

# Japanese High Priority Request List (Revised Version in May, 1997)

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Request ID	Reaction	Quantity	Energy Range	Accuracy	Purpose	Priority/Deadline	Ref.	Requester
4.I.13	Ni(n, $\gamma$ )	Cross Sections	0.6-1 MeV 1-10 MeV	10% 50%	FISSION REACTORS Discrepancy < 1 MeV: 20 % (exp. Data) < 10 MeV: 100% (eval. Data)			T. Fukahori*5 (JAERI)
4.I.17	Si(n,p)(n, $\alpha$ )	Cross Sections	9-20 MeV	10%	FISSION REACTORS (shielding)			N. Yamano**3 (SAE)
4.I.28	Fe-56(n,n')	Cross Sections	2-5 MeV	10%	FISSION REACTORS (shielding)			N. Yamano**3 (SAE)
4.I.33-36	W-182, 183, 184, 186(n,n')(n,2n)	Cross Sections	0.05-2 MeV 2-20 MeV	10% 50%	FISSION REACTORS (to solve eval. discrepancy)			M. Kawar**4 (JAERI)
4.IV.3	Xe-131(n, $\gamma$ )	Cross Sections	4-500 keV	20%	FISSION REACTORS (burn-up)			H. Matsumoto**6 (Data Eng. Co.)
4.IV.5	Ce-135(n, $\gamma$ )	Cross Sections	0.1-500 keV	10%	FISSION REACTORS (burn-up)			H. Matsumoto**6 (Data Eng. Co.)
4.IV.6	Sm-149(n, $\gamma$ )	Cross Sections	10 meV - 100 keV 25 keV	10% 5%	FISSION REACTORS (burn-up) (Res. param. Determination)			H. Matsumoto**6 (Data Eng. Co.)
4.IV.6	Sm-151(n, $\gamma$ )	Cross Sections	0.1-500 keV	10%	FISSION REACTORS (burn-up)			H. Matsumoto**6 (Data Eng. Co.)

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4.VI.2	Am-243(n, f)	Cross Sections	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.3	Np-237(n, f)	n Spectra	-20 MeV	5%	TRANSMUTATION		1,2)	T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.4	Pu-238(n, f)	n Spectra	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.5	Am-241(n, f)	n Spectra	-20 MeV	5-10%	TRANSMUTATION		1)	T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.6	Am-243(n, f)	n Spectra	-20 MeV	5-10%	TRANSMUTATION		1)	T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.7	Cm-244(n, f)	n Spectra	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.8	Pu-238(n, γ)	Cross Sections	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.10	Am-241(n, γ)	Cross Sections	-20 MeV	5%	TRANSMUTATION			withdrawn
4.VI.15	Np-237(n, n')	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.16	Pu-238(n, n')	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.18	Am-241(n, n')	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.20	Am-243(n, n')	Cross Sections	-20 MeV	20%	TRANSMUTATION			withdrawn
4.VI.23	Pu-238(n, 2n)	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.24	Am-241(n, 2n)	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.25	Am-243(n, 2n)	Cross Sections	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.27	Np-237(n, f)	Delayed n Yields	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.28	Pu-238(n, f)	Delayed n Yields	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VI.30	Cm-244(n, f)	Delayed n Spectra	-20 MeV	20%	TRANSMUTATION		3)	T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VII.9	Cm-244(n, f)	FP Mass Yields	-20 MeV	20%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VIII.17	Np-237(n, f)	Spontaneous Fission Half-life	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
4.VIII.18	Pu-238(n, f)	Spontaneous Fission Half-life	-20 MeV	5%	TRANSMUTATION			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)

Request ID	Reaction	Quantity	Energy Range	Accuracy	Purpose	Priority/Deadline	Ref	Requester
6B.I.1	Cu (p,xnp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Accelerator Structural Material)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.2	Nb (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Accelerator Structural Material)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.3	N (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.4	Na (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.5	Cl (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.6	Zr (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.7	Mo (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.8	Tc (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)

Request ID	Reaction	Quantity	Energy Range	Accuracy	Purpose	Priority/Deadline	Ref.	Requester
6B.1.9	I (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.10	Ta (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.11	W (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.12	Re (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.13	Hg (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.14	Pb (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.15	Bi (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.1.16	Np (p,xnp)(n,xnp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)

Request ID	Reaction	Quantity	Energy Range	Accuracy	Purpose	Priority/Deadline	Ref.	Requester
6B.I.17	Pu (p,xnp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.18	Am (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.19	Cm (p,xnyp)(n,xnyp)	Spectra	20-1500 MeV	50%	TRANSMUTATION (Target Material of Spallation Neutron Source)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.20	Fe-56(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: HT-9)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.21	Ni-58(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: HT-9)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.22	Mn-55(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: HT-9)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.23	Cr-52(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: HT-9)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.24	Mo-96(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: HT-9)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.25	Si(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)
6B.I.26	O(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>1</sup> , T. Takizuka <sup>2</sup> (JAERI)

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6B.I.27	Ti(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
6B.I.28	Al(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
6B.I.29	Ba(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
6B.I.30	Zn(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)
6B.I.31	C(p,xnyp)	Spectra	0.8-1.5 GeV	50%	TRANSMUTATION (Beam Window Material: ceramics)			T. Sasa <sup>*1</sup> , T. Takizuka <sup>*2</sup> (JAERI)

#### References

- 1) Planing to measure in JAERI(FCA)/ORNL joint program
- 2) Planing to measure at IPPE in ISTC program
- 3) Planing to measure at KRI in ISTC program

#### Notes

- For Er, a new evaluation will be included in JENDL-3.3.
- For capture cross section and/or alpha-value of primary actinides, especially for U-235 and Pu-239, high precision data are requested by the fission power reactor group.

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