Date:  June 23, 2016
To:  Mark Breitfeller, Sushil Sharma and Ferdinand Willeke
From:  Zhong Zhong (chair), Photon Science Radiation Safety Committee
Subject:  Review of the ray-tracing design of the frontends for XFP and ESM beamlines

Dear Mark, Sushil and Ferdinand,

The Photon Science Radiation Safety Committee (RSC)’s ray-tracing subcommittee concluded review of the front-end ray-tracing of the 21-ID (ESM) and 17-BM (XFP) beamlines.

Subjects reviewed include the synchrotron max-fan and Bremsstrahlung drawings. Since the max. fan drawings are sufficient for assuring the safety of the front-end against synchrotron radiation, additional interlocked synchrotron ray-tracing, included in the drawing packages, were not reviewed by the RSC.

Written documents

The following documents were submitted to the RSC on May 6, 2016 for review:
For XFP
1. XFP front-end assembly drawing, SR-FE-3PW-7001, Rev. B by D. Puleo.
2. XFP front-end Bremsstrahlung ray-tracing, SR-FE-3PW-7001, Rev. B, sheets 6 and 7 for horizontal and vertical projections, respectively.
3. XFP front-end max. synchrotron ray-tracing, SR-FE-3PW-7001, Rev. B, sheets 4 and 5 for horizontal and vertical projections, respectively.

For ESM
5. ESM front-end Bremsstrahlung ray-tracing, SR-FE-EPU21-1001, Rev. C, sheets 4 and 5 for horizontal and vertical projections, respectively.
6. ESM front-end max. synchrotron ray-tracing, SR-FE-EPU21-1001, Rev. C, sheets 6 and 7 for horizontal and vertical projections, respectively.

Conclusions

Based on our assessment of the ray-tracing drawings, the RSC concludes that the XPF and ESM front-end Bremsstrahlung and synchrotron shielding designs meet the NSLS-II shielding policy.
## Radiation Safety Committee

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## Ray-tracing sub-committee

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