Table 1
Present Status of HRD National Plans

(1) Strategy and implementation of human resource development	(5) Human resource development necessary for introduction of nuclear power,
Establish a Training Center in 2009 Establish a Nuclear Engineering Department at Universities (20 student per year)	Designs and Construction Engineers: 20 people, Operation and Maintenance Engineers: 20 people

Needs				Need Satisfaction			Demand for Program	
No	priolity				National Program	International Program	National HRD Program	International HRD Program
1	*	Fields	C. Research Reactor	Title/Details	Hanoi University of Technology	MEXT Nuclear Reseachers Exchange Program	Setting up National Program by MOET	IAEA, RCA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	University education	University education	MOET	University education
		Number (people)	60	Number (people)	20	1	30	60
		Coment	Nuclear Engineering, M.S. Program	Period	24 months	6 months	60 months for University degree and 24 months for MS degree	10
2		Fields	A. Radiation Safety and Radiological Waste	Title/Details	Hanoi University of Technology, Dalat University	MEXT Nuclear Reseachers Exchange Program	Setting up National Program by MOET	IAEA, RCA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	University education	University education	MOET	University education
		Number (people)	20	Number (people)	5	0	10	10
		Coment	Nuclear Engineering, M.S. Program	Period	24 months	6 months		10
3		Fields	B. Radiation and Isotope Application	Title/Details	HUS, HCMUNS, HUT, Dalat University	MEXT Nuclear Reseachers Exchange Program	Setting up National Program by MOET	IAEA, RCA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	University education	University education	MOET	University education
		Number (people)	40	Number (people)	about 20	a few		20
		Coment	Nuclear Engineering, M.S. Program	Period	24 months	6 months		10
4		Fields	D. Nuclear Power Reactor	Title/Details	Electricity Power University , HUT	MEXT Nuclear Reseachers Exchange Program; MEXT International Seminar on Nuclear	Setting up National Program by MOET	IAEA, RCA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	University education	University education	Preparation for university eduaction at HUT, EPU and other relevant Universities	University education
		Number (people)	30	Number (people)	0	0		more than 20
		Coment	Nuclear Engineering, M.S. Program	Period	24 months	6 months	Setting up National Program by MOET	10
5		Fields	E. Nuclear Administration	Title/Details	Not available	MEXT Nuclear Reseachers Exchange Program/IAEA fellowship	Setting up National Program by relevant ministries and agencies	IAEA, RCA, MEXT, and Other fellowship
		Target	Administrative officer	Method		OJT		
		Number (people)	10	Number (people)		1		
		Coment	Public Information for Nuclear Power	Period		Lecturers, university education are required		

Table 2
Long term Vision of HRD National Plans

HRD National Plans - Long-term Vision	By 2020	By 2030
(1) Strategy and implementation of human resource development	Train 40 researchers per year at Training Center in radiation safety field, nuclear technology, radioactive waster treatment and management etc. Train instructors for domestic traning courses Designs and Construction Engineers: 20 people, Operation and Maintenance Engineers: 20 people R&D : 40 people, Safety/Regulatory personnel: 20 people	Designs and Construction Engineers: 200 people, Operation and Maintenance Engineers: 200 people R&D : 400 people, Safety/Regulatory personnel: 100 people
(5) Human resource development necessary for introduction of nuclear power,	Train 50 plant operators and inspector Designs and Construction Engineers: 50 people, Operation and Maintenance Engineers: 50 people R&D : 100 people, Safety/Regulatory personnel: 50 people	Designs and Construction Engineers: 100 people, Operation and Maintenance Engineers: 100 people R&D : 100 people, Safety/Regulatory personnel: 100 people

Needs					Expected Program	
No	priolity				National HRD Program	International HRD Program
By Year 2010						
1	*	Fields	C. Research Reactor	Title/Details	RR Analysis and Nuclear Data Processing	IAEA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	Research	OJT
		Number (people)	20	Number (people)	10	20
		Coment	Engineers on Nuclear Safety	Period	24 months	12 months
2		Fields	A. Radiation Safety and Radiological Waste	Title/Details	Radiation Safety Management and Rad. Waste Treatment and Mamanement	IAEA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	Research	OJT
		Number (people)	40	Number (people)	50	10
		Coment	Radiation Safety and Rad.Waste management Egineers	Period	24 months	12 months
3		Fields	B. Radiation and Isotope Application	Title/Details	Mutation Breeding, Radiation Oncology, PET/Cyclotron, Radiation Processing ,	IAEA, MEXT, and Other fellowship
		Target	Engineer/Postgraduate	Method	Research	OJT
		Number (people)	50	Number (people)	200	10
		Coment	Researchers and Experts on this field	Period	24 months	12 months
By Year 2020						
1		Fields	D. Nuclear Power Reactor	Title/Details	Building infrastructure for introduction of Nuclear Power to Vietnam	IAEA, MEXT, and Other fellowship
		Target	Operator/Inspector	Method	Research	Research
		Number (people)	20	Number (people)	20	10
		Coment	Operation/Maintenance Engineer	Period	24 months	12 months
2		Fields	E. Nuclear Administration	Title/Details	Public information for nuclear energy and nuclear power	IAEA, MEXT, and Other fellowship
		Target	Administrative officer	Method	Expert service	OJT
		Number (people)	10	Number (people)	10	10
		Coment	Lecturerb and Instructor on Public Information for Nuclear Power	Period	12 months	12 months

Table 3
Qualitative Standpoint

(2) Priority area of HRD and on-going national HRD program including activities of national training center (Needs)
Establish a Training Center in 2009 and organize domestic training courses on nuclear-related topics Send 100 researchers to Overseas for University education and Postgraduate education from 2010-2015. Establishing Nuclear- related faculty at Universities (20 student per year) Professional -group-training at overseas nuclear institutions with financial support from Govvernement of Vietnam (such as groups on Nuclear power Technology, Nuclear Safety , Radiation Safety and Environmental Impact Assessment etc.)
(3) Roles of international cooperation such as FNCA for national HRD program
Covering high level knowledge in Nuclear Engineering and Radiation Safety, effective tools for HRD
C
Performing Aafety Assessment
(7)Improvement of ANTEP in connection with MEXT Nuclear Researcher Exchange Program
Establish a Training Center in 2009 Send 100 researchers to Overseas for University education from 2010-2015. Establish a Nuclear Engineering Department at Universities (20 student per year) Effective exploitation of FNCA Database on HRD

Table 4
ANTEP Program in 2009

(4) Progress and implementation plan of ANTEP

No	Fields	Program Title	Organizer (Sponsor)	Specification	Implementation Timing	Type of Training	Duration	Acceptable persons per year	Language	Note/ Required technical background	Allowance, In-kind Contribution	URL
Japan												
1	D	MEXT International Seminar on Nuclear Safety 2008	NSRA (MEXT)	Plant Safety Course 2008 -Autumn Course	4-28 Nov. 2008	Lecture and Practices	4w	1	English	Reactor physics and nuclear safety analysis	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
2	D	MEXT International Seminar on Nuclear Safety 2008	NSRA (MEXT)	Plant Safety Course 2008 -Winter Course	19 Jan-13 Feb. 2009	Lecture and Practices	4 w	1	English	Quantum Engineering and Systems Science	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
3	D	MEXT International Seminar on Nuclear Safety 2009	NSRA (MEXT)	Plant Safety Course 2009 -Autumn Course	9 Nov.-4 Dec. 2009	Lecture and Practices	4 w	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
4	D	MEXT International Seminar on Nuclear Safety 2009	NSRA (MEXT)	Plant Safety Course 2009 -Winter Course	18 Jan-12 Feb. 2010	Lecture and Practices	4 w	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
5	A	MEXT 2008 Nuclear Researchers Exchange Program	NSRA (MEXT)	Radiation Protection, Radiation safety and Radioactive waste Management	14 Oct. 2008- 18 Sep. 2009	Research	11m	1	English	Nuclear Physics	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
6	A	MEXT 2008 Nuclear Researchers Exchange Program	NSRA(MEXT)	Development of Radiation Instruments	20 Oct. 2008-27 March 2009	Research	5m	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
7	C	MEXT 2008 Nuclear Researchers Exchange Program	NSRA(MEXT)	Transient two-phase flow and heat transfer	6 Oct. - 26 June 2009	Research	8 m	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
8	B	MEXT 2008 Nuclear Researchers Exchange Program	NSRA(MEXT)	Rock mass fracture analysis method using geological mapping data from Mizunami Underground Research Laboratory	16 Sep-12 Dec. 2008	Research	3m	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
9	B	MEXT 2008 Nuclear Researchers Exchange Program	NSRA(MEXT)	Development of 99 Mo fabrication technology		Research		1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
10	B	MEXT 2008 Nuclear Researchers Exchange Program	NSRA(MEXT)	Application of radioactive rays to agriculture (Plant breeding with ion-beams)	6 Oct. - 26 June 2009	Research	8m	1	English	Relevant Science and Engineering degree	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
11	A	MEXT 2009 Nuclear Researchers Exchange Program	NSRA(MEXT)	Environmental Radiation Monitoring aroud Reprocessing Plant		Research	3m	1	English	Analytical Chemistry	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
12	B	MEXT 2009 Nuclear Researchers Exchange Program	NSRA(MEXT)	Techmologies for Positron Emission Tomography		Research	12 m	1	English	Nuclear Physics	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
13	c	MEXT 2009 Nuclear Researchers Exchange Program	NSRA(MEXT)	Burn-up Behaviour of New Type Nuclear Fuels in Reactor Core Models		Research	12m	1	English	Nuclear Physics	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html
14	c	MEXT2009 Nuclear Researchers Exchange Program	NSRA (MEXT)	Burn-up Behaviour of New Type Nuclear Fuels in Reactor Core Models		Research	12m	1	English	Nuclear Physics	Air Ticket Accommodation Daily Allowance	http://www.nsra.or.jp/int/iard/d.html