

CENTER FOR RADIOISOTOPE FACILITIES



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The Center for Radioisotope Facilities (CRF) is responsible for monitoring the purchase of radioisotopes from the Japan Radioisotope Association (JRIA) and the transfer of radioisotope waste to that organization. In keeping with this, the CRF's technical and support staff maintain controlled areas in compliance with the relevant laws.

The following is an outline of the notable activities that CRF conducted in 2019.

1. Revision of CRF's local rules

We revised the rules as they pertain to our local facilities (referred to as "Radiation Damage Protection Rules") in the Myodaiji and Yamate areas to conform with amendments to national laws concerning radioisotope protection. Major revisions that were included are as follows:

1) Preparation of the subordinate rules

We prepared the following manuals of which are deemed subordinate to the local rules mentioned above: a) users' guide b) management and inspection manual c) emergency response manual d) emergency information provision manual

2) Specification of the manager and responsible party for each action described in the rules

3) Revision of the radiation safety education and training protocols

We decided the necessary hours, standards for partial omissions, and protocols to change the necessary hours for radiation safety education and training.

2. Changes regarding usable nuclides at Myodaiji area

Since there has been no practical use for gamma ray nuclides at the Myodaiji area for several years, we have decided to discontinue their use. Hence, the revised list of usable nuclides at this facility was approved by the Nuclear Regulation Authority in November 2019 (Table 1). We then subsequently stopped the operation of the gamma ray monitors and measuring instruments.

The number of registrants and the number of users at our facility from January 2019 to March 2020 are shown in Table 2. Users and visitors counted by the access control system in the controlled areas numbered 1,445 during this period. The numbers for each area are shown in Table 3. The annual changes concerning registrants and the number of totals per fiscal year are shown in Figure 1. The balance of radioisotopes received and used at the CRF is shown in Table 4. The figures for training courses on radioisotope handling are provided in Table 5.

Nuclides	State	Chemical form	Maximum permissible quantity		
			year	3 months	day
^3H	liquid	all	20GBq	20GBq	1GBq
^{14}C	liquid	all	5GBq	5GBq	500MBq
^{22}Na	Deleted				
^{32}P	liquid	all	4.5GBq	4.5GBq	500MBq
^{33}P	liquid	all	15GBq	15GBq	500MBq
^{35}S	liquid	all	15GBq	15GBq	500MBq
^{36}Cl	liquid	all	150MBq	150MBq	50MBq
^{42}K	Deleted				
^{45}Ca	liquid	all	2GBq	2GBq	200MBq
^{125}I	Deleted				

Table 1. Changes of usable nuclides at Myodaiji area

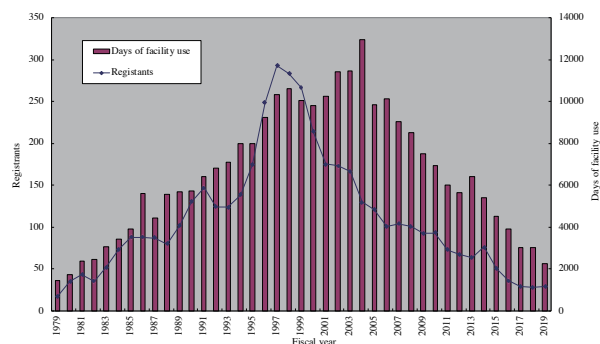


Figure 1. Changes of registrants and days of facility use per fiscal year

	Myodaiji Area	Yamate Area
Registrants	37	30
Users	17	21

Table 2. Numbers of registrants and users at the Myodaiji and Yamate areas from 2019 January to 2020 March

	Myodaiji Area	Yamate Area	Total
Users	641	460	1,101
Visitors	161	183	344
Total	802	643	1,445

Table 3. Users and visitors who entered each controlled area from 2019 January to 2020 March

		Myodaiji Area	Yamate Area	Total
^{125}I	Received	0	0	0
^{125}I	Used	0	0	0
^{35}S	Received	0	0	0
^{35}S	Used	0	0	0
^{32}P	Received	27,750	20,350	48,100
^{32}P	Used	22,940	29,600	52,540
^{14}C	Received	0	0	0
^{14}C	Used	0	0	0
^3H	Received	9,250	0	9,250
^3H	Used	0	0	0

Table 4. Balance of radioisotopes received and used (kBq) at each controlled area from 2019 January to 2020 March

training course	place	numbers of participant
Introductory course for beginners	Myodaiji	0
Introductory course for beginners	Yamate	0
Introductory course for experts	Myodaiji	2
Introductory course for experts	Yamate	1
Users training course	Myodaiji	33
Users training course	Yamate	19

*including English course

Table 5. Training courses for radiation workers in from 2019 January to 2020 March