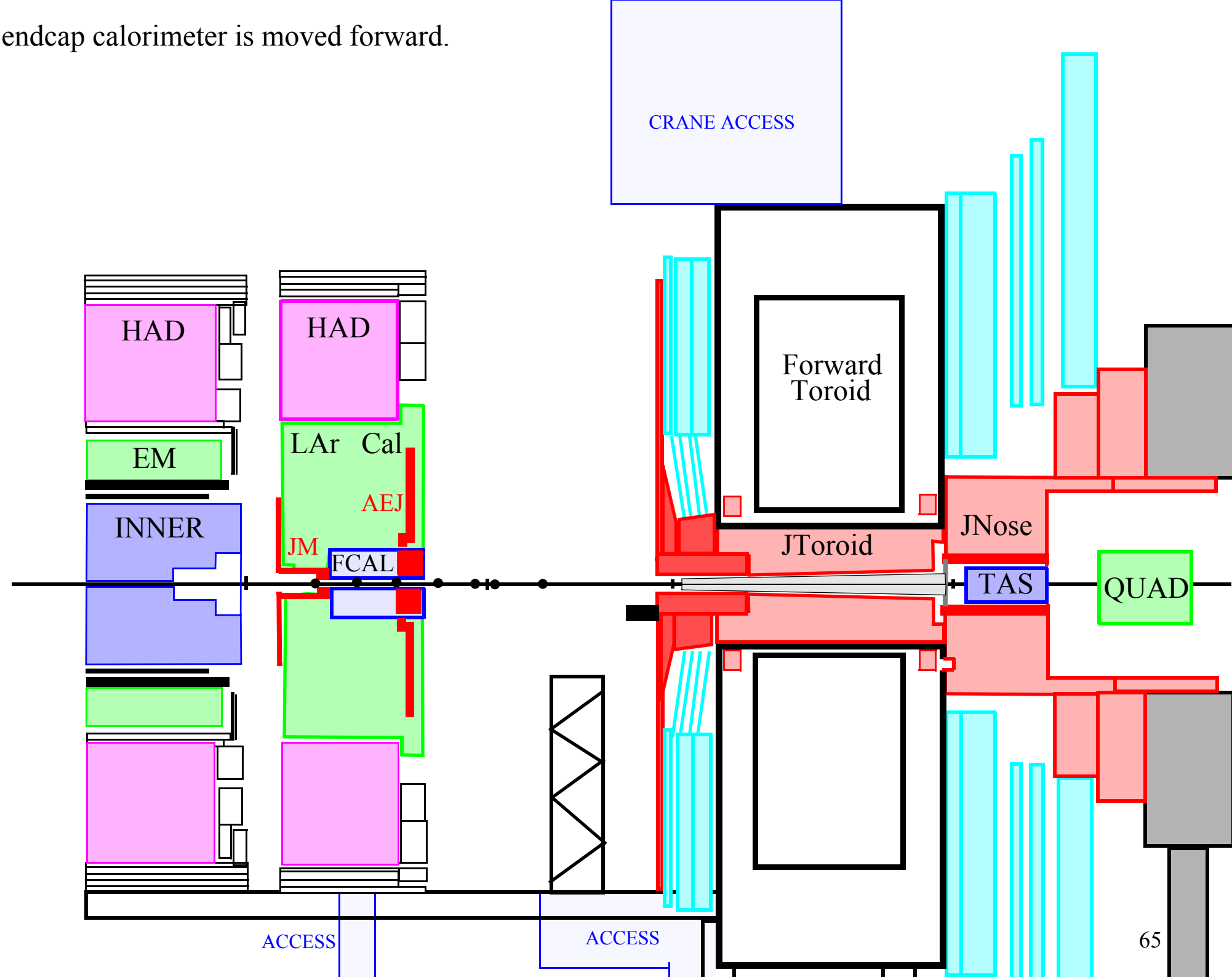
21. The small wheel is closed.



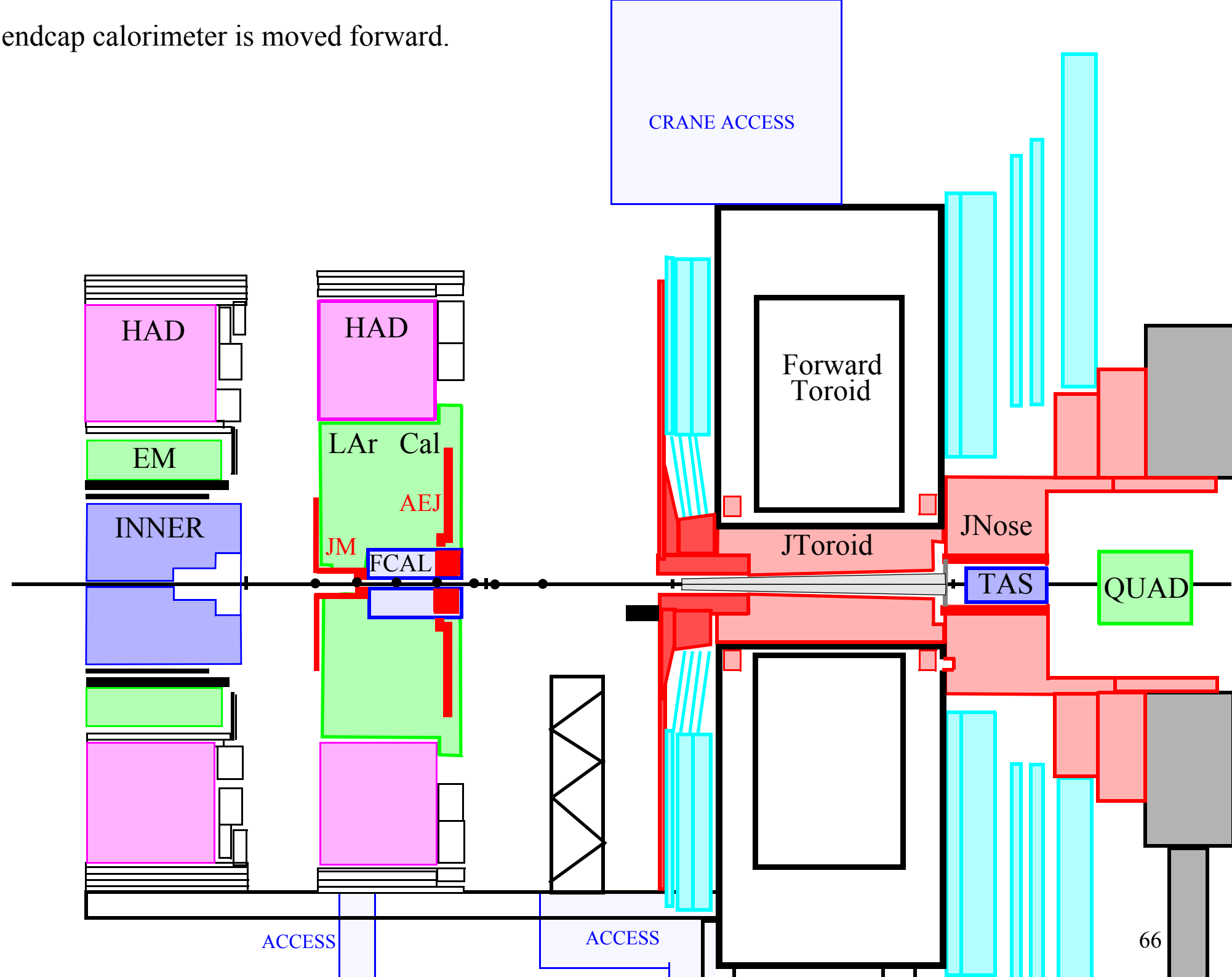
22. The small wheel is moved forward.



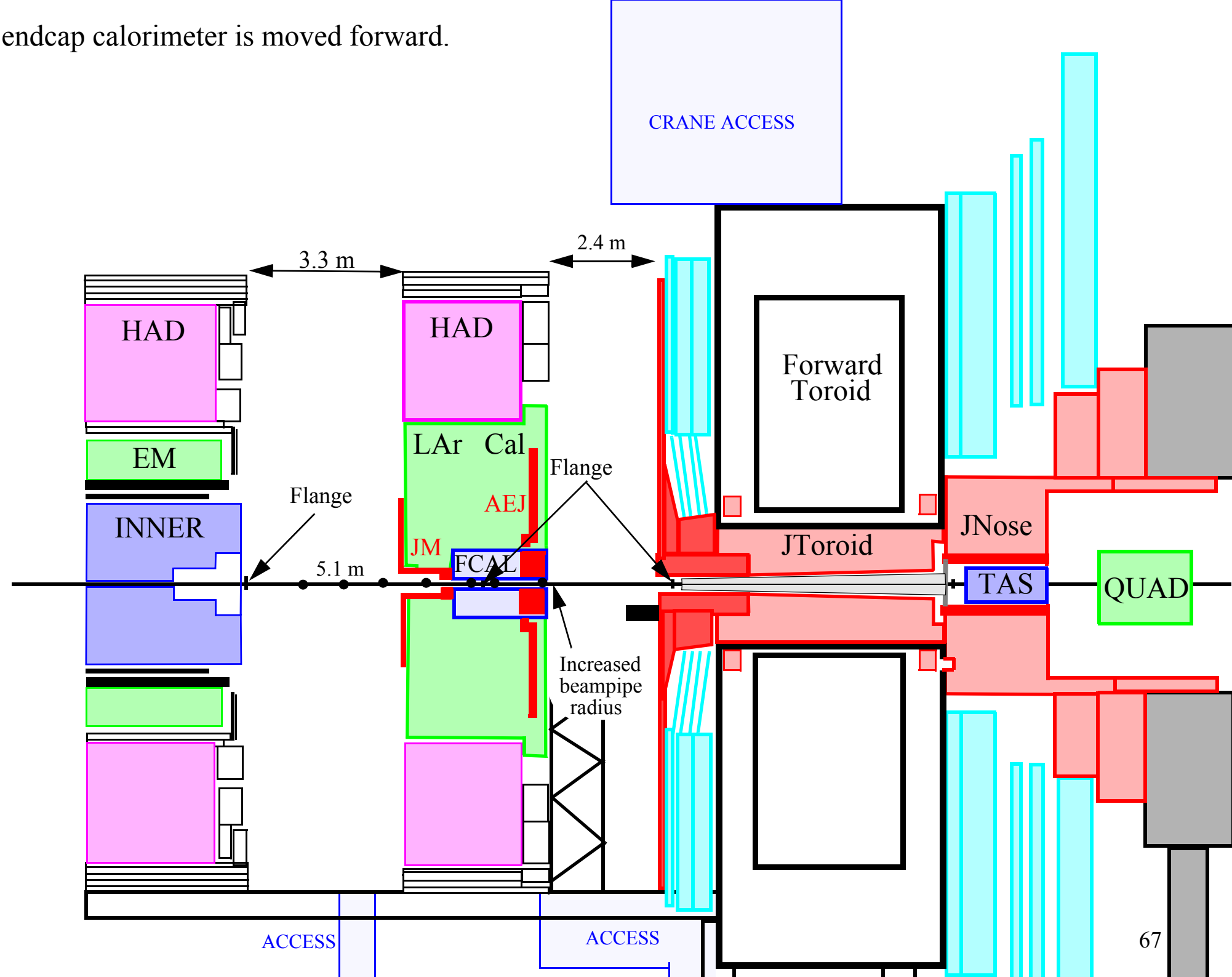
23. The endcap calorimeter is moved forward.



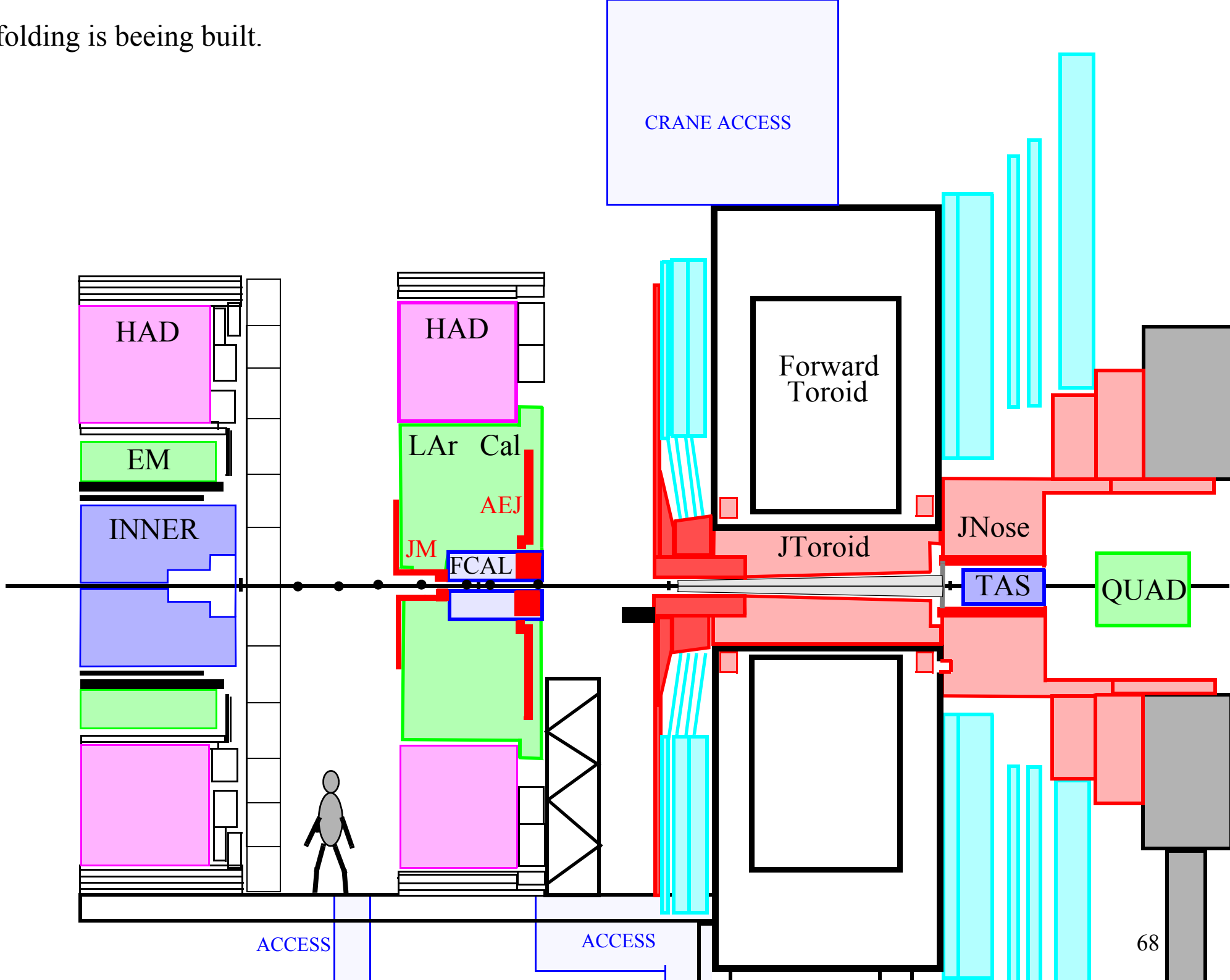
23. The endcap calorimeter is moved forward.

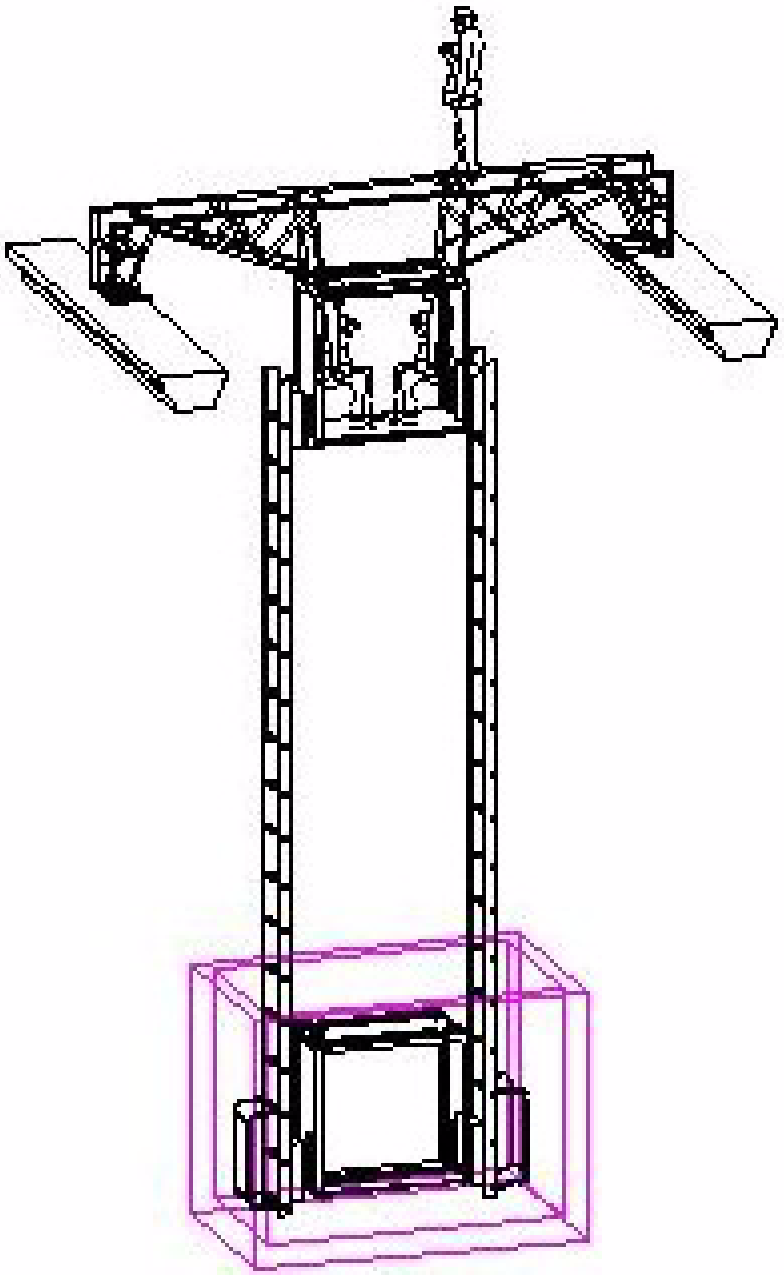


23. The endcap calorimeter is moved forward.

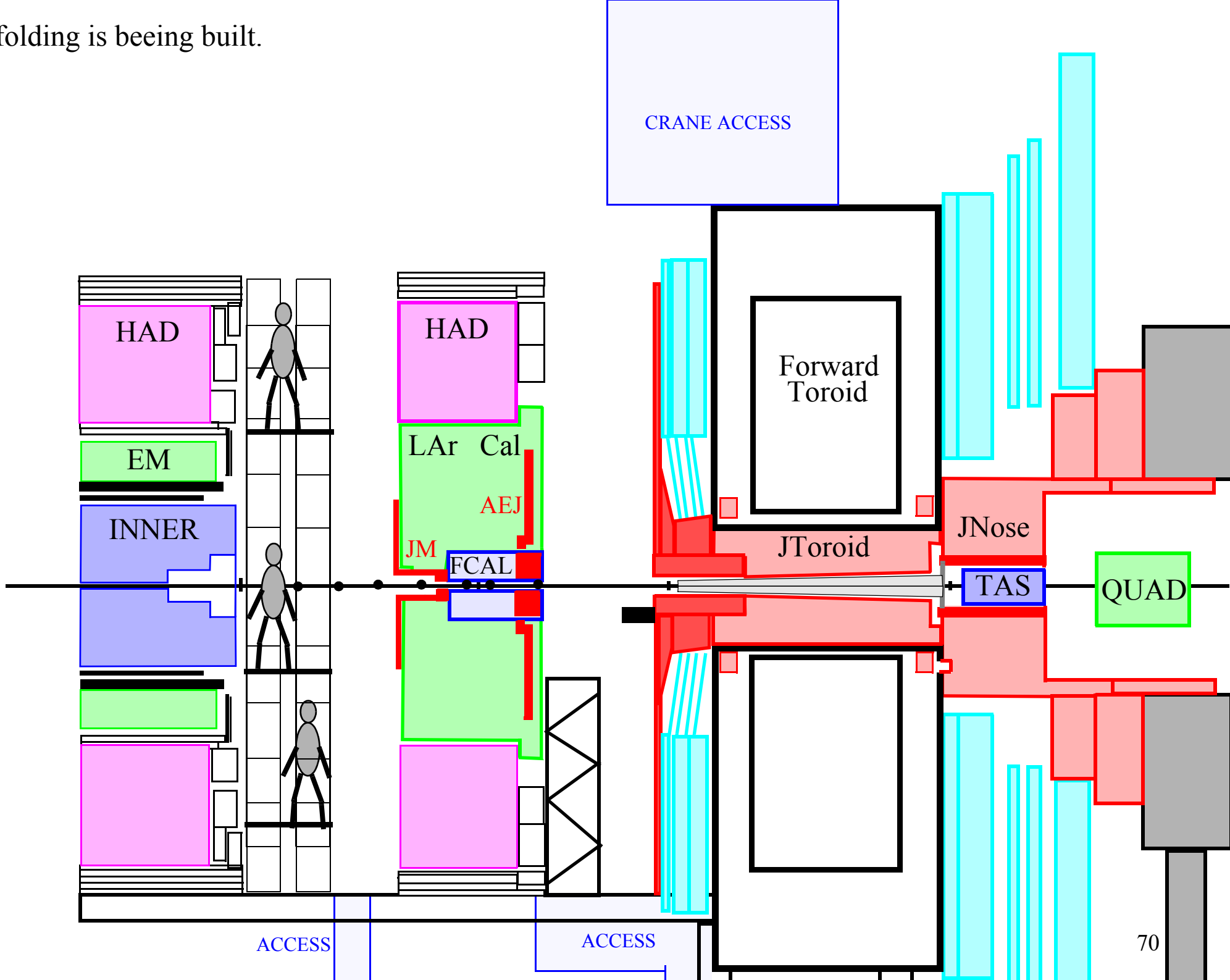


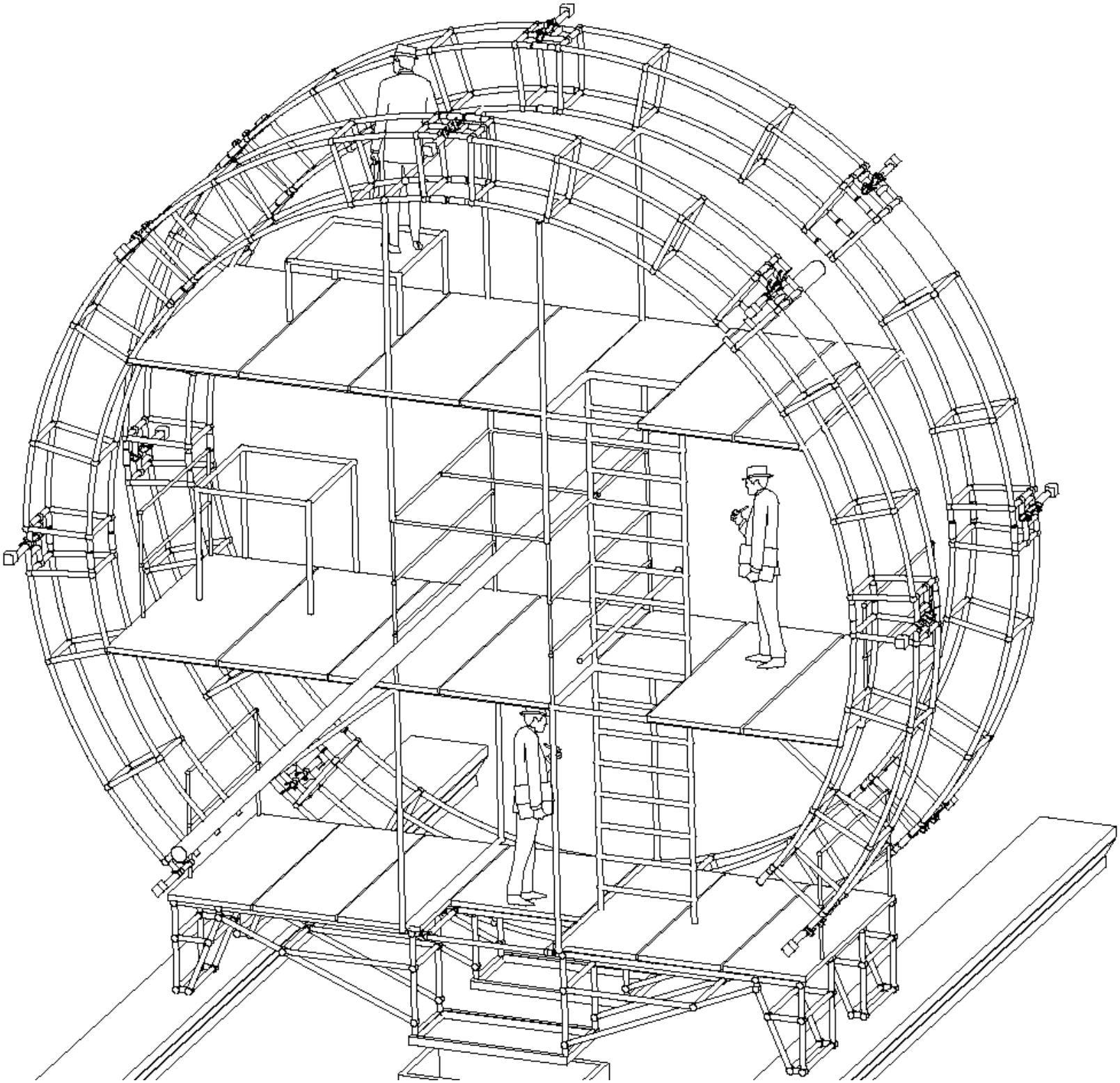
24. Scaffolding is beeing built.

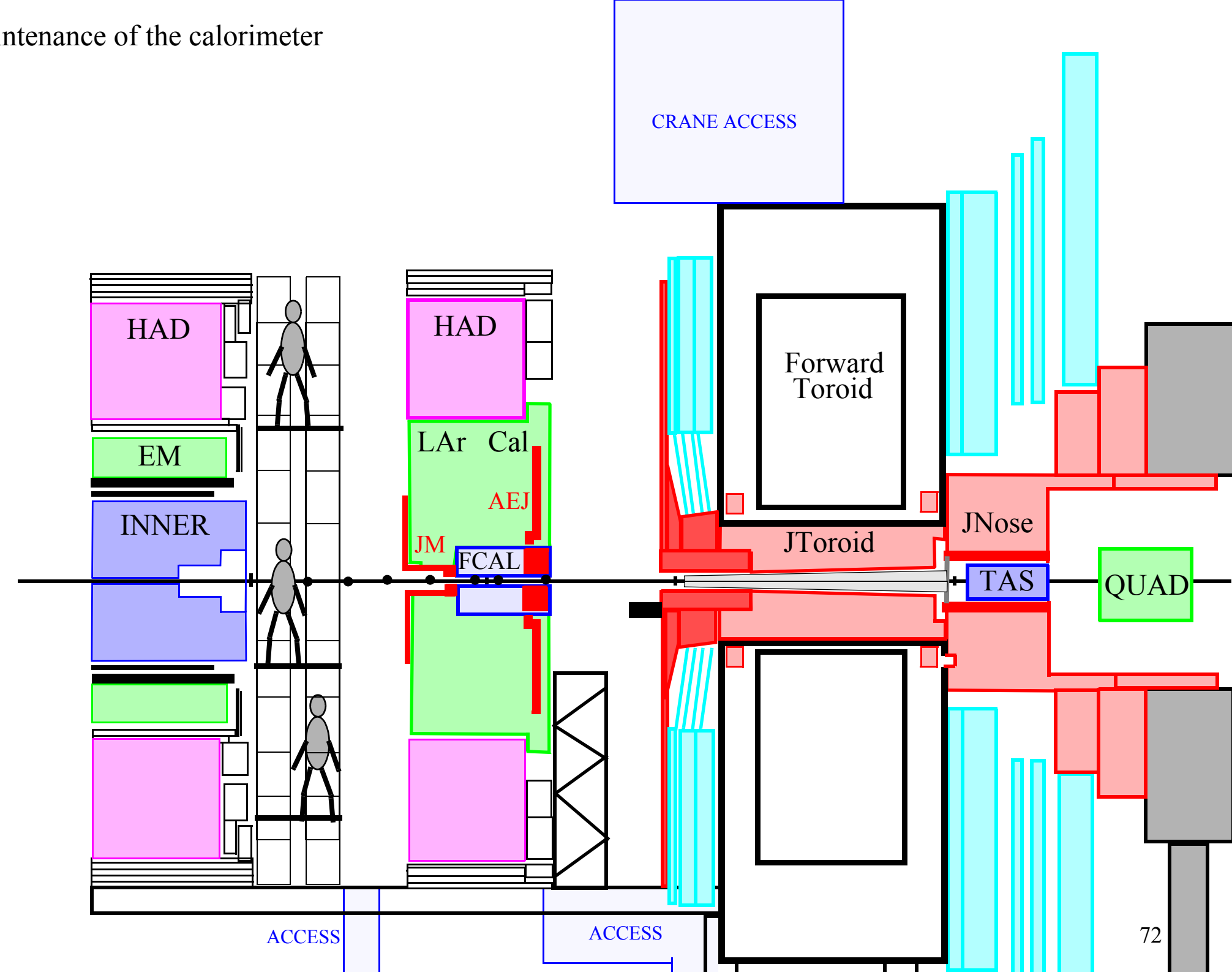




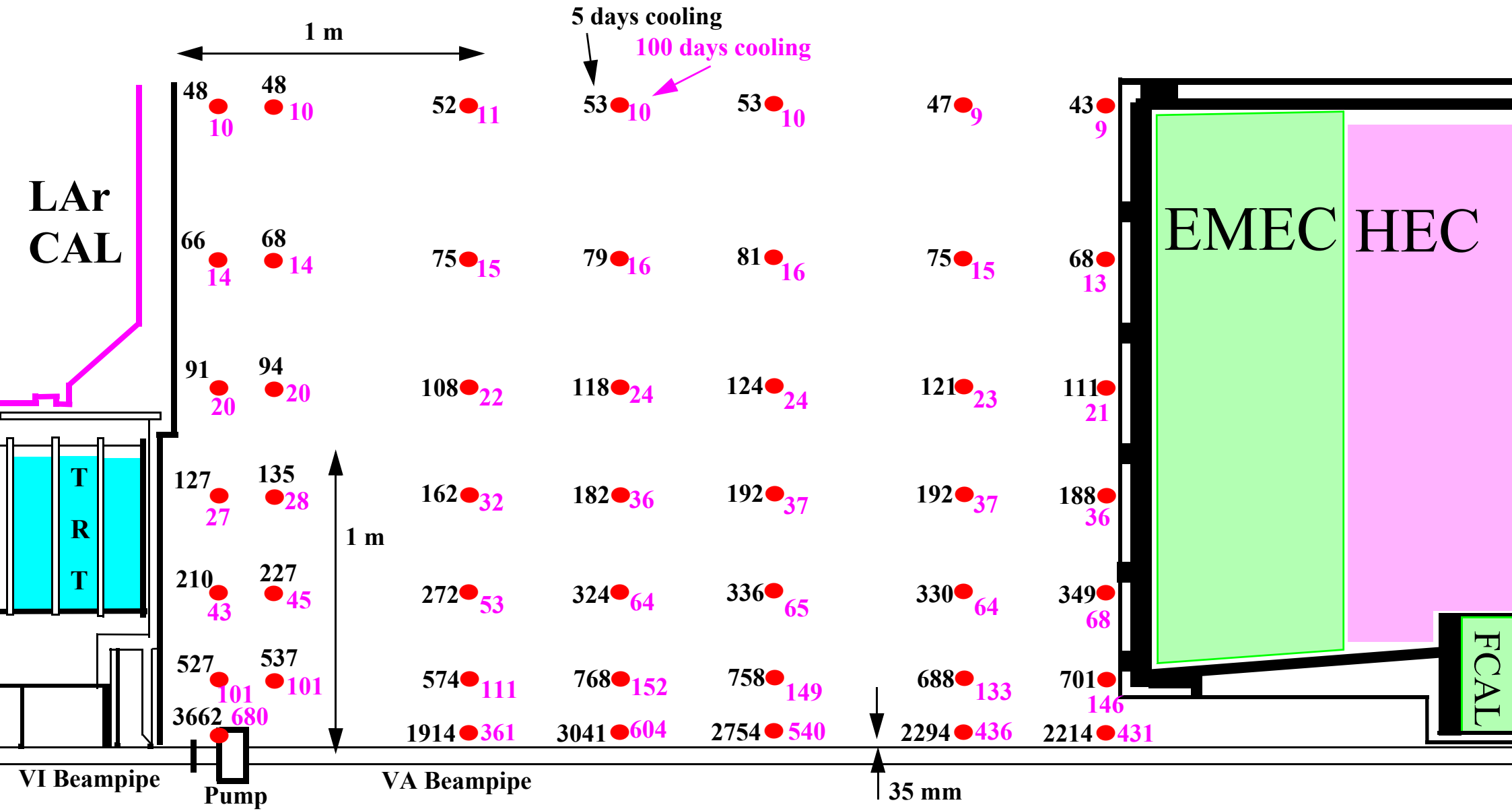
24. Scaffolding is beeing built.






CRANE ACCESS
HAD
EM
INNER
HAD
LAr Cal
AEJ
JM
FCAL
Forward
Toroid
JToroid
JNose
TAS
QUAD
ACCESS
ACCESS

Dose rates in μSv/h after 100 days of running and 5 and 100 days cooling



Dose rates in μSv/h from the VA beampipe after 100 days of running and 5 days of cooling.