REAT VECTORS	LIKELIHOO	D		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	In the context of a Fede what percentage of the think the threat would b realized AND have an o effect? Provide minin maximum values. Interpr	time do you e most likely observable num and et this range	In the context of a Federal election, assuming the threat is realized, what percentage of the time would it have a low, medium, and high impact? (numbers should sum to 100)			
ompleted by: Cyber Security Expert . Data extracted.	of value: as "I think this to be realized AND have an effect in [most likely] pe the time but this estimat. low as [minimum] % an [maximum] %." (numbe need to sum to 2	observeable rcent (%) of e could be as d as high as ers DO NOT				
Voting Step: REGISTRATION	Minimum Most Likely	Maximum	Low	Medium	High	
ACKS INSIDER ATTACKS		_		_	-	
Attacks Against VRDB			90	5	5	
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;	I					
Attacks to Voter's Assistance			90	5	5	
Types of threat vectors: Intentional corruption by malicious insiders of information provided to voters (omission, false or incomplete statement, outdated information);						
Attacks to Voting Access			80	10	5	
Types of threat vectors: Intentional failure at LEO to send or misaddress registration form and instructions; Intentional failure at LEO to send or misaddress registration rejections; Intentional addition of confusing language on registration form and instructions; Intentional failure to provide login credentials and instructions to voters; Intentional corruption of login credentials and instructions provided to voters; Intentional addition of confusing information on voting interface;						
Attacks by Denial of Service			80	10	5	
Types of threat vectors: Intentional disruption of registration activities at LEO; Intentional disruption of transmission of registration materials; Intentional disruption of voter's ability to register;						
Attacks Against Registration Forms and Instructions			90	5	5	
Types of threat vectors: Intentional modification at LEO of registration forms and instructions; Intentional destruction at LEO of registration forms and instructions; Intentional addition at LEO of fake registration forms and instructions;						

EAT VECTORS		LIKELIHOO	DD		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation ompleted by: Cyber Security Exper- Data extracted.	what pero think the t realized effect maximum of values a be realized effect in [the time b low as [n [maximu	text of a Fede centage of the threat would b AND have an P Provide mini values. Interp as "I think this d AND have an most likely] pu ut this estimat inimum] % ar m] %." (numb eeed to sum to	time do you ee most likely observable mum and ret this range threat would o observeable observeable observeable observeable a observeable sercent (%) of te could be as ad as high as ers DO NOT	assuming what perce it have a	In the context of a Federal elect assuming the threat is realize what percentage of the time we it have a low, medium, and hi impact? (numbers should sum 100)		
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High	
Attacks During Transmission of Registration Forms and Instructions				90	5	5	
Types of threat vectors: Intentional modification of registration forms and instructions during their transmission from LEO to the voters; Intentional destruction of registration forms and instructions during their transmission from LEO to the voters; Intentional addition of fake registration forms and instructions during transmission from LEO to the voters;							
Attacks Against Marking of Registration Forms				80	10	5	
Types of threat vectors: Phishing attack; Election webserver tampering; Coerced registration; Masqueraded registration; Vote buying; Pay voter not to vote; Ineligible registration;		-					
Attacks During Transmission of Completed Registration Packets				80	10	5	
Types of threat vectors: Intentional modification of completed registration packets during their transmission from the voters to the LEO; Intentional destruction of completed registration packets during their transmission from the voters to the LEO; Intentional addition of fake completed registration packets during transmission from the voters to the LEO;	ו						
Attacks Against Processing of Completed Registration Packets				90	5	5	
Types of threat vectors: Intentional modification of completed registration packets at the LEO; Intentional destruction of completed registration packets at the LEO; Intentional addition of fake completed registration packets at the LEO;							
Attacks During Transmission of Registration Rejections				90	5	5	
Types of threat vectors: Intentional modification of registration rejections during their transmission from LEO to the voters; Intentional destruction of registration rejections during their transmission from LEO to the voters; Intentional addition of fake registration rejections during transmission from LEO to the voters; Let us the							
TSIDER ATTACKS							
Attacks Against Voter's Assistance				95	3	2	
Types of threat vectors: Intentional corruption by malicious outsiders of information provided to voters (omission, false or incomplete statement, outdated information);							
Attacks Against Voting Access				80	10	10	
Types of threat vectors: Phishing attack;							

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Expert 2. Data extracted .	In the com what perce think the th realized / effect? maximum v of values at be realized effect in [n the time bu low as [m] [maximum	LIKELIHOC text of a Fede entage of the hreat would b AND have and values. Interpi s "I think this AND have an most likely] pe ti this estimat inimum] % and n] %." (numbed	ral election, time do you e most likely observable mum and ret this range threat would observeable ercent (%) of e could be as d as high as ers DO NOT	assuming what perce it have a	ral election, s realized, time would a, and high uld sum to			
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High		
Attacks Against Marking of Registration Forms				90	5	5		
Types of threat vectors: Phishing attack; Election webserver tampering; Coerced registration; Masqueraded registration; Vote buying; Pay voter not to vote; Ineligible registration;								
JNINTENTIONAL DISRUPTIONS								
ERRORS AT LOCAL ELECTION OFFICE								
Errors in VRDB				95	3	2		
Types of threat vectors: Accidental modification of registration records; Accidental loss of registration records; Accidental destruction of registration records; Accidental addition of erroneous registration records; VRDB accidental crash;								
Errors in Voter's Assistance				98	1	1		
Types of threat vectors: Erroneous information provided to voters (omission, false or incomplete statement, outdated information);								
Errors in Registration Forms and Instructions				98	1	1		
Types of threat vectors: Accidental modification at LEO of registration forms and instructions; Accidental loss at LEO of registration forms and instructions; Accidental destruction at LEO of registration forms and instructions; Accidental addition at LEO of erroneous registration forms and instructions;								
Errors in Processing Completed Registration Packets				98	1	1		
Types of threat vectors: Accidental modification of completed registration packets at the LEO; Accidental loss of completed registration packets at the LEO; Accidental destruction of completed registration packets at the LEO;								
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS								
Errors in Transmission of Registration Forms and Instructions				100	0	0		
Types of threat vectors: Accidental modification of registration forms and instructions during their transmission from LEO to the voters; Accidental loss of registration forms and instructions during their transmission from LEO to the voters; Accidental destruction of registration forms and instructions during their transmission from LEO to the voters;								

		LIKELIHOO	DD		IMPACT	
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Exper . Data extracted.	 what per think the realized effect of values be realized effect in the time b low as in [maximum 	text of a Fede centage of the threat would b AND have an ? Provide minii values. Interp as "I think this d AND have an most likely] pu ut this estimat inimum] % ar m] %." (numb	time do you be most likely observable mum and ret this range threat would o observeable observeable observeable observeable a observeable sercent (%) of te could be as and as high as ers DO NOT	assuming what perce it have a	ext of a Feder g the threat is intage of the low, medium numbers sho 100)	realized, time would , and high
Voting Step: REGISTRATION	Minimum	Minimum Most Likely Maximum			Medium	High
Errors in Transmission of Completed Registration Packets				100	0	0
Types of threat vectors: Accidental modification of completed registration packets during their transmission from the voters to the LEO; Accident loss of completed registration packets during their transmission from the voters to the LEO; Accidental destruction of completed registration pack during their transmission from the voters to the LEO;			•			
Errors in Transmission of Registration Rejections				100	0	0
Types of threat vectors: Accidental modification of registration rejections during their transmission from LEO to the voters; Accidental loss of registration rejections during their transmission from LEO to the voters; Accidental destruction of registration rejections during their transmission from LEO to the voters;			•			
ERRORS AT VOTER'S LOCATION						
Errors in Voting Access				98	1	1
Types of threat vectors: Online access nonexistent, irregular and/or unreliable; Difficulties with finding or logging in the election website; Election website ease-of-use and clarity;			-			
Errors in Obtaining Voter's Assistance				98	1	1
Types of threat vectors: Contact wrong LEO; Being unaware of voter's assistance resources; Putting trust in unvetted third-party resources;						
Errors in Registration Application				95	3	2
Types of threat vectors: Incorrect contact information provided to LEO; Registration packet incorrectly completed/signed; Registration packet incorrectly transmitted to LEO;						
ACCIDENTAL DISRUPTIONS						
Disruptions by Natural Events				98	1	1
Types of threat vectors: Weather-related; Earthquake; Outbreak;						
Disruptions by Environmental Events				98	1	1
Types of threat vectors: Fire; Spill; Flooding;						
Disruptions by Human-Created Collateral Events				98	1	1
Types of threat vectors: Technical failure; Labor-related; Terrorism;						

IREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Exper 2. Data extracted.	In the con what perc think the ti realized effect? maximum of values a be realized effect in [the time bu low as [m [maximum]	LIKELIHOO text of a Fede entage of the hreat would b AND have an o Provide minir values. Interpo s "I think this 'i AND have an most likely] pe it this estimat i this estimat i minum] % an m] %." (numble	ral election, time do you ee most likely observable mum and ret this range threat would observeable ercent (%) of ee could be as id as high as ers DO NOT	assuming what perce it have a	IMPACT In the context of a Federal election assuming the threat is realized, what percentage of the time woul it have a low, medium, and high impact? (numbers should sum to 100)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High		
Attacks Against VRDB				95	3	2		
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;				95	3	2		
Attacks to Voter's Assistance				95	3	2		
Types of threat vectors: Intentional corruption by malicious insiders of information provided to voters (omission, false or incomplete statement, outdated information);								
Attacks to Voting Access				85	10	5		
Types of threat vectors: Intentional failure at LEO to send or misaddress absentee ballot request form and instructions; Intentional failure at LEO to send or misaddress absentee ballot request rejections; Intentional failure at LEO to mail or misaddress absentee ballots; Intentional addition of confusing language on absentee ballot request form and instructions; Intentional addition of confusing language on instructions for marked ballot return; Intentional failure to provide login credentials and instructions to voters; Intentional corruption of login credentials and instructions provided to voters; Intentional addition of confusing information on voting interface;								
Attacks by Denial of Service				90	5	5		
Types of threat vectors: Election webserver tampering; Intentional disruption of absentee ballot request activities at LEO; Intentional disruption of transmission of absentee ballot request materials; Intentional disruption of voter's ability to request an absentee ballot;								
Attacks Against Absentee Ballot Request Forms and Instructions				98	1	1		
Types of threat vectors: Intentional modification at LEO of absentee ballot request forms and instructions; Intentional destruction at LEO of absentee ballot request forms and instructions; Intentional addition at LEO of fake absentee ballot request forms and instructions;								

HREAT VECTORS		LIKELIHOO	DD		IMPACT			
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation Completed by: Cyber Security Exper 2. Data extracted.	what perce think the til realized effect? maximum a of values a be realized effect in [n the time hu low as [m [maximum	s "I think this AND have an most likely] p	time do you be most likely observable mum and ret this range threat would observeable ercent (%) of te could be as and as high as pers DO NOT	assuming what perce it have a	the context of a Federal election assuming the threat is realized, hat percentage of the time would t have a low, medium, and high npact? (numbers should sum to 100)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High		
Attacks During Transmission of Absentee Ballot Request Forms and Instructions				96	2	2		
Types of threat vectors: Intentional modification of absentee ballot request forms and instructions during their transmission from LEO to the voters; Intentional destruction of absentee ballot request forms and instructions during their transmission from LEO to the voters; Intentional addition of fake absentee ballot request forms and instructions during transmission from LEO to the voters;								
Attacks Against Marking of Absentee Ballot Requests				98	1	1		
Types of threat vectors: Election webserver tampering;								
Attacks During Transmission of Completed Absentee Ballot Request Packets				96	2	2		
Types of threat vectors: Intentional modification of completed absentee ballot request packets during their transmission from the voters to the LEO; Intentional destruction of completed absentee ballot request packets during their transmission from the voters to the LEO; Intentional addition of fake completed absentee ballot request packets during transmission from the voters to the LEO;					•			
Attacks Against Processing of Completed Absentee Ballot Request Packets				98	1	1		
Types of threat vectors: Intentional modification of completed absentee ballot request packets at the LEO; Intentional destruction of completed absentee ballot request packets at the LEO; Intentional addition of fake completed absentee ballot request packets at the LEO;								
Attacks During Transmission of Rejections of Absentee Ballot Requests				98	1	1		
Types of threat vectors: Intentional modification of rejections of absentee ballot requests during their transmission from LEO to the voters; Intentional destruction of rejections of absentee ballot requests during their transmission from LEO to the voters; Intentional addition of fake rejections of absentee ballot requests during their transmission from LEO to the voters; Intentional addition of fake rejections of absentee ballot requests during their transmission from LEO to the voters; Intentional addition of fake rejections of absentee ballot requests during their transmission from LEO to the voters; Intentional addition of fake rejections of absentee ballot requests during transmission from LEO to the voters;								
Attacks Against Absentee Ballots and Instructions				98	1	1		
Types of threat vectors: Intentional modification at LEO of absentee ballots and instructions; Intentional destruction at LEO of absentee ballots and instructions; Intentional addition at LEO of fake absentee ballots and instructions;								

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation Completed by: Cyber Security Exper 2. Data extracted.	LIKELIHOO In the context of a Feder what percentage of the think the threat would be realized AND have an effect? Provide mini- maximum values. Interpr of values as "I think this be realized AND have an effect in [most likely] pe the time but this estimat low as [rinimum] % an [maximum] %." (number need to sum to	ral election, time do you e most likely observable num and rett this range threat would observeable ercent (%) of e could be as d as high as ers DO NOT	assuming what perce it have a	IMPACT In the context of a Federal el assuming the threat is real what percentage of the time it have a low, medium, and impact? (numbers should s 100)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum Most Likely	Maximum	Low	Medium	High		
OUTSIDER ATTACKS							
Attacks Against Voter's Assistance			96	2	2		
Types of threat vectors: Intentional corruption by malicious outsiders of information provided to voters (omission, false or incomplete statement, outdated information);	I						
Attacks Against Voting Access			96	2	2		
Types of threat vectors: Phishing attack;							
Attacks by Denial of Service			96	2	2		
Types of threat vectors: Election webserver tampering; Intentional disruption of absentee ballot request activities at LEO; Intentional disruption of transmission of absentee ballot request materials; Intentional disruption of voter's ability to request an absentee ballot;	I						
Attacks Against Marking of Absentee Ballot Requests			98	1	1		
Types of threat vectors: Phishing attack; Coerced absentee ballot request; Masqueraded absentee ballot request; Vote buying; Pay voter not to vote; Ineligible absentee ballot request;	I						
UNINTENTIONAL DISRUPTIONS							
ERRORS AT LOCAL ELECTION OFFICE							
Errors in VRDB			98	1	1		
Types of threat vectors: Accidental modification of registration records; Accidental loss of registration records; Accidental destruction of registration records; Accidental addition of erroneous registration records; VRDB accidental crash;							
Errors in Voter's Assistance			98	1	1		
Types of threat vectors: Erroneous information provided to voters (omission, false or incomplete statement, outdated information);							

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Exper 2. Data extracted .	In the com what percent think the t realized of values a be realized effect in [in the time bu low as [in [maximum]	LIKELIHOC text of a Fede entage of the hreat would b AND have an o Provide minit values. Interpi s "I think this" a ND have an most likely] pe at this estimat inimum] % an m] %." (numbused to sum to	ral election, time do you ee most likely observable mum and ret this range threat would observeable ercent (%) of the could be as ad as high as ers DO NOT	assuming what perce it have a	IMPACT In the context of a Federal elect assuming the threat is realize what percentage of the time w it have a low, medium, and h impact? (numbers should sur 100)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High		
Errors in Absentee Ballot Request Forms and Instructions				98	1	1		
Types of threat vectors: Accidental modification at LEO of absentee ballot request forms and instructions; Accidental loss at LEO of absentee ballot request forms and instructions; Accidental addition at LEO of absentee ballot request forms and instructions; Accidental addition at LEO of erroneous absentee ballot request forms and instructions;								
Errors in Processing Completed Absentee Ballot Request Packets				98	1	1		
Types of threat vectors: Accidental modification of completed absentee ballot request packets at the LEO; Accidental loss of completed absentee ballot request packets at the LEO; Accidental destruction of completed absentee ballot request packets at the LEO;								
Errors in Absentee Ballots and Instructions				98	1	1		
Types of threat vectors: Accidental modification at LEO of absentee ballots and instructions; Accidental loss at LEO of absentee ballots and instructions; Accidental destruction at LEO of absentee ballots and instructions; Accidental addition at LEO of erroneous absentee ballots and instructions;					•			
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS								
Errors in Transmission of Absentee Ballot Request Forms and Instructions				100	0	0		
Types of threat vectors: Accidental modification of absentee ballot request forms and instructions during their transmission from LEO to the voters; Accidental loss of absentee ballot request forms and instructions during their transmission from LEO to the voters; Accidental destruction of absentee ballot request forms and instructions during their transmission from LEO to the voters;								
Errors in Transmission of Completed Absentee Ballot Request Packets				100	0	0		
Types of threat vectors: Accidental modification of completed absentee ballot request packets during their transmission from the voters to the LEO; Accidental loss of completed absentee ballot request packets during their transmission from the voters to the LEO; Accidental destruction of completed absentee ballot request packets during their transmission from the voters to the LEO;								

THREAT VECTORS	LIKELIHOO	DD		IMPACT			
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation Completed by: Cyber Security Exper 2. Data extracted.	In the context of a Fede what percentage of the think the threat would be realized AND have an effect? Provide mini maximum values. Interp of values as "I think this be realized AND have an effect in [most likely] p the time but this estimat low as [minimum] % ar [maximum] %." (numb need to sum to	time do you be most likely observable mum and ret this range threat would o bserveable ercent (%) of te could be as and as high as bers DO NOT	assuming what perce it have a	In the context of a Federal electi assuming the threat is realized what percentage of the time wo it have a low, medium, and hig impact? (numbers should sum 100)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum Most Likely	Maximum	Low	Medium	High		
Errors in Transmission of Rejections of Absentee Ballot Requests			100	0	0		
Types of threat vectors: Accidental modification of rejections of absentee ballot requests during their transmission from LEO to the voters; Accidental loss of rejections of absentee ballot requests during their transmission from LEO to the voters; Accidental destruction of rejections of absentee ballot requests during their transmission from LEO to the voters;							
ERRORS AT VOTER'S LOCATION							
Errors in Voting Access			98	1	1		
Types of threat vectors: Online access nonexistent, irregular and/or unreliable; Difficulties with finding or logging in the election website; Election website ease-of-use and clarity;							
Errors in Obtaining Voter's Assistance			98	1	1		
Types of threat vectors: Contact wrong LEO; Being unaware of voter's assistance resources; Putting trust in unvetted third-party resources;	I						
Errors in Absentee Ballot Requests			98	1	1		
Types of threat vectors: Incorrect contact information provided to LEO; Absentee ballot request packet incorrectly completed/signed; Absentee ballot request packet incorrectly transmitted to LEO;							
ACCIDENTAL DISRUPTIONS			_				
Disruptions by Natural Events			98	1	1		
Types of threat vectors: Weather-related; Earthquake; Outbreak;							
Disruptions by Environmental Events			98	1	1		
Types of threat vectors: Fire; Spill; Flooding;							
Disruptions by Human-Created Collateral Events			98	1	1		
Types of threat vectors: Technical failure; Labor-related; Terrorism;							

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation Completed by: Cyber Security Expert 2. Data extracted.	In the con what perc think the ti realized effect? maximum of values a be realized effect in [i the time bu low as [m [maximum]	LIKELIHOO text of a Fede entage of the hreat would b AND have an o Provide minir values. Interpr s "I think this t AND have an most likely] pe t this estimat inimum] % an m] %." (numbe	ral election, time do you e most likely observable num and ret this range threat would observeable ercent (%) of e could be as d as high as ers DO NOT	assuming what perce it have a	IMPACT In the context of a Federal assuming the threat is re what percentage of the tir it have a low, medium, a impact? (numbers should 100)			
Voting Step: ABSENTEE BALLOT DELIVERY	Minimum	Most Likely	Maximum	Low	Medium	High		
ATTACKS								
INSIDER ATTACKS								
Attacks by Denial of Service				96	2	2		
Types of threat vectors: Election webserver tampering; Intentional disruption of absentee ballot transmission from the LEO to the voters;								
Attacks During Transmission of Absentee Ballot and Instructions				100	0	0		
Types of threat vectors: Intentional modification of absentee ballots and instructions during their transmission from LEO to the voters; Intentional destruction of absentee ballots and instructions during their transmission from LEO to the voters; Intentional addition of fake absentee ballots and instructions during transmission from LEO to the voters;								
OUTSIDER ATTACKS								
Attacks Against Voting Access				85	10	5		
Types of threat vectors: Phishing attack;								
Attacks by Denial of Service				85	10	5		
Types of threat vectors: Intentional disruption of transmission of absentee ballots from the LEO to the voters;								
UNINTENTIONAL DISRUPTIONS								
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS								
Errors in Transmission of Absentee Ballot and Instructions				100	0	0		
Types of threat vectors: Accidental modification of absentee ballots and instructions during their transmission from LEO to the voters; Accidental loss of absentee ballots instructions during their transmission from LEO to the voters; Accidental destruction of absentee ballots and instructions during their transmission from LEO to the voters;								

THREAT VECTORS		LIKELIHOO	DD	IMPACT					
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	what perc think the t realized effect? maximum of values a	In the context of a Federal election, what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range of values as "I think this threat would be realized AND have an observeable effect in [most likely] percent (%) of the time but this estimate could be as low as [minimum] % and as high as [maximum] %." (numbers DD NOT need to sum to 100)			bercentage of the time do you he threat would be most likely zed AND have an observable ect? Provide minimum and um values. Interpret this range es as "I think this threat would isod AND have an observeable				s realized, time would a, and high
Completed by: Cyber Security Expert	effect in [
2. Data extracted.	[maxin <mark>u</mark>								
Voting Step: ABSENTEE BALLOT DELIVERY	Minimum	Most Likely	Maximum	Low	Medium	High			
ACCIDENTAL DISRUPTIONS			•		•				
Disruptions by Natural Events				98	1	1			
Types of threat vectors: Weather-related; Earthquake; Outbreak;									
Disruptions by Environmental Events				98	1	1			
Types of threat vectors: Fire; Spill; Flooding;					-				
Disruptions by Human-Created Collateral Events				98	1	1			
Types of threat vectors: Technical failure; Labor-related; Terrorism;			-						

THREAT VECTORS	u	IKELIHOO	DD		IMPACT			
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	what percer think the thr realized Al effect? P	ntage of the reat would b ND have an o Provide minir	ederal election, he time do youIn the context of a Federal el assuming the threat is real d be most likely an observable inimum and erpret this rangeIn the context of a Federal el assuming the threat is real what percentage of the time it have a low, medium, and impact? (numbers should s 100)					
Completed by: Cyber Security Expert 2. Data extracted.	be realized A effect in [mo the time but low as [min [maximum]	AND have an ost likely] pe	te could be as ad as high as ers DO NOT					
Voting Step: BALLOT MARKING	Minimum I	Most Likely	Maximum	Low	Medium	High		
ATTACKS								
INSIDER ATTACKS								
Attacks Against Marking Absentee Ballots and Forms				98	1	1		
Types of threat vectors: Election webserver tampering;								
OUTSIDER ATTACKS								
Attacks Against Marking Absentee Ballots and Forms				92	6	2		
Types of threat vectors: Phishing attack; Coerced vote; Masqueraded vote; Vote buying; Pay voter not to vote; Ineligible vote;								
UNINTENTIONAL DISRUPTIONS								
ERRORS AT VOTER'S LOCATION								
Errors in Voting Access				98	1	1		
Types of threat vectors: Online access nonexistent, irregular and/or unreliable; Difficulties with finding or logging in the election website; Election website ease-of-use and clarity;			•					
Errors in Obtaining Voter's Assistance				98	1	1		
Types of threat vectors: Contact wrong LEO; Being unaware of voter's assistance resources; Putting trust in unvetted third-party resources;								
Errors in Absentee Ballot Marking				98	1	1		
Types of threat vectors: Marked ballot packet incorrectly completed/signed; Absentee ballot damaged on webserver; Marked ballot packet incorrectly transmitted to LEO; Marked ballot packet not transmitted to LEO;								

HREAT VECTORS	LIKELIHOOD			IMPACT			
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	In the context of a Federal election, what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range			it have a low, medium, and high impact? (numbers should sum to 100)			
Completed by: Cyber Security Expert	be realized	of value; as "I think this threat would be realized AND have an observeable effect in [most likely] percent (%) of					
2. Data extracted.	the time but this estimate could be as low as [minimum] % and as high as [maximum] %." (numbers DO NOT						
	n	need to sum to 100)					
Voting Step: BALLOT MARKING	Minimum	Most Likely	Maximum	Low	Medium	High	
ACCIDENTAL DISRUPTIONS							
Disruptions by Natural Events				98	1	1	
Types of threat vectors: Weather-related; Earthquake; Outbreak;					<u>.</u>		
Disruptions by Environmental Events				98	1	1	
Types of threat vectors: Fire; Spill; Flooding;							
Disruptions by Human-Created Collateral Events				98	1	1	
Types of threat vectors: Technical failure; Labor-related; Terrorism;			-			-	

THREAT VECTORS					
	LIKELIHOOD	IMPACT			
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	In the context of a Federal election, what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range of values as "I think this threat would	assuming the threat is realized, what percentage of the time would it have a low, medium, and high impact? (numbers should sum to 100)			
Completed by: Cyber Security Expert	be realized AND have an observeable effect in [most likely] percent (%) of				
2. Data extracted.	the time but this estimate could be a low as [minimum] % and as high as [maximum] %." (numbers DO NOT riced to sum to 100)	5			
Voting Step: MARKED BALLOT RETURN	Minimum Most Likely Maximum	Low	Medium	High	
ATTACKS			_	_	
INSIDER ATTACKS					
Attacks by Denial of Service		90	5	5	
Types of threat vectors: Intentional disruption of transmission of marked ballots from voter to LEO;					
Attacks During Transmission of Marked Ballots Packets		90	5	5	
Types of threat vectors: Intentional modification of marked ballot packets during their transmission from the voters to the LEO; Intentional destruction of marked ballot packets during their transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional destruction of marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission from the voters to the LEO; Intentional addition of fake marked ballot packets during transmission fake marked ballot p					
OUTSIDER ATTACKS					
Attacks to Voting Access		90	5	5	
Types of threat vectors: Phishing attack;					
Attacks by Denial of Service		90	5	5	
Types of threat vectors: Intentional disruption of transmission of marked ballots;					
UNINTENTIONAL DISRUPTIONS					
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS					
Errors in Transmission of Marked Ballot Packets		100	0	0	
Types of threat vectors: Accidental modification of marked ballot packets during their transmission from the voters to the LEO; Accidental loss of marked ballot packets during their transmission from the voters to the LEO; Accidental destruction of marked ballot packets during their transmission from the voters to the LEO;					

THREAT VECTORS	LIKELIHOOD			ІМРАСТ			
VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u>	what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range of values as "I think this threat would be realized AND have an observeable effect in [most likely] percent (%) of the time but this estimate could be as low as [minimum] % and as high as			In the context of a Federal election, assuming the threat is realized, what percentage of the time would it have a low, medium, and high impact? (numbers should sum to 100)			
Completed by: Cyber Security Expert 2. Data extracted.							
2. Dala Exilacieu.	[maximum] %." (numbers DO NOT ri <mark>eed to sum to 100)</mark>						
Voting Step: MARKED BALLOT RETURN	Minimum	Most Likely	Maximum	Low	Medium	High	
ACCIDENTAL DISRUPTIONS							
Disruptions by Natural Events				98	1	1	
Types of threat vectors: Weather-related; Earthquake; Outbreak;							
Disruptions by Environmental Events				98	1	1	
Types of threat vectors: Fire; Spill; Flooding;							
Disruptions by Human-Created Collateral Events				98	1	1	
Types of threat vectors: Technical failure; Labor-related; Terrorism;							

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting</u> <u>via Web interface</u> , <u>transmission via the Internet</u> , and <u>automated tabulation</u>	LIKELIHOOD In the context of a Federal election, what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range of values as "I think this threat would be realized AND have an observeable			it have a low, medium, and high impact? (numbers should sum to 100)		
Completed by: Cyber Security Expert 2. Data extracted.	effect in [most likely] percent (%) of the time but this estimate could be as low as [minimum] % and as high as [maximum] %." (numbers DO NOT need to sum to 100)					
Voting Step: RETURNED BALLOT PROCESSING & TABULATION	Minimum	Most Likely	Maximum	Low	Medium	High
ITTACKS						
INSIDER ATTACKS						
Attacks Against VRDB				98	1	1
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;						
Attacks by Denial of Service				98	1	1
Types of threat vectors: Intentional disruption of processing of marked ballots at LEO;						
Attacks Against Processing of Returned Ballots				98	1	1
Types of threat vectors: Intentional modification of marked ballot packets at the LEO; Intentional destruction of marked ballot packets at the LEO; Intentional addition of fake marked ballot packets at the LEO; Intentional loss of marked ballot packets at the LEO;						
Attacks Against Tabulation				98	1	1
Types of threat vectors: Intentional subversion of the counting process; Intentional subversion of the validation process; Intentional subversion of the tabulated results;						
Attacks Against Adjudication				98	1	1
Types of threat vectors: Intentional refusal of legitimate ballots; Intentional acceptance of invalid ballots; Intentional misapplication of rules for determining voter's intent;						
OUTSIDER ATTACKS						
Attacks by Denial of Service				98	1	1
Types of threat vectors: Intentional disruption of marked ballot processing and tabulation activities at LEO;						

	LIKELIHOOD	ІМРАСТ
VOTING SCENARIO: Electronic absentee voting system with <u>balloting</u> <u>via Web interface</u> , <u>transmission via the Internet</u> , and <u>automated tabulation</u>	In the context of a Federal ele what percentage of the time of think the threat would be most realized AND have an observe effect? Provide minimum a maximum values. Interpret thi of values as "I think this threat be realized AND have an observe effect in [most likely] percent	do you st likely vable and is range t would rveable
. Data extracted.	the time but this estimate coul low as [minimum] % and as h [maximum] %." (numbers DC need to sum to 100)	ld be as nigh as
Voting Step: RETURNED BALLOT PROCESSING & TABULATION	Minimum Most Likely Max	ximum Low Medium High
ITENTIONAL DISRUPTIONS		
ERRORS AT LOCAL ELECTION OFFICE		
Errors in VRDB		98 1 1
Types of threat vectors: Accidental modification of registration records; Accidental loss of registration records; Accidental destruction of registration records; Accidental addition of erroneous registration records; VRDB accidental crash;		
Errors in Processing of Returned Ballots		98 1 1
Types of threat vectors: Accidental modification of marked ballot packets at the LEO; Accidental destruction of marked ballot packets at the LEO; Accidental loss of marked ballot packets at the LEO;		
Errors in Tabulation		98 1 1
Types of threat vectors: Errors in counting process; Errors in validation process; Accidental loss of tabulated results; Accidental destruction of tabulated results; Errors in publication of tabulated results;		
Errors in Adjudication		98 1 1
Types of threat vectors: Accidental refusal of legitimate ballots; Accidental acceptance of invalid ballots; Accidental misapplication of rules for determining voter's intent;		
ACCIDENTAL DISRUPTIONS		
Disruptions by Natural Events		98 1 1
Types of threat vectors: Weather-related; Earthquake; Outbreak;		
Disruptions by Environmental Events		98 1 1
Types of threat vectors: Fire; Spill; Flooding;		
Disruptions by Human-Created Collateral Events		98 1 1
Types of threat vectors: Technical failure; Labor-related; Terrorism;		

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Expert 2. Data extracted .	LIKELIHOO In the context of a Fed what percentage of the think the threat would realized AND have an effect? Provide min maximum values. Interp of values as "I think this be realized AND have an effect in [most likely] p the time but this estima low as [minimum] % a [maximum] %." (numb need to sum to	IMPACT In the context of a Federal election, assuming the threat is realized, what percentage of the time would it have a low, medium, and high impact? (numbers should sum to 100)			
Voting Step: POST-ELECTION AUDIT	Minimum Most Likely	Low	Medium	High	
ATTACKS					
INSIDER ATTACKS					
Attacks Against VRDB			98	1	1
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;	I				
Attacks Against Post-Election Audit			98	1	1
Types of threat vectors: Intentionally compromise auditors; Intentionally select audit samples non-randomly; Intentional modification of audit results; Intentional destruction of audit results;	I				
UNINTENTIONAL DISRUPTIONS					
ERRORS AT LOCAL ELECTION OFFICE					
Errors in VRDB			98	1	1
Types of threat vectors: Accidental modification of registration records; Accidental loss of registration records; Accidental destruction of registration records; Accidental addition of erroneous registration records; VRDB accidental crash;					
Errors in Post-Election Audit			98	1	1
Types of threat vectors: Accidental non-random selection of audit samples; Accidental modification of audit results; Accidental loss of audit results; Accidental loss of audit results; Accidental destruction of audit results;					
ACCIDENTAL DISRUPTIONS					
Disruptions by Natural Events			98	1	1
Types of threat vectors: Weather-related; Earthquake; Outbreak;					
Disruptions by Environmental Events			98	1	1

THREAT VECTORS VOTING SCENARIO: Electronic absentee voting system with <u>balloting via Web interface</u> , <u>transmission via</u> <u>the Internet</u> , and <u>automated tabulation</u> Completed by: Cyber Security Exper 2. Data extracted .	LIKELIHOOD In the context of a Federal election, what percentage of the time do you think the threat would be most likely realized AND have an observable effect? Provide minimum and maximum values. Interpret this range of values as "I think this threat would be realized AND have an observeable effect in [most likely] percent (%) of the time but this estimate could be as low as [minimum] % and as high as [maximum] %." (numbers DO NOT need to sum to 100)	IMPACT In the context of a Federal election, assuming the threat is realized, what percentage of the time would it have a low, medium, and high impact? (numbers should sum to 100)
Voting Step: POST-ELECTION AUDIT	Minimum Most Likely Maximum	Low Medium High
Types of threat vectors: Fire; Spill; Flooding;		
Disruptions by Human-Created Collateral Events Types of threat vectors: Technical failure; Labor-related; Terrorism;		98 1 1