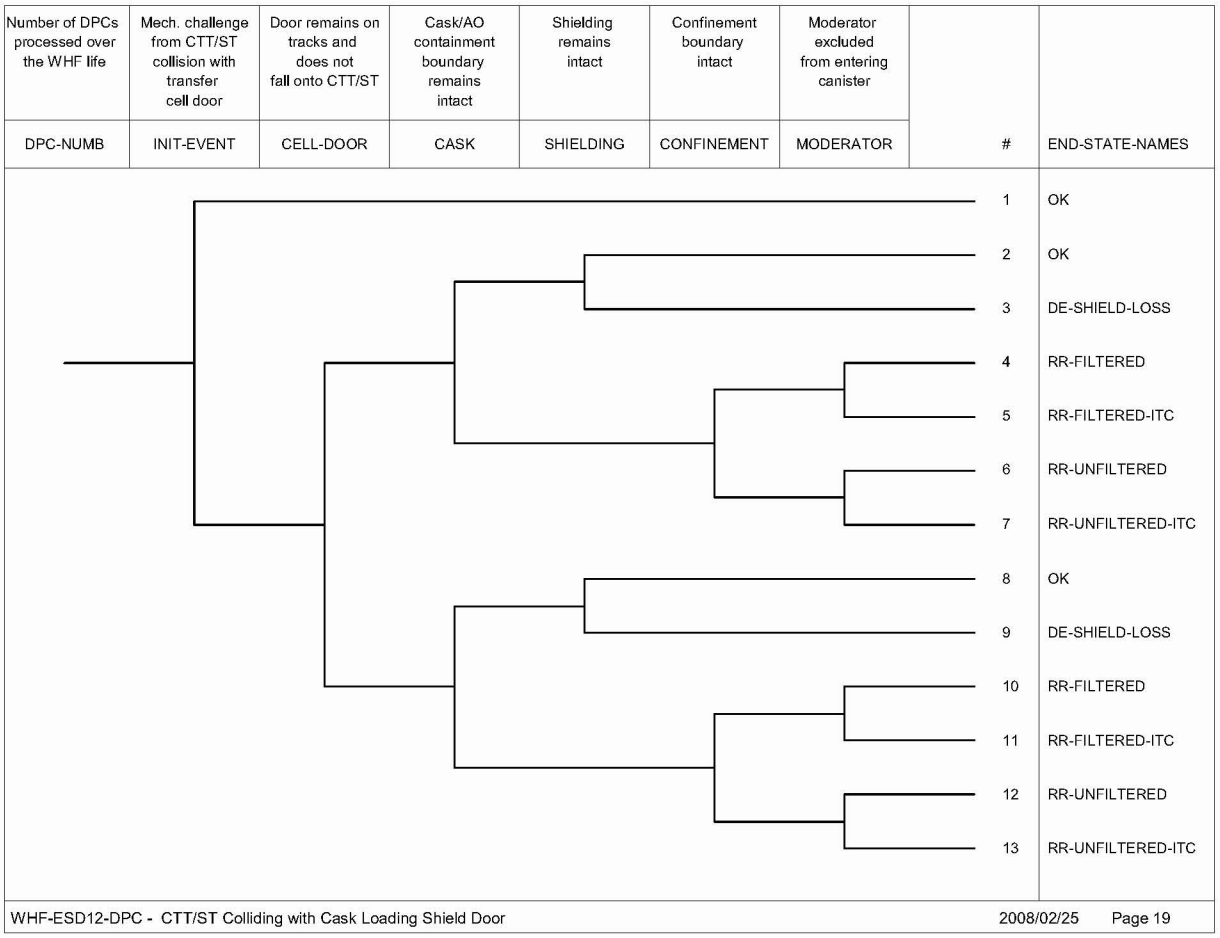

Source: Original

Figure A5-20. Event Tree WHF-ESD12-DPC – CTT/Site Transporter Colliding with Cask Loading Shield Door

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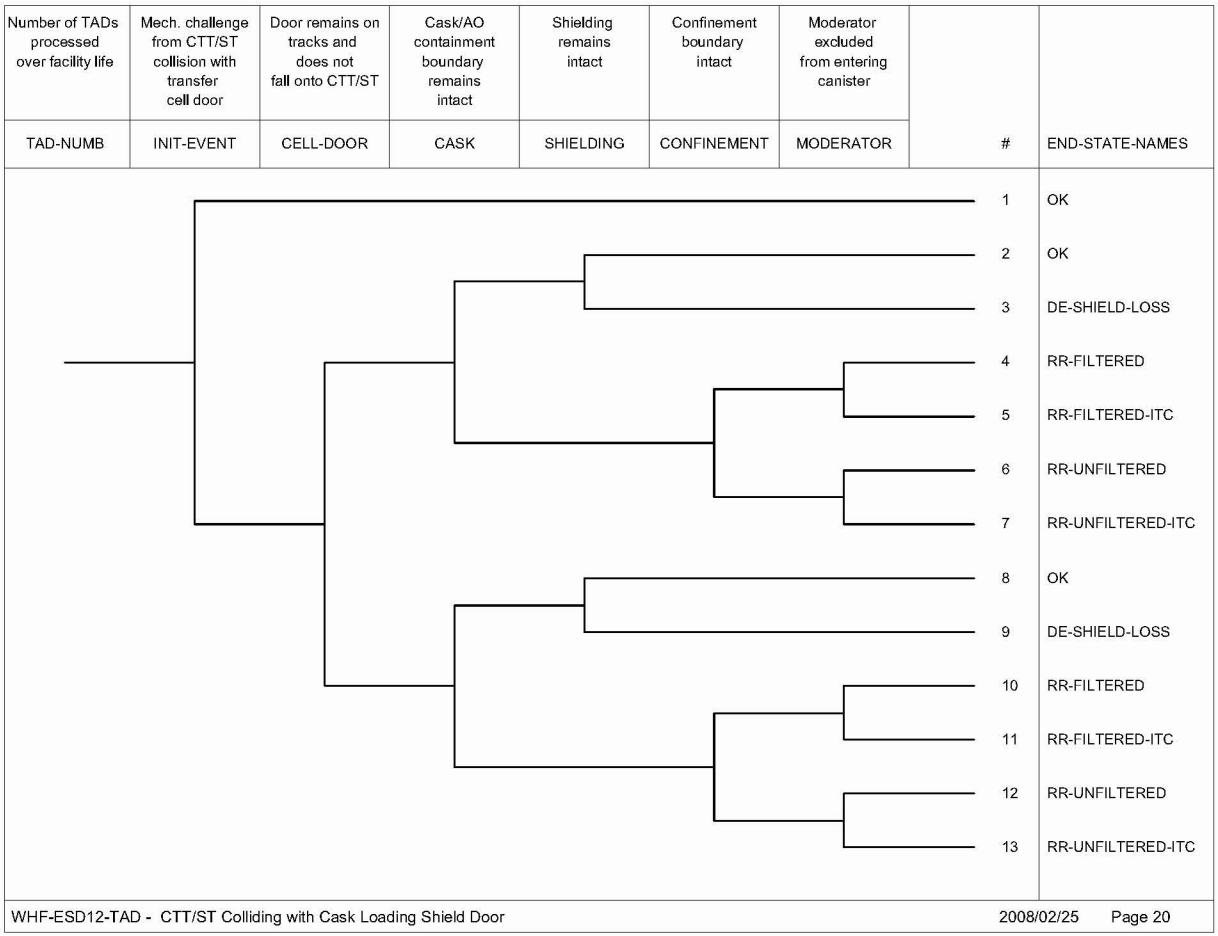

Source: Original

Figure A5-21. Event Tree WHF-ESD12-TAD–CTT/Site Transporter Colliding with Cask Loading Shield Door

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Number of DPCs processed over facility life	Identified initiating events			
DPC-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Drop at operational height	2	T => 6	RESPONSE-CANISTER1
	Drop above operational height	3	T => 6	RESPONSE-CANISTER1
	Side impact of canister	4	T => 6	RESPONSE-CANISTER1
	Drop on canister	5	T => 6	RESPONSE-CANISTER1
	Spurious movement	6	T => 6	RESPONSE-CANISTER1
	Canister drop inside bell	7	T => 6	RESPONSE-CANISTER1

WHF-ESD13-DPC - Transferring a DPC with the CTM 2008/02/20 Page 21

Source: Original

Figure A5-22. Event Tree WHF-ESD13-DPC – Transferring a DPC with the CTM

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Number of TADs processed over facility life	Identified initiating events			
TAD-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Drop at operational height	2	T => 6	RESPONSE-CANISTER1
	Drop above operational height	3	T => 6	RESPONSE-CANISTER1
	Side impact of canister	4	T => 6	RESPONSE-CANISTER1
	Drop on canister	5	T => 6	RESPONSE-CANISTER1
	Spurious movement	6	T => 6	RESPONSE-CANISTER1
	Canister drop in bell	7	T => 6	RESPONSE-CANISTER1

WHF-ESD13-TAD - Transferring a TAD with the CTM 2008/02/20 Page 22

Source: Original

Figure A5-23. Event Tree WHF-ESD13-TAD – Transferring a DPC with the CTM

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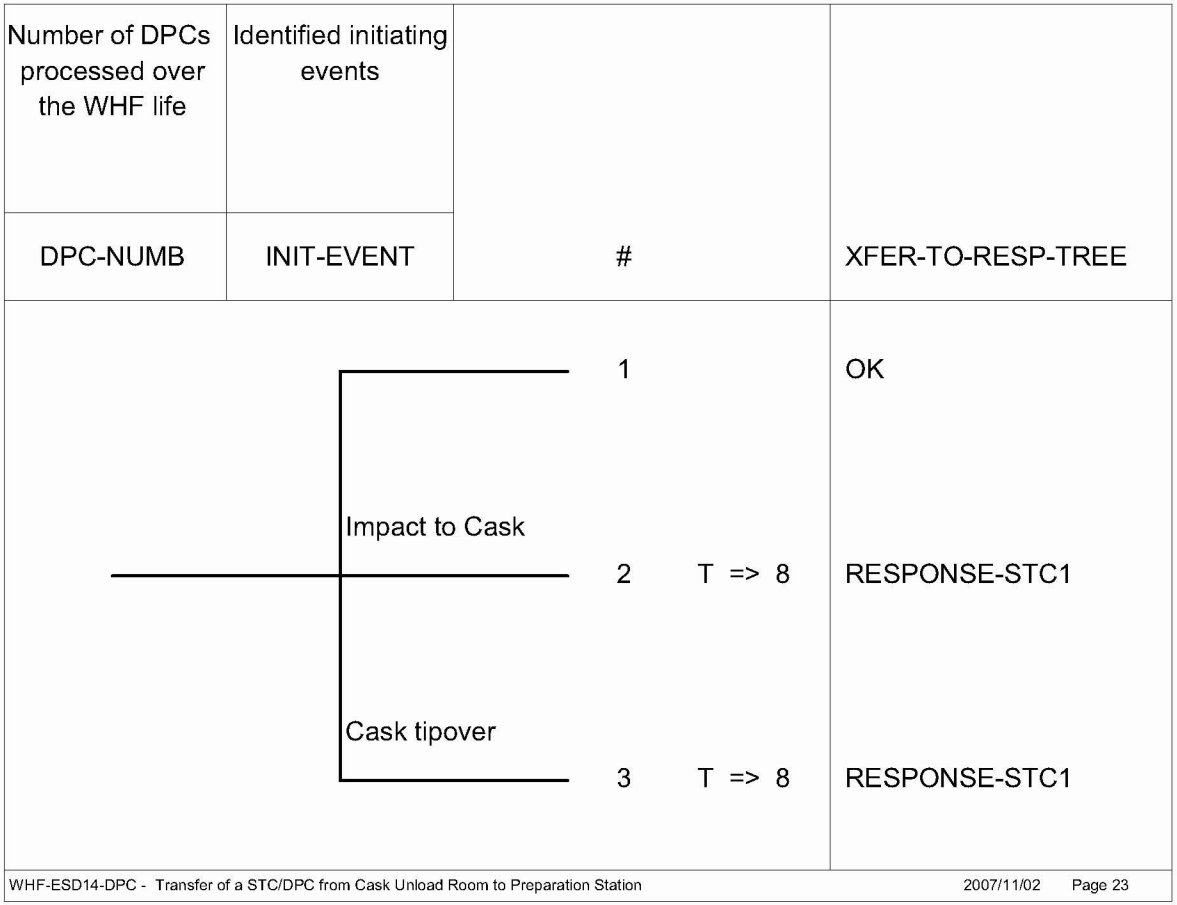

Source: Original

Figure A5-24. Event Tree WHF-ESD14-DPC – Transfer of a STC/DPC from Cask Unload Room to Preparation Station

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Number of DPCs processed over the WHF life	Identified initiating events			
DPC-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
	Side impact	1		OK
	Drop on cask	2	T => 8	RESPONSE-STC1
	~~Drop at operational~~ height	3	T => 8	RESPONSE-STC1
	~~Drop above~~ operational height	4	T => 8	RESPONSE-STC1
	STC/DPC tip over	5	T => 8	RESPONSE-STC1
		6	T => 8	RESPONSE-STC1

WHF-ESD15-DPC - Transfer of STC/DPC from Prep Station to Cutting Station 2007/11/02 Page 24

Source: Original

Figure A5-25. Event Tree WHF-ESD15-DPC – Transfer of STC/DPC from Preparation Station to Cutting Station

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Number of CSNF processed over the WHF life	Identify initiating events			
CSNF-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Impact to cask valves	2	T => 26	RESPONSE-PREPSTATION
	Sample line break	3	T => 26	RESPONSE-PREPSTATION
	Cask overpressure	4	T => 26	RESPONSE-PREPSTATION

WHF-ESD16-CSNF - Transportation Cask/CSNF Preparation at Preparation Station 2008/02/20 Page 25

Source: Original

Figure A5-26. Event Tree WHF-ESD16-CSNF – Transportation Cask/Commercial SNF Preparation at Preparation Station

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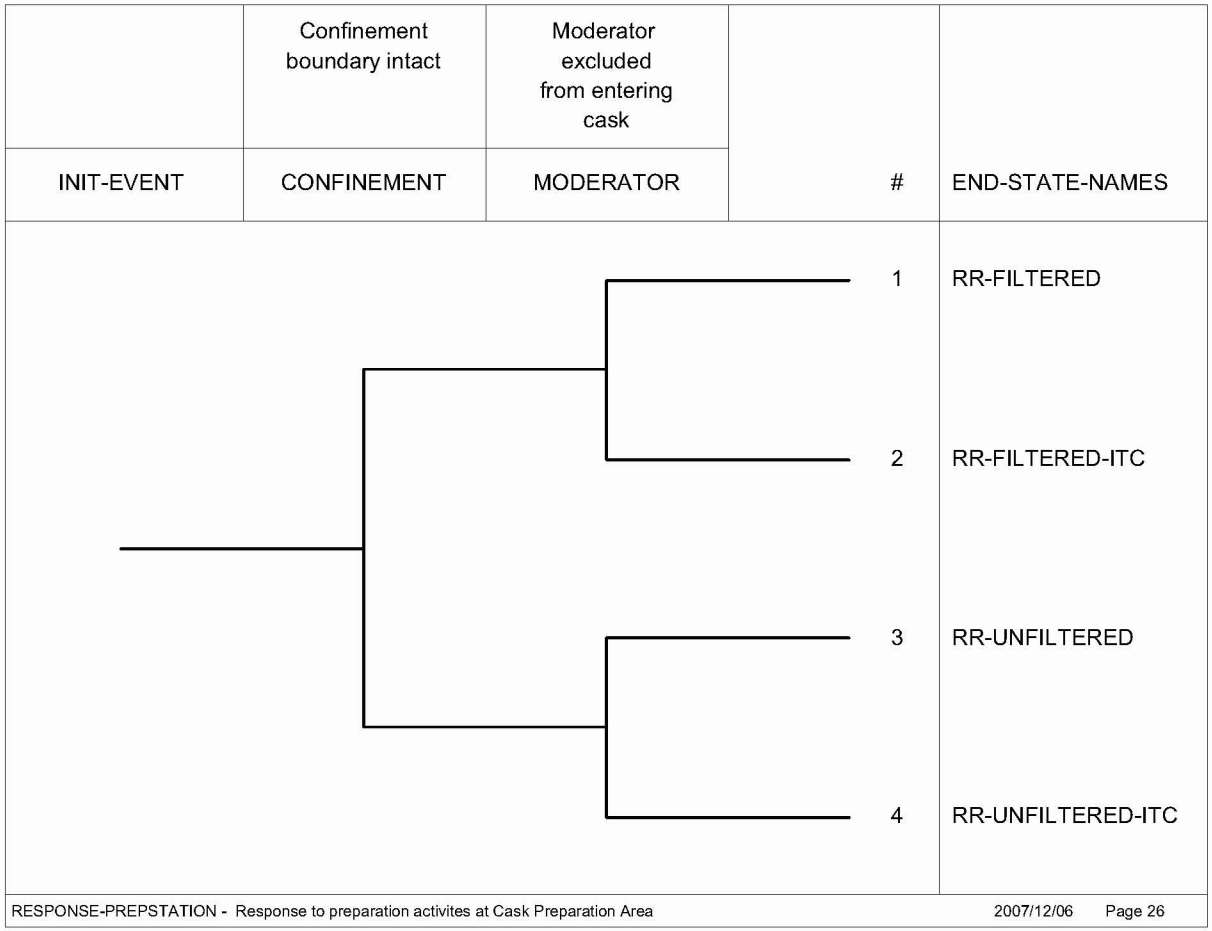

Source: Original

Figure A5-27. Event Tree RESPONSE – PREP STATION – Response to Preparation Activities at Cask Preparation Area

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Number of DPCs processed over the WHF life	Identified initiating events			
DPC-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Impact to canister valves	2	T => 26	RESPONSE-PREPSTATION
	Sampling line break	3	T => 26	RESPONSE-PREPSTATION
	Overpressurization of canister	4	T => 26	RESPONSE-PREPSTATION

WHF-ESD17-DPC - Preparation of STC/DPC at the DPC Cutting Station 2007/12/10 Page 27

Source: Original

Figure A5-28. Event Tree WHF-ESD17-DPC – Preparation of STC/DPC at the DPC Cutting Station

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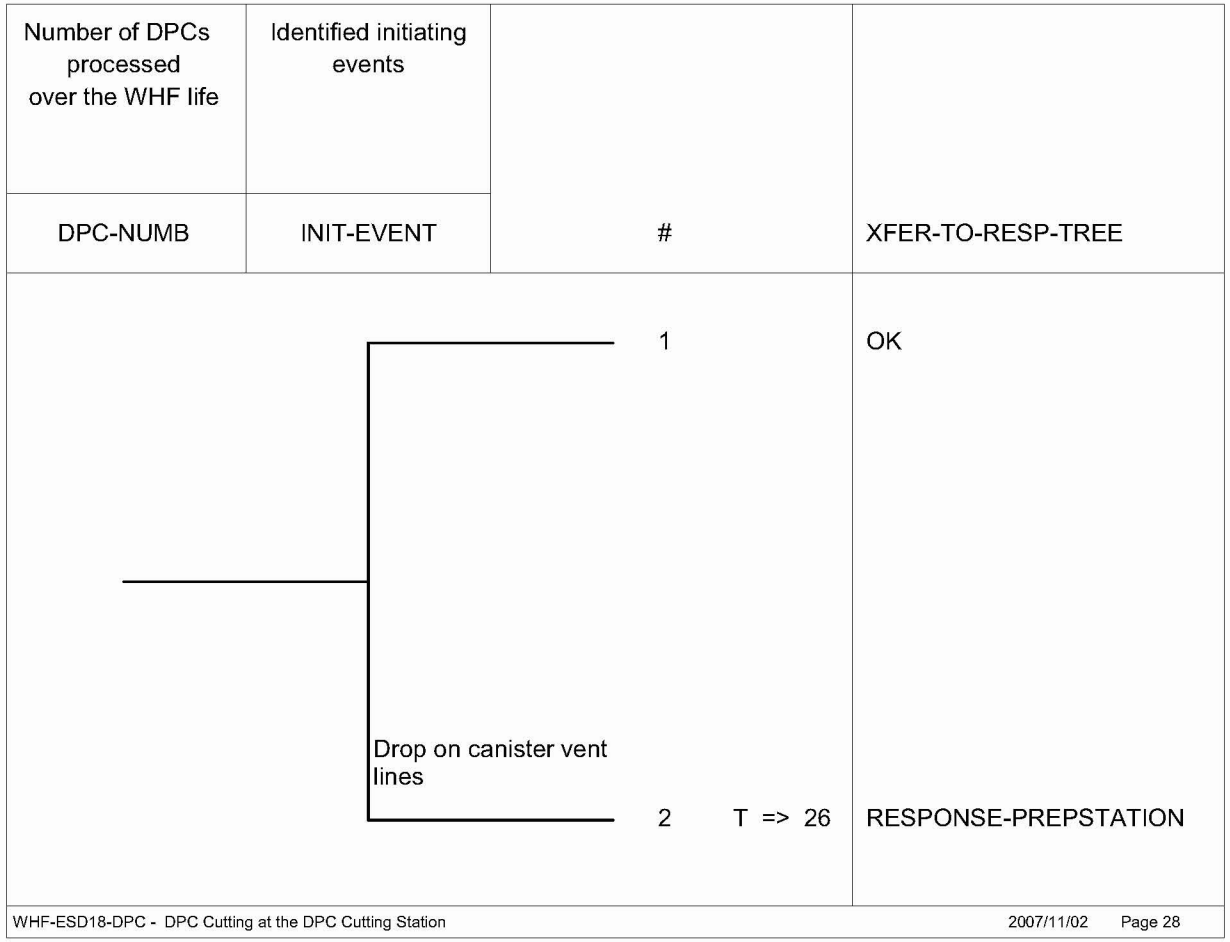

Source: Original

Figure A5-29. Event Tree WHF-ESD18-DPC – DPC Cutting at the DPC Cutting Station

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Number of DPCs processed over the WHF life	Identified initiating events			
DPC-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
	Impact to Cask - Pool	1		OK
	Drop on Cask - Pool	2	T => 30	RESPONSE-POOLMOVE
	Drop at Operation Height - Pool	3	T => 30	RESPONSE-POOLMOVE
	Drop Above Operation Height - Pool	4	T => 30	RESPONSE-POOLMOVE
	Cask Tips Over - Pool	5	T => 30	RESPONSE-POOLMOVE
	Impact to Cask - Floor	6	T => 30	RESPONSE-POOLMOVE
	Drop on Cask - Floor	7	T => 8	RESPONSE-STC1
	Drop at Operation Height - Floor	8	T => 8	RESPONSE-STC1
	Drop Above Operation Height - Floor	9	T => 8	RESPONSE-STC1
	Cask Tips Over - Floor	10	T => 8	RESPONSE-STC1
		11	T => 8	RESPONSE-STC1

WHF-ESD19-DPC - Transfer of STC/DPC from Prep Station to Pool Ledge 2008/01/04 Page 29

Source: Original

Figure A5-30. Event Tree WHF-ESD19-DPC – Transfer of STC/DPC from Preparation Station to Pool Ledge

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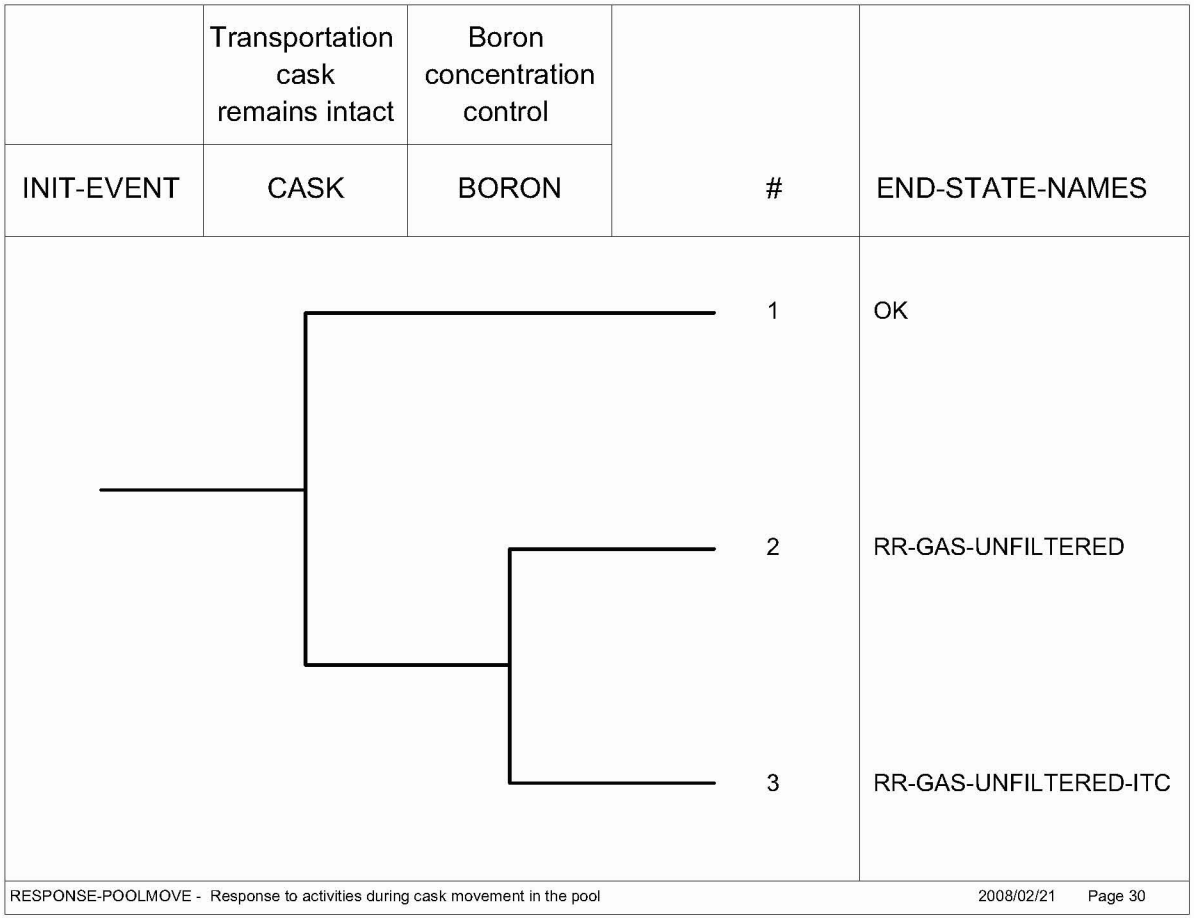

Source: Original

Figure A5-31 Event Tree RESPONSE-POOLMOVE – Response to Activities during Cask Movement in the Pool

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Number of CSNF processed over the WHF life	Identified initiating events			
CSNF-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Impact to Cask - Pool	2	T => 30	RESPONSE-POOLMOVE
	Drop at operational height - Pool	3	T => 30	RESPONSE-POOLMOVE
	Drop above operational height - Pool	4	T => 30	RESPONSE-POOLMOVE
	Cask tips over - Pool	5	T => 30	RESPONSE-POOLMOVE
	Drop on cask - Pool	6	T => 30	RESPONSE-POOLMOVE
	Impact to Cask - Floor	7	T => 2	RESPONSE-TCASK-CSNF
	Drop at operational height - Floor	8	T => 2	RESPONSE-TCASK-CSNF
	Drop above operational height - Floor	9	T => 2	RESPONSE-TCASK-CSNF
	Cask Tips Over - Floor	10	T => 2	RESPONSE-TCASK-CSNF
	Drop on cask - Floor	11	T => 2	RESPONSE-TCASK-CSNF

WHF-ESD20-CSNF - Transfer of TC/CSNF from Prep Station to Pool Ledge 2008/01/30 Page 31

Source: Original

Figure A5-32. Event Tree WHF-ESD20-CSNF – Transfer of Transportation Cask/CSNF from Preparation Station to Pool Ledge

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Number of CSNF processed over the WHF life	Identified initiating events			
CSNF-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Drop of TC	2	T => 30	RESPONSE-POOLMOVE
	Impact to TC	3	T => 30	RESPONSE-POOLMOVE
	Tipover of TC	4	T => 30	RESPONSE-POOLMOVE
	Drop onto TC	5	T => 30	RESPONSE-POOLMOVE

WHF-ESD21-CSNF - Lowering of TC/CSNF into Pool 2007/12/08 Page 32

Source: Original

Figure A5-33. Event Tree WHF-ESD21-CSNF – Lowering of Transportation Cask/Commercial SNF into Pool

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Number of DPCs processed over the WHF life	Identified initiating events			
DPC-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Drop of STC	2	T => 30	RESPONSE-POOLMOVE
	Impact to STC	3	T => 30	RESPONSE-POOLMOVE
	Drop onto STC	4	T => 30	RESPONSE-POOLMOVE
	Tipover of STC	5	T => 30	RESPONSE-POOLMOVE

WHF-ESD21-DPC - Lowering of STC/DPC into Pool 2007/12/08 Page 33

Source: Original

Figure A5-34. Event Tree WHF-ESD21-DPC – Lowering of STC/DPC into Pool

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Number of TADs processed over facility life	Identified initiating events			
TAD-NUMB	INIT-EVENT		#	XFER-TO-RESP-TREE
			1	OK
		Drop of STC	2	T => 30 RESPONSE-POOLMOVE
		Impact to STC	3	T => 30 RESPONSE-POOLMOVE
		Drop onto STC	4	T => 30 RESPONSE-POOLMOVE
		Tipover of STC	5	T => 30 RESPONSE-POOLMOVE

WHF-ESD21-TAD - Removing TAD from Pool Bottom 2007/12/08 Page 34

Source: Original

Figure A5-35. Event Tree WHF-ESD21-TAD – Removing TAD from Pool Bottom

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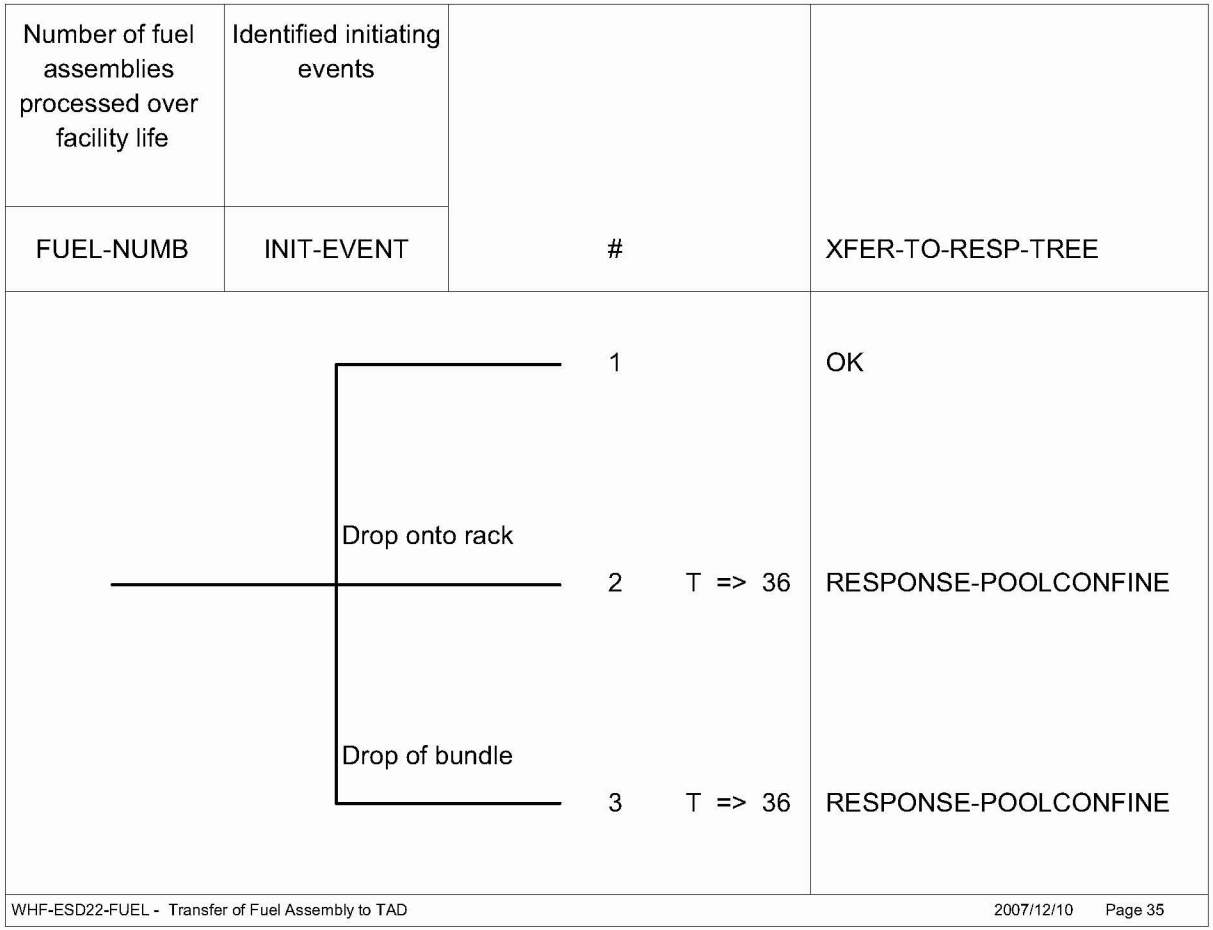

Source: Original

Figure A5-36. Event Tree WHF-ESD22-FUEL – Transfer of Fuel Assembly to TAD Canister

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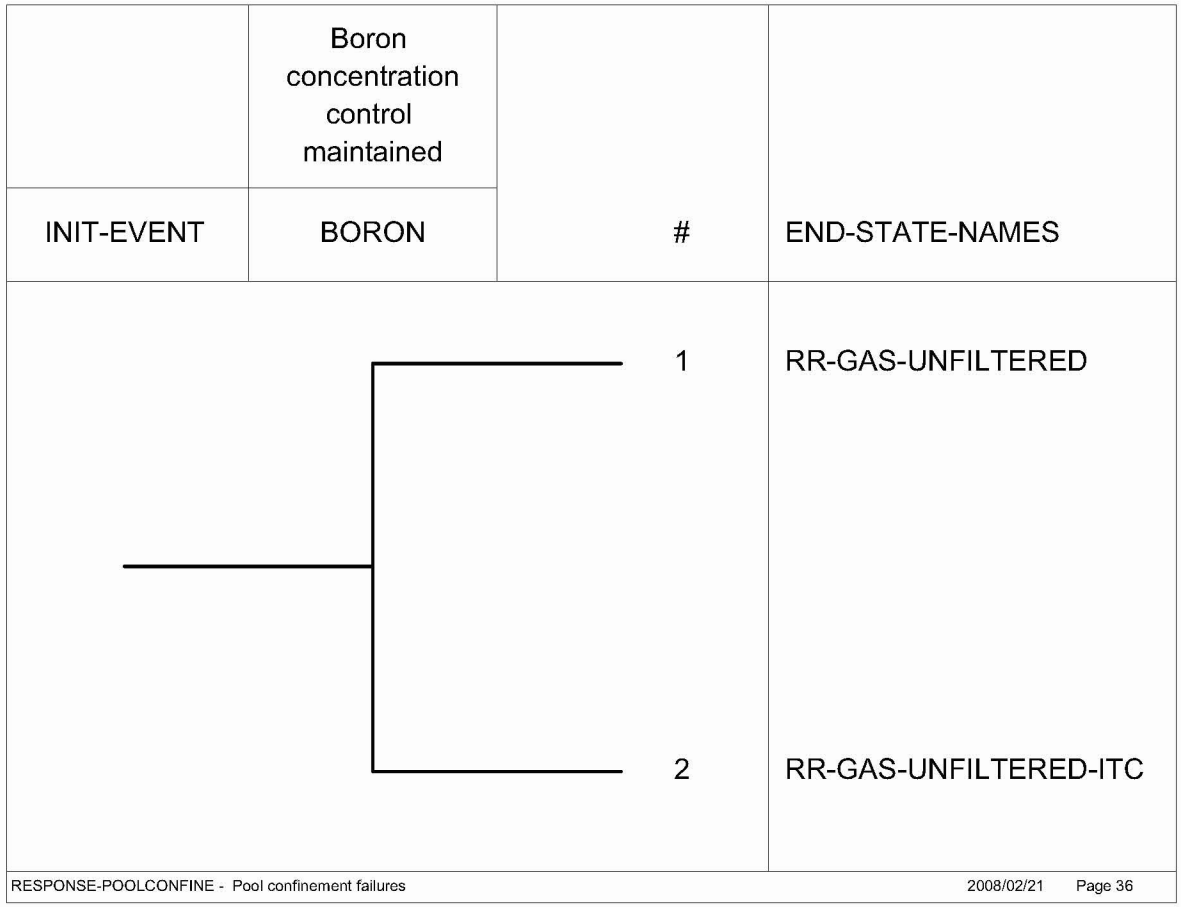

Source: Original

Figure A5-37. Event Tree RESPONSE-POOLCONFINE – Pool Confinement Failures

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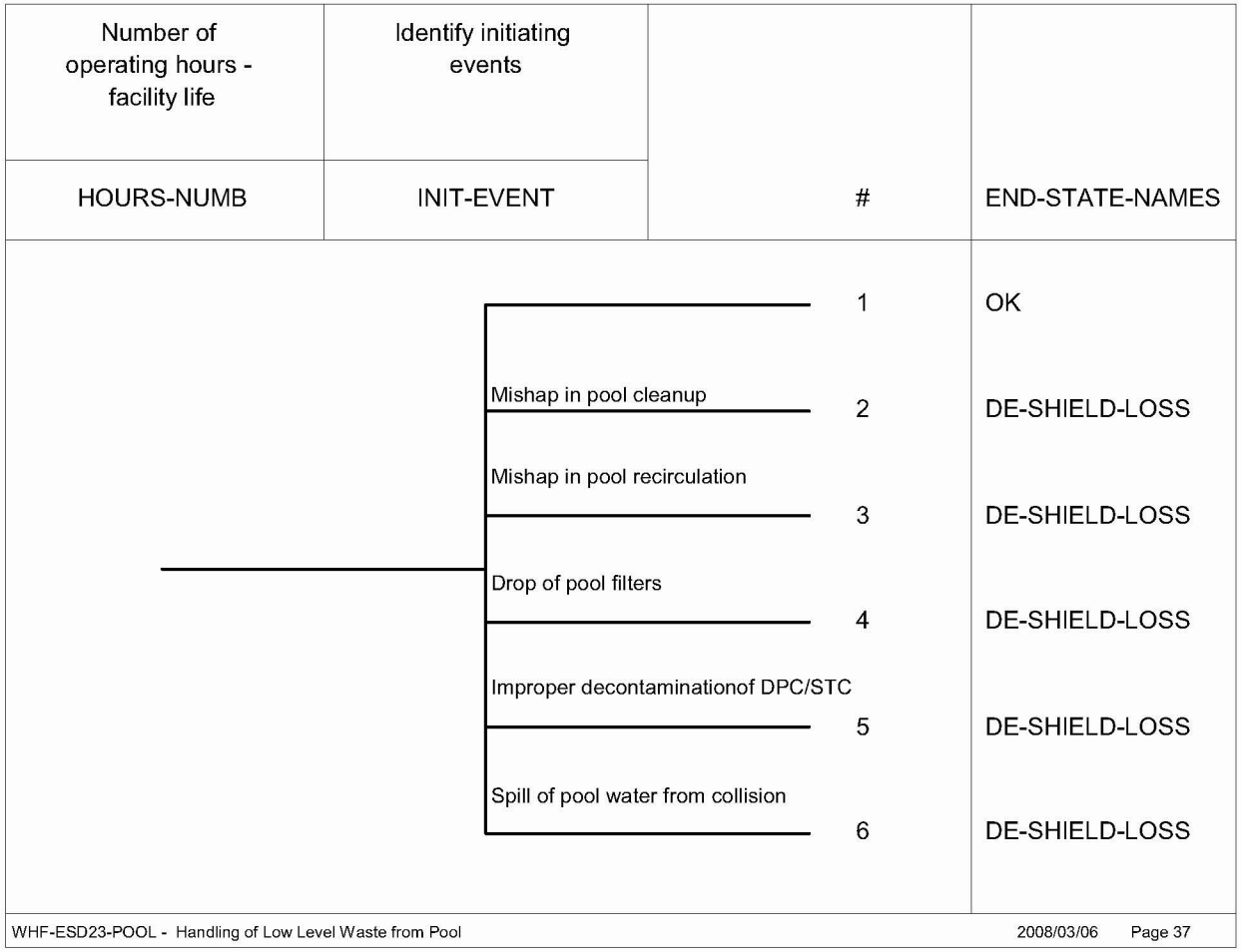

Source: Original

Figure A5-38. Event Tree WHF-ESD23-POOL – Handling of Low-Level Waste from Pool

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Number of TADs processed over the WHF life	Identified initiating events			
TAD-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
	Impact of STC/TAD - Pool	1		OK
	Drop at operational height - Pool	2	T => 30	RESPONSE-POOLMOVE
	Drop above operational height - Pool	3	T => 30	RESPONSE-POOLMOVE
	Tip over of STC/TAD - Pool	4	T => 30	RESPONSE-POOLMOVE
	Drop on STC/TAD - Pool	5	T => 30	RESPONSE-POOLMOVE
	Impact of STC/TAD - Floor	6	T => 30	RESPONSE-POOLMOVE
	Drop at operational height - Floor	7	T => 8	RESPONSE-STC1
	Drop above operational height - Floor	8	T => 8	RESPONSE-STC1
	Tip over of STC/TAD - Floor	9	T => 8	RESPONSE-STC1
	Drop on STC/TAD - Floor	10	T => 8	RESPONSE-STC1
		11	T => 8	RESPONSE-STC1

WHF-ESD24-TAD - Transfer of STC/TAD from Pool Ledge to Prep Area 2007/12/08 Page 38

Source: Original

Figure A5-39. Event Tree WHF-ESD24-TAD – Transfer of STC/TAD from Pool Ledge to Preparation Area

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Number of TADs processed over the WHF life	Identified initiating events			
TAD-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Object dropped onto TAD	2	T => 40	RESPONSE-TAD
	Side impact to cask	3	T => 40	RESPONSE-TAD

WHF-ESD25-TAD - Assembly and Closure of STC/TAD 2007/12/10 Page 39

Source: Original

Figure A5-40. Event Tree WHF-ESD25-TAD – Assembly and Closure of STC/TAD

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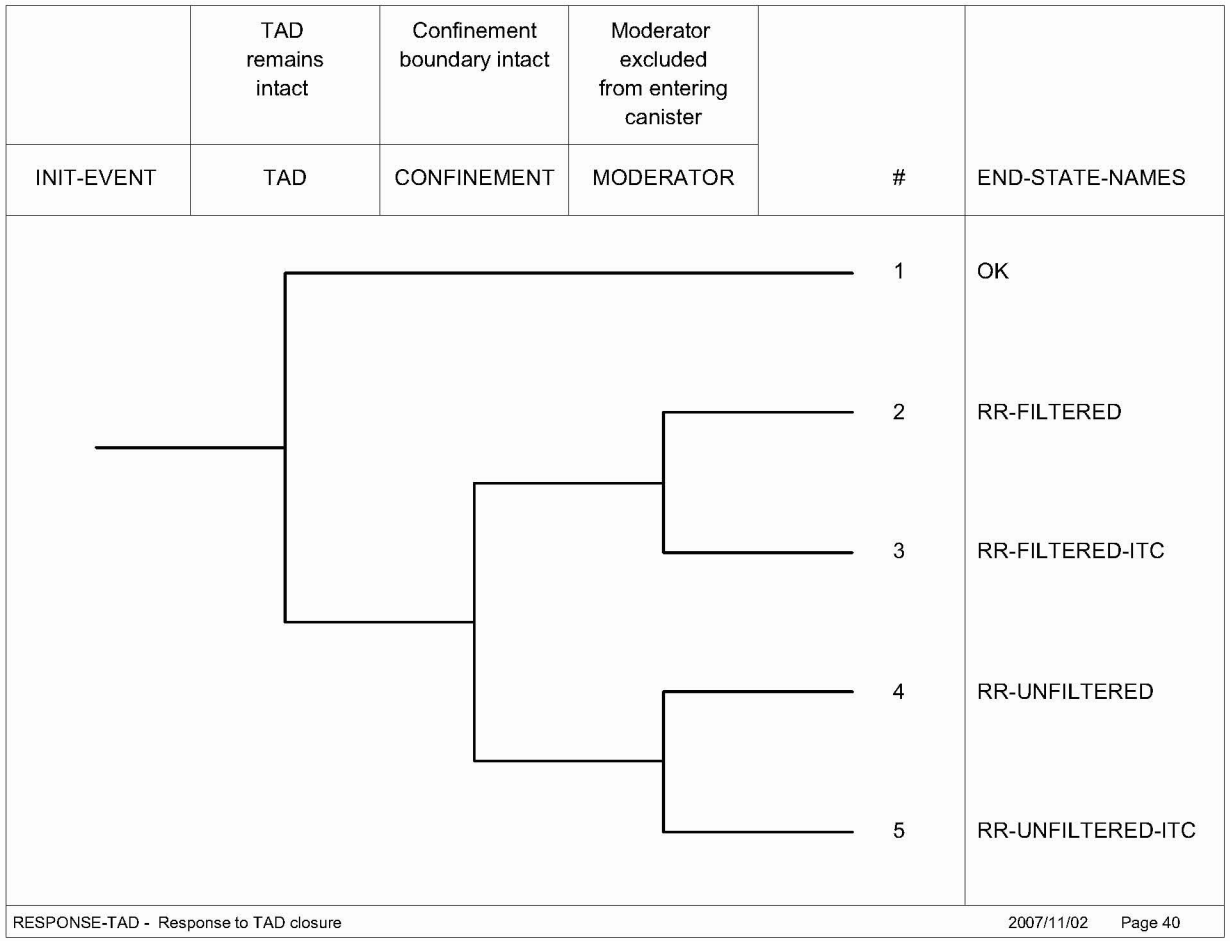

Source: Original

Figure A5-41. Event Tree RESPONSE-TAD – Response to TAD Closure

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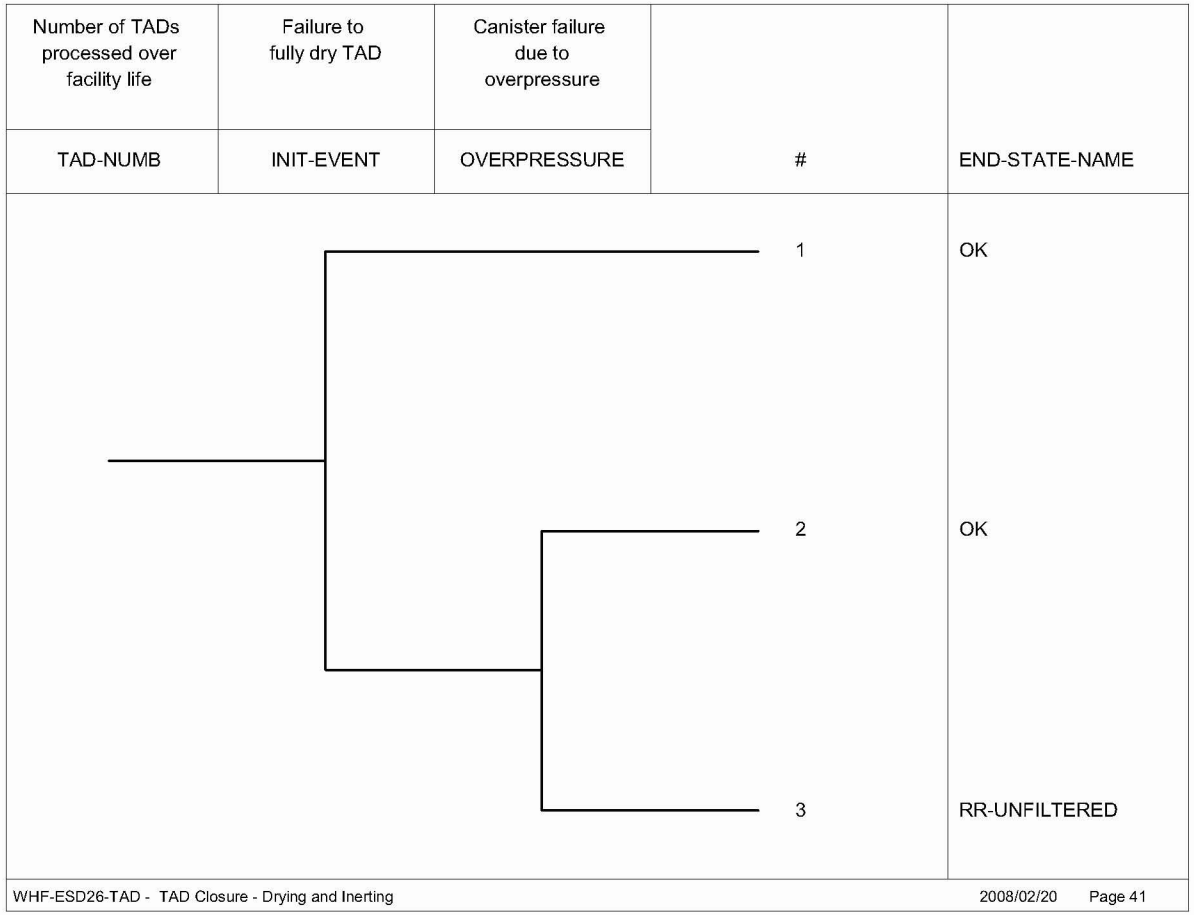

Source: Original

Figure A5-42. Event Tree WHF-ESD26-TAD – TAD Closure - Drying and Inerting

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Number of TADs processed over facility life	Identify initiating events			
TAD-NUMB	INIT-EVENT		#	XFER-TO-RESP-TREE
			1	OK
		Bad weld - improper or cracked	2 T => 26	RESPONSE-PREPSTATION
		Line break	3 T => 26	RESPONSE-PREPSTATION

WHF-ESD27-TAD - TAD Closure Process 2007/12/06 Page 43

Source: Original

Figure A5-43. Event Tree WHF-ESD27-TAD–TAD Canister Closure Process

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Number of TADs processed over facility life	Identified initiating events			
TAD-NUMB	INIT-EVENT	#		XFER-TO-RESP-TREE
		1		OK
	Drop on TAD	2	T => 8	RESPONSE-STC1
	Drop at operational height	3	T => 8	RESPONSE-STC1
	Drop above operational height	4	T => 8	RESPONSE-STC1
	Impact to TAD	5	T => 8	RESPONSE-STC1
	TAD tip over	6	T => 8	RESPONSE-STC1
WHF-ESD28-TAD - Transfer of TAD from TAD Closure Station to CTT			2008/02/22	Page 44

Source: Original

Figure A5-44. Event Tree WHF-ESD28-TAD – Transfer of TAD from TAD Closure Station to CTT

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