

RADON MEASUREMENTS IN THERMAL WATERS AND SPAS – CZECH REPUBLIC

Results by the end of November 2014

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By the end of November 2014:

Two stages of integral measurements of indoor radon concentration:

Eight workplaces at the ground floor of a bathhouse.

(The third stage is underway.)

Three stages of instantaneous measurements of radon concentration in water:

All samples of running water were collected from the inlet to the bath in balneotherapy.

Results of integral measurements of indoor radon concentration

	Period	07/02/2014 - 12/06/2014			
		Indoor radon concentration (Bq/m ³)			
		RAMARN	Detectors sent from Hungary		
			double	single	
	pool	3100	2508	2023	
	balneotherapy - right part	220	154	123	
	balneotherapy - central part	250	193	163	
	balneotherapy - left part	250	235	239	
	admissions office	195	158	117	
	office of director	320	282	213	
	documentation	180	165	116	
	physician office	270	175	163	
	Period	12/06/2014 - 04/09/2014			
		Indoor radon concentration (Bq/m ³)			
		RAMARN	Detectors sent from Hungary		
			double	single	
	pool	2950	2687	2925	
	balneotherapy - right part	280	226	256	
	balneotherapy - central part	320	289	444	
	balneotherapy - left part	320	263	382	
	admissions office	190	124	160	
	office of director	370	277	439	
	documentation	180	215	220	
	physician office	350	326	348	

Results of measurements of radon concentration in water

Date	7.2.2014			
	Radon concentration in water	Arith. Mean	SD	
Sample No.	(kBq/m ³)	(kBq/m ³)	(kBq/m ³)	
1	176,1			
2	163,0			
3	169,1	169,4	6,6	
Date	12.6.2014			
	Radon concentration in water	Arith. Mean	SD	
Sample No.	(kBq/m ³)	(kBq/m ³)	(kBq/m ³)	
1	216,9			
2	197,8			
3	240,5	218,4	21,4	
Date	4.9.2014			
	Radon concentration in water	Arith. Mean	SD	
Sample No.	(kBq/m ³)	(kBq/m ³)	(kBq/m ³)	
1	204,1			
2	210,9			
3	192,9	202,6	9,1	

Preliminary conclusions:

The values of indoor radon concentration at measured workplaces, as well as the values of radon concentration in thermal water seem to be relatively stable.

A high indoor radon concentration was observed only at one workplace: pool, around 3000 Bq/m³.

During the third measurement period, spa staff were instructed to increase the intensity of ventilation in the pool.