

Contents

1	Integrating Social-Scientific Literacy in Nuclear Engineering Education	1
	Kohta Juraku, Cathryn Carson, Shinya Nagasaki, Mikael Jensen, Joonhong Ahn and Satoru Tanaka	
 Part I Understanding the Fukushima Daiichi Accident and Its Consequences		
2	Event Sequence of the Fukushima Daiichi Accident	21
	Shinya Mizokami and Yuji Kumagai	
3	Analysis of Radioactive Release from the Fukushima Daiichi Nuclear Power Station	51
	Satoru Tanaka and Shinichiro Kado	
4	Environmental Contamination and Decontamination After Fukushima Daiichi Accident	85
	Joonhong Ahn	
5	Long-Term Energy and Environmental Strategies	105
	Yasumasa Fujii and Ryōichi Komiyama	
6	Impact of Fukushima Daiichi Accident on Japan’s Nuclear Fuel Cycle and Spent Fuel Management.	117
	Joonhong Ahn	
7	Political Impact of the Fukushima Daiichi Accident in Europe	123
	Mikael Jensen	

Part II Etiology

8	Where Was the Weakness in Application of Defense-in-Depth Concept and Why?	131
	Akira Omoto	
9	Ethics, Risk and Safety Culture	165
	William E. Kastenberg	
10	The “Structural Disaster” of the Science-Technology-Society Interface	189
	Miwao Matsumoto	
11	Three Mile Island and Fukushima.	215
	J. Samuel Walker	

Part III Basis for Moving Forward

12	Implications and Lessons for Advanced Reactor Design and Operation	223
	Yoshiaki Oka and Dietmar Bittermann	
13	Understanding the Health Impacts and Risks of Exposure to Radiation	259
	Taylor A. Choi, Sylvain V. Costes and Rebecca J. Abergel	
14	Nuclear Safety Regulation in Japan and Impacts of the Fukushima Daiichi Accident	283
	Hideaki Shiroyama	
15	Radioactive Waste Management After Fukushima Daiichi Accident.	297
	Shinya Nagasaki	
16	From Fukushima to the World.	309
	Tatsujiro Suzuki	

Part IV Reflections by Students and Mentors

17	Students’ Reflections	317
	Beth Cary	

18	Educating the Post-Fukushima Nuclear Engineer	341
	Mary E. Sunderland	
19	Reflections on Developing an Identity for the Third Generation Nuclear Engineer in the Post-Fukushima Society	353
	Robert Angelo Borrelli	
20	Nuclear Engineers for Society: What Education can do	367
	Takuji Oda	

Part V Education in Future

21	Engineers, Social Scientists, and Nuclear Power	387
	Cathryn Carson	
22	Towards More Open-Minded Nuclear Engineering.	403
	Kohta Juraku	
23	Lunchbox-Toolbox: GKS1350021 and Nuclear Engineers	413
	Gayle K. Sato	
24	Resilience Engineering	435
	Kazuo Furuta	

Erratum to: Integrating Social-Scientific Literacy in Nuclear Engineering Education	E1
Kohta Juraku, Cathryn Carson, Shinya Nagasaki, Mikael Jensen, Joonhong Ahn and Satoru Tanaka	

Reflections on the Fukushima Daiichi Nuclear Accident
Toward Social-Scientific Literacy and Engineering
Resilience

Ahn, J.; Carson, C.; Jensen, M.; Juraku, K.; Nagasaki, S.;
Tanaka, S. (Eds.)

2015, XV, 454 p. 95 illus., 77 illus. in color., Hardcover
ISBN: 978-3-319-12089-8