

Table E1. Quarterly lens dose equivalent and effective dose equivalent values between the one-and two-badge protocols. All values are reported in units of mSv.

Year	Badge protocol	Quarterly entries	$H_p(3)$			Effective dose equivalent, H_E		
			Median	IQR	95th Pctl	Median	IQR	95th Pctl
2009	One-badge	7,932	0.29	0.11–0.74	3.30	0.09	0.03–0.22	0.99
2012	One-badge	17,214	0.20	0.07–0.62	3.45	0.06	0.02–0.19	1.03
2015	One-badge	17,213	0.18	0.07–0.67	3.34	0.05	0.02–0.20	1.00
All years	One-badge	42,359	0.21	0.08–0.67	3.38	0.06	0.02–0.20	1.00
Under-apron badge is below the lower LOD ^a								
2009	Two-badge	638	0.40	0.20–0.82	1.63	0.02	0.01–0.03	0.07
2012	Two-badge	753	0.34	0.14–0.81	1.56	0.01	0.01–0.03	0.06
2015	Two-badge	994	0.36	0.15–0.77	1.57	0.01	0.01–0.03	0.06
All years	Two-badge	2,385	0.37	0.15–0.80	1.59	0.01	0.01–0.03	0.06
Under-apron badge is above the lower LOD								
2009	Two-badge	353	1.87	0.89–3.91	10.8	0.30	0.16–0.56	1.47
2012	Two-badge	629	1.72	0.79–3.79	10.4	0.24	0.13–0.48	2.07
2015	Two-badge	833	1.86	0.93–4.07	13.9	0.24	0.13–0.57	1.94
All years	Two-badge	1,815	1.84	0.87–3.95	11.8	0.25	0.14–0.52	1.83

^aThe lower limit of detection (LOD) is 0.02 mSv.

IQR, interquartile range; LOD, limit of detection; Pctl, percentile.

Table E2. Annual lens dose equivalent and effective dose equivalent values between the one-and two-badge protocols for individuals monitored on a quarterly exchange with complete year dosimetry. All values are reported in units of mSv.

Year	Badge protocol	Persons	$H_p(3)$			Effective dose equivalent, H_E		
			Median	IQR	95th Pctl	Median	IQR	95th Pctl
2009	One-badge	1,143	2.14	0.89–5.08	19.0	0.64	0.27–1.52	5.71
2012	One-badge	2,382	1.80	0.71–4.55	19.8	0.54	0.21–1.36	5.92
2015	One-badge	2,604	1.67	0.58–4.37	17.3	0.50	0.17–1.31	5.17
All years	One-badge	4,679	1.68	0.65–4.27	17.4	0.50	0.20–1.28	5.18
2009	Two-badge	111	3.10	1.83–6.06	28.9	0.23	0.09–0.79	3.37
2012	Two-badge	174	3.87	1.67–8.44	35.3	0.34	0.11–1.09	4.71
2015	Two-badge	226	3.82	1.95–7.62	34.5	0.32	0.11–0.92	5.30
All years	Two-badge	427	3.62	1.83–7.08	30.5	0.27	0.10–0.93	4.32
Under-apron badge is consistently (9+ months/yr) above the lower LOD ^a								
2009	Two-badge	29	10.62	6.55–21.2	65.7	1.61	0.92–2.83	5.43
2012	Two-badge	81	8.52	4.12–20.3	60.3	1.10	0.70–2.12	10.1
2015	Two-badge	97	9.00	4.83–16.9	66.6	1.04	0.57–2.55	6.93
All years	Two-badge	174	8.50	4.78–16.8	58.3	1.12	0.69–2.16	6.42

^aSee Code of Federal Regulation 10 C.F.R. § 20.1201 (19).

^bGuidance issued by the National Council on Radiation Protection (27).

^cRecommendations by the International Commission on Radiological Protection (26).

^dSee footnote a.

^eThe lower LOD is 0.02 mSv.

IQR, interquartile range; LOD, limit of detection; Pctl, percentile.

Table E3. Number of annual doses for workers monitored on a quarterly exchange exceeding regulatory limits as well as suggested limits by scientific advisory bodies.

	Protocol	
	One-badge	Two-badge
Person-years	6,129	511
Lens dose equivalent:		
>150 ^a mSv	1	0
> 50 ^b mSv	40	14
> 20 ^c mSv	278	50
Effective dose equivalent		
> 50 ^a mSv	1	0

^aSee Code of Federal Regulation 10 C.F.R. § 20.1201 (19).

^bGuidance issued by the National Council on Radiation Protection (27).

^cRecommendations by the International Commission on Radiological Protection (26).

^dSee footnote a.