



# Memo

Date: October 10, 2016  
To: Mark Breitfeller, Mohamed Benmerrouche, and Sushil Sharma  
From: Zhong Zhong (chair), Photon Science Radiation Safety Committee  
Subject: Review of the ray-tracing design of the NYX (19-ID) and SIX (2-ID) front-ends

Dear Mark, Mo and Sushil,

The Photon Science Radiation Safety Committee (RSC)'s ray-tracing subcommittee concluded review of the front-end ray-tracing of the NYX (19-ID) and SIX (2-ID) beamlines on October 7.

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, the interlocked synchrotron ray-tracings, included in the drawing packages, were not reviewed by the RSC.

## Written documents

The following documents were submitted to the RSC on September 27, 2016 for review:

1. SIX front-end assembly drawing, SR-FE-EPU02-1001, Rev. B by J. Fabijanic.
2. SIX front-end Bremsstrahlung ray-tracing, SR-FE-EPU02-1001, Rev. B, sheets 4 and 5 for horizontal and vertical projections, respectively.
3. SIX front-end max. synchrotron ray-tracing, SR-FE-EPU02-1001, Rev. B, sheets 6 and 7 for horizontal and vertical projections, respectively.
4. NYX front-end assembly drawing, SR-FE-IVU19-1001, Rev. B by D. Puleo., dated 3/2015
5. NYX front-end Bremsstrahlung ray-tracing, SR-FE- IVU19-1001, Rev. B, sheets 4 and 5 for horizontal and vertical projections, respectively.
6. NYX front-end max. synchrotron ray-tracing, SR-FE- IVU19-1001, Rev. B, sheets 6 and 7 for horizontal and vertical projections, respectively.

## Notes

NYX front-end ray-tracing, along with that of SST, was reviewed by the RSC on March 6, 2015. The report for that review is attached.

## Conclusions

Our prior recommendations for NYX beamline were adequately addressed.

Based on our assessment of the ray-tracing drawings, the RSC finds the Bremsstrahlung and synchrotron shielding designs for both the front-ends of the SIX and NYX beamlines meeting the NSLS-II shielding policy.

## Radiation Safety Committee

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Mohamed Benmerrouche	Nuclear and Radiation Physics	PS
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