Considerations on coatings for Stand-Alone Magnets
Technical difficulties have emerged for the in-situ coating of the beam screens for magnets operating at 4.5 K (e.g., Q4, Q5, Q6), due to the presence of cryosorbers.

The situation is different for the different IRs:

**IR2 and IR8**

- The coating is foreseen to reduce the load on the cryoplants and provide more margin for the arcs
- The expected heat load reduction is in the order of 500 W\(^{(1)}\) assuming SEY=1.3 (larger than what we had in Run 2 in these magnets, but we should take into account that SEY degradation was observed in the LHC during LS1)
- It is conceivable to avoid the coating on these magnets if needed
  - The risk related to an SEY degradation is in line with the risk we are taking anyhow for the arcs (→ Heat Load Task force is working on mitigations)
  - The heat load (0.5 kW for SEY=1.3) is relatively small compared to the cryoplant capacity (~10 kW\(^{(2)}\))

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\(^{(1)}\) see CERN-ACC-2016-0112 \(^{(2)}\) see HL Task Force Meeting 3 Apr 2019
Technical difficulties have emerged for the \textit{in-situ coating of the beam screens for magnets operating at 4.5 K} (e.g., Q4, Q5, Q6), due to the presence of \textit{cryosorbers}.

The situation is different for the different IRs:

\textbf{IR1 and IR5}

- Independently on heat load considerations, \textbf{the e-cloud in magnets from the IP to Q5 (included) must be suppressed}, because it can induce significant \textbf{degradation on the beams} due to the \textbf{large beta functions}
  - In fact, beam degradation from e-cloud in the IRs was already observed in Run 2 (details in \underline{presentation at WP2 meeting, 24 Sep 2019})
- Coating of these magnets should be easier thanks to the \textbf{possibility of extracting the beam screens} during LS3 works in IR1 and IR5
  - There should be no need for in-situ coating