REAT VECTORS	1	LIKELIHOO	D		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  ompleted by: Cyber Security	what percei think the th realized AN effect? Prov maximum v of values as be realized	ext of a Federa ntage of the til reat would be D have an obsoride minimum alues. Interpre "I think this th AND have an cost likely] perc	me do you most likely ervable and et this range nreat would observeable	assuming the what perce it have a low impact? (no	ext of a Federa ne threat is re ntage of the t w, medium, a umbers shoul	alized, ime woul nd high	
xpert 1 ata extracted.	low as [min	t this estimate imum] % and a %." (numbers n to 100)	as high as	100)			
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High	
скѕ							
ISIDER ATTACKS							
Attacks Against VRDB	10	15	30	70	20	10	
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;							
Attacks to Voter's Assistance	10	15	20	60	30	10	
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corruption by malicious insiders of information provided to voters (omission, false or incomplete statement, outdated information);							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	5	10	15	20	40	40	
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	5	10	15	60	30	10	
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	5	10	15	60	30	10	
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;							

HREAT VECTORS		LIKELIHOC	DO	IMPACT					
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percenthink the thirealized ANI effect? Proving aximum values as be realized A effect in [mothe time but low as [mini]	ext of a Federa atage of the ti reat would be 0 have an obs ide minimum alues. Interpre "I think this ti AND have an obst likely] pero ti this estimate mum] % and i %." (numbers into 100)	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as as high as	assuming the what percein it have a love	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: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High			
Attacks During Transmission of Registration Forms and Instructions	5	10	15	60	30	10			
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	10	15	20	70	20	10			
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	10	15	20	60	30	10			
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;									
Attacks Against Processing of Completed Registration Packets	5	10	15	60	30	10			
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	5	10	15	60	30	10			
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;									
OUTSIDER ATTACKS						_			
Attacks Against Voter's Assistance	10	15	25	60	30	10			
Types of threat vectors: Intentional corruption by malicious outsiders of information provided to voters (omission, false or incomplete statement, outdated information);									

THREAT VECTORS		LIKELIHOO	D		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percer think the thine the realized ANI effect? Proving maximum vious as be realized affect in [mother time but low as [minimum].	ext of a Federa ntage of the til reat would be D have an obset ide minimum alues. Interpre "I think this th AND have an co ost likely] percet this estimate imum] % and a %." (numbers into 100)	me do you most likely ervable and et this range breat would observeable eent (%) of could be as 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)			
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High	
Attacks Against Voting Access	10	15	25	60	30	10	
Types of threat vectors: Phishing attack;						Ü	

THREAT VECTORS		LIKELIHOC	DD		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percer think the thine and in the thine realized ANI effect? Proving aximum vior values as be realized affect in [mother time but low as [mini the time but low as [mini	ext of a Federa ntage of the ti reat would be D have an obs ide minimum alues. Interpri "I think this ti AND have an ost likely] pero t this estimate imum] % and %." (numbers	me do you e most likely ervable and et this range hreat would observeable cent (%) of e could be as 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)			
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High	
Attacks Against Marking of Registration Forms	10	15	25	35	35	30	
Types of threat vectors: Phishing attack; Election webserver tampering; Coerced registration; Masqueraded registration; Vote buying; Pay voter not to vote; Ineligible registration;							
UNINTENTIONAL DISRUPTIONS							
ERRORS AT LOCAL ELECTION OFFICE							
Errors in VRDB	15	20	30	60	30	10	
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	15	20	30	60	30	10	
Types of threat vectors: Erroneous information provided to voters (omission, false or incomplete statement, outdated information);							
Errors in Registration Forms and Instructions	15	20	30	60	30	10	
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	15	20	30	60	30	10	
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;							

IREAT 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>	what perce think the th realized AN	ext of a Federa ntage of the til reat would be D have an obso vide minimum	me do you most likely ervable	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 1 Data extracted.	of values as be realized effect in [m the time bu low as [min	alues. Interpre "I think this the AND have an o ost likely] pero t this estimate imum] % and a %." (numbers n to 100)	oreat would observeable ent (%) of could be as as high as				
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High	
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS							
Errors in Transmission of Registration Forms and Instructions							
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;							
Errors in Transmission of Completed Registration Packets	15	20	30	60	30	10	
Types of threat vectors: Accidental modification of completed registration packets during their transmission from the voters to the LEO; Accidental loss of completed registration packets during their transmission from the voters to the LEO; Accidental destruction of completed registration packets during their transmission from the voters to the LEO;							
Errors in Transmission of Registration Rejections	10	15	20	70	20	10	
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;	1						
ERRORS AT VOTER'S LOCATION							
Errors in Voting Access	35	45	55	35	35	30	
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	20	30	40	60	30	10	
Types of threat vectors: Contact wrong LEO; Being unaware of voter's assistance resources; Putting trust in unvetted third-party resources;							

THREAT VECTORS		IKELIHOO	D		IMPACT	
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percer think the thi realized ANI effect? Prov maximum vi of values as be realized / effect in [mo the time but low as [mini	ext of a Federal trage of the tirect would be to have an obset idde minimum alues. Interpre "I think this th AND have an obst likely] pero this estimate mum] % and a %." (numbers	me do you most likely ervable and et this range areat would observeable eent (%) of could be as as high as	assuming the what percent it have a love	ext of a Feder ne threat is re ntage of the i w, medium, a umbers shou	ealized, time would nd high
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High
Errors in Registration Application	20	30	40	60	30	10
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	10	15	20	70	20	10
Types of threat vectors: Weather-related; Earthquake; Outbreak;						

THREAT VECTORS		LIKELIHOO	D		IMPACT	
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percer think the thine the realized ANI effect? Proving maximum vious values as be realized affect in [mother time but low as [mini	ext of a Federal atage of the tir reat would be of have an obso ide minimum alues. Interpre "I think this th AND have an o ost likely] pero t this estimate mum] % and a %." (numbers t to 100)	me do you most likely ervable and et this range breat would bbserveable eent (%) of could be as as high as	In the context of a Federal assuming the threat is real what percentage of the tin it have a low, medium, and impact? (numbers should 100)		
Voting Step: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High
Disruptions by Environmental Events	10	15	20	70	20	10
Types of threat vectors: Fire; Spill; Flooding;						
Disruptions by Human-Created Collateral Events	20	25	30	35	35	30
Types of threat vectors: Technical failure; Labor-related; Terrorism;						

THREAT VECTORS		LIKELIHOC	D		IMPACT			
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	In the conte what percei think the th realized AN effect? Prov	al election, alized,						
Completed by: Cyber Security Expert 1 Data extracted.	of values as be realized effect in [m the time bu low as [min	alues. Interpre "I think this the AND have an cost likely] perco t this estimate imum] % and a %." (numbers n to 100)	hreat would observeable cent (%) of could be as as high as	it have a lo	what percentage of the time would 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		
TTACKS								
INSIDER ATTACKS		_						
Attacks Against VRDB	10	15	20	70	20	10		
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;								
Attacks to Voter's Assistance	5	10	15	60	30	10		
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	5	10	15	70	20	10		
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	5	10	15	35	35	30		
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	5	10	15	35	35	30		
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;								

EAT VECTORS			LIKELIHOO	)D		IMPACT				
	eb interface, transmission via automated tabulation	what percer think the thi realized ANI effect? Prov maximum vi of values as be realized i effect in [mo the time but low as [mini	ext of a Federa ntage of the tin peat would be D have an obside minimum alues. Interpre "I think this the AND have an obst likely] pero this estimate mum] % and a %." (numbers into 100)	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as as high as	assuming the what percent it have a love	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: ABSENTEE BALL	LOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High			
Attacks During Transmission of Absentee Ballot Request Forms and Instructions		5	10	15	35	35	30			
Types of threat vectors: Intentional modification of absentee ballot request forms and instru Intentional destruction of absentee ballot request forms and instructions during their transm absentee ballot request forms and instructions during transmission from LEO to the voters;	ission from LEO to the voters; Intentional addition of fake									
Attacks Against Marking of Absentee Ballot Requests		5	10	15	10	20	70			
Types of threat vectors: Election webserver tampering;										
Attacks During Transmission of Completed Absentee Ballot Request Packets		5	10	15	70	20	10			
Types of threat vectors: Intentional modification of completed absentee ballot request pack. Intentional destruction of completed absentee ballot request packets during their transmissi completed absentee ballot request packets during transmission from the voters to the LEO:	on from the voters to the LEO; Intentional addition of fake									
Attacks Against Processing of Completed Absentee Ballot Request Packets		5	10	15	60	30	10			
Types of threat vectors: Intentional modification of completed absentee ballot request packers absentee ballot request packets at the LEO; Intentional addition of fake completed absentee										
Attacks During Transmission of Rejections of Absentee Ballot Requests		5	10	15	70	20	10			
Types of threat vectors: Intentional modification of rejections of absentee ballot requests du destruction of rejections of absentee ballot requests during their transmission from LEO to tabsentee ballot requests during transmission from LEO to the voters;										
Attacks Against Absentee Ballots and Instructions		5	10	15	30	35	35			
Types of threat vectors: Intentional modification at LEO of absentee ballots and instructions instructions; Intentional addition at LEO of fake absentee ballots and instructions;	; Intentional destruction at LEO of absentee ballots and									

THREAT VECTORS		LIKELIHOO	ND.		IMPACT			
		LIKELIHUU	טע		IIVIPACI			
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	what percenthink the the realized AN	xt of a Federa stage of the til reat would be D have an obsi ide minimum	me do you most likely ervable	In the context of a Federal election, assuming the threat is realized,				
Completed by: Cyber Security Expert 1 Data extracted.	of values as be realized a effect in [mo the time bu low as [min	alues. Interpre "I think this the standard of	hreat would observeable cent (%) of e could be as as high as	what percentage of the time would 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		
OUTSIDER ATTACKS								
Attacks Against Voter's Assistance	5	10	15	60	30	10		
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	15	20	25	60	30	10		
Types of threat vectors: Phishing attack;								
Attacks by Denial of Service	15	20	25	50	30	20		
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;					1			
Attacks Against Marking of Absentee Ballot Requests	15	20	25	70	20	10		
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;								
UNINTENTIONAL DISRUPTIONS								
ERRORS AT LOCAL ELECTION OFFICE								
Errors in VRDB	10	15	20	60	30	10		
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	15	20	25	70	20	10		
Types of threat vectors: Erroneous information provided to voters (omission, false or incomplete statement, outdated information);								

REAT VECTORS	1	LIKELIHOO	D		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	what percer think the the realized ANI effect? Prov	xt of a Federa ntage of the til reat would be D have an obsi ide minimum alues. Interpre	me do you most likely ervable and	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 xpert 1 ata extracted.	of values as be realized a effect in [mo the time but low as [mini	"I think this the AND have an object likely] percent this estimate mum] % and a %." (numbers	hreat would observeable cent (%) of could be as as high as				
Voting Step: ABSENTEE BALLOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High	
Errors in Absentee Ballot Request Forms and Instructions	10	15	20	70	20	10	
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 erroneous 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	15	20	25	70	20	10	
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	10	15	20	70	20	10	
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;							
RRORS DURING TRANSMISSION OF ELECTION MATERIALS							
Errors in Transmission of Absentee Ballot Request Forms and Instructions	5	10	15	60	30	10	
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	5	10	15	60	30	10	
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		LIKELIHOC	D		IMPACT		
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percei think the th realized ANI effect? Prov maximum v of values as be realized effect in [mithe time but low as [mini	xt of a Federa ntage of the ti reat would be D have an obs ide minimum alues. Interpre "I think this ti AND have an obst likely] pero t this estimate mum] % and i %." (numbers into 100)	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as 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)			
Voting Step: ABSENTEE BALLOT REQUEST	Minimum	Most Likely	Maximum	Low	Medium	High	
Errors in Transmission of Rejections of Absentee Ballot Requests	5	10	15	60	30	10	
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	25	30	40	80	15	5	
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	25	30	35	80	15	5	
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 Requests	5	10	15	80	15	5	
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	10	15	20	70	20	10	
Types of threat vectors: Weather-related; Earthquake; Outbreak;							
Disruptions by Environmental Events	10	15	20	70	20	10	
Types of threat vectors: Fire; Spill; Flooding;							
Disruptions by Human-Created Collateral Events	10	15	20	70	20	10	
Types of threat vectors: Technical failure; Labor-related; Terrorism;					•		

THREAT VECTORS		LIKELIHOC	D	IMPACT			
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percer think the thi realized ANI effect? Prov maximum vi of values as be realized / effect in [mo the time but low as [mini	xt of a Federa ntage of the ti reat would be D have an obs ide minimum alues. Interpre "I think this ti AND have an o st likely] pero t this estimate mum] % and i %." (numbers	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as as high as	In the context of a Federal electio assuming the threat is realized, what percentage of the time wou it have a low, medium, and high impact? (numbers should sum to 100)			
Voting Step: ABSENTEE BALLOT DELIVERY	Minimum	Most Likely	Maximum	Low	Medium	High	
ATTACKS							
INSIDER ATTACKS							
Attacks by Denial of Service	15	20	25	30	35	35	
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	5	10	15	60	30	10	
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	20	25	30	60	30	10	
Types of threat vectors: Phishing attack;							
Attacks by Denial of Service	5	10	15	30	35	35	
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	2	3	5	60	30	10	
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		LIKELIHOC	DD	IMPACT					
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percei think the th realized ANI effect? Prov maximum v of values as be realized effect in [mithe time but low as [mini	ext of a Federa ntage of the ti reat would be D have an obs ride minimum alues. Interpre "I think this ti AND have an o ost likely] per t this estimate imum] % and a %." (numbers n to 100)	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as 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)					
Voting Step: ABSENTEE BALLOT DELIVERY	Minimum	Most Likely	Maximum	Low	Medium	High			
ACCIDENTAL DISRUPTIONS									
Disruptions by Natural Events	10	15	20	80	15	5			
Types of threat vectors: Weather-related; Earthquake; Outbreak;									
Disruptions by Environmental Events	10	15	20	80	15	5			
Types of threat vectors: Fire; Spill; Flooding;									
Disruptions by Human-Created Collateral Events	10	15	20	80	15	5			
Types of threat vectors: Technical failure; Labor-related; Terrorism;									

THREAT VECTORS	ı	LIKELIHOC	DD	IMPACT			
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percei think the th realized ANI effect? Prov maximum v of values as be realized effect in [mi the time bu low as [mini	ext of a Federa trage of the ti- reat would be D have an obs- ride minimum "I think this ti AND have an o- ost likely] pero- t this estimate imum] % and a %." (numbers to 100)	me do you most likely ervable and et this range hreat would observeable cent (%) of e could be as as high as	assuming the what perce it have a love	ext of a Feder he threat is re ntage of the w, medium, a umbers shou	ealized, time would and high	
Voting Step: BALLOT MARKING	Minimum	Most Likely	Maximum	Low	Medium	High	
ATTACKS							
INSIDER ATTACKS							
Attacks Against Marking Absentee Ballots and Forms	10	15	20	10	20	70	
Types of threat vectors: Election webserver tampering;							
OUTSIDER ATTACKS							
Attacks Against Marking Absentee Ballots and Forms	10	15	20	70	20	10	
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	20	25	30	70	20	10	
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	5	10	15	80	15	5	
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	2	3	5	80	15	5	
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;							

THREAT VECTORS		LIKELIHOC	DD	IMPACT				
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Voting Step: BALLOT MARKING	Minimum	Most Likely	Maximum	Low	Medium	High		
ACCIDENTAL DISRUPTIONS								
Disruptions by Natural Events	10	15	20	10	20	70		
Types of threat vectors: Weather-related; Earthquake; Outbreak;								
Disruptions by Environmental Events	10	15	20	10	20	70		
Types of threat vectors: Fire; Spill; Flooding;								
Disruptions by Human-Created Collateral Events	10	15	20	10	20	70		
Types of threat vectors: Technical failure; Labor-related; Terrorism;						•		

THREAT VECTORS		IKELIHO	OD	IMPACT			
VOTING SCENARIO: Electronic absentee voting system with  balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1	what perceithink the threalized AN effect? Proving aximum vof values as be realized effect in [m the time bullow as [min]	D have an ob vide minimur values. Interp "I think this AND have an ost likely] pe	time do you be most likely bervable in and bret this range threat would bobserveable rcent (%) of the could be as d as high as	assuming the what perce it have a lov	ext of a Feder ne threat is re ntage of the t w, medium, a umbers shoul	alized, ime would nd high	
Data extracted.	need to sun		IS DO NOT				
Voting Step: MARKED BALLOT RETURN	Minimum	Most Likely	Maximum	Low	Medium	High	
ATTACKS							
INSIDER ATTACKS							
Attacks by Denial of Service	10	15	20	20	50	30	
Types of threat vectors: Intentional disruption of transmission of marked ballots from voter to LEO;							
Attacks During Transmission of Marked Ballots Packets	5	10	15	20	50	30	
Types of threat vectors: Intentional modification 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;							
OUTSIDER ATTACKS							
Attacks to Voting Access	10	15	20	60	30	10	
Types of threat vectors: Phishing attack;							
Attacks by Denial of Service	5	10	15	60	30	10	
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	5	10	15	35	35	30	
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		IKELIHOO	DD	IMPACT				
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what percei think the th realized AN effect? Prov maximum v of values as be realized effect in [m the time bu low as [min	D have an ob ide minimun alues. Interp "I think this AND have an ost likely] pe t this estimat imum] % and %." (numbel	time do you e most likely eservable n and ret this range threat would observeable rcent (%) of te could be as I as high as	o you t likely  le In the context of a Federal electi assuming the threat is realized, what percentage of the time wo it have a low, medium, and high impact? (numbers should sum t 100)  to you assuming the threat is realized, what percentage of the time wo it have a low, medium, and high impact? (numbers should sum t 100)				
Voting Step: MARKED BALLOT RETURN	Minimum	Most Likely	Maximum	Low	Medium	High		
ACCIDENTAL DISRUPTIONS								
Disruptions by Natural Events	10	15	20	60	30	10		
Types of threat vectors: Weather-related; Earthquake; Outbreak;								
Disruptions by Environmental Events	10	15	20	60	30	10		
Types of threat vectors: Fire; Spill; Flooding;								
Disruptions by Human-Created Collateral Events	10	15	20	60	30	10		
Types of threat vectors: Technical failure; Labor-related; Terrorism;								

REAT VECTORS		LIKELIHOO	)D	IMPACT			
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>	what perce think the the realized AN effect? Pro- maximum v	text of a Federal election, entage of the time do you threat would be most likely ND have an observable ovide minimum and values. Interpret this range what percentage of the time would					
Completed by: Cyber Security  Export 1	be realized	s "I think this t AND have an o lost likely] per	observeable	it have a lo	w, medium, a umbers shou	and high	
Expert 1 Data extracted.	low as [min	it this estimate nimum] % and   %." (numbers	as high as	100)			
Data extracted.	need to sur		S DO NOT				
Voting Step: RETURNED BALLOT PROCESSING & TABULATION	Minimum	Most Likely	Maximum	Low	Medium	High	
CKS							
SIDER ATTACKS	-		15				
Attacks Against VRDB  Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;	5	10	15	60	30	10	
Attacks by Denial of Service	2	3	5	60	30	10	
Types of threat vectors: Intentional disruption of processing of marked ballots at LEO;							
Attacks Against Processing of Returned Ballots	2	3	5	10	20	70	
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	2	3	5	10	20	70	
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	2	3	5	35	35	30	
Types of threat vectors: Intentional refusal of legitimate ballots; Intentional acceptance of invalid ballots; Intentional misapplication of rules for determining voter's intent;							
UTSIDER ATTACKS							
Attacks by Denial of Service	5	10	15	40	35	25	
Types of threat vectors: Intentional disruption of marked ballot processing and tabulation activities at LEO;							

THREAT VECTORS		LIKELIHOO	D	IMPACT				
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	what perceithink the threalized AN effect? Proving aximum vof values as be realized effect in [m the time bulow as [min]	ext of a Federa ntage of the ti reat would be D have an obs vide minimum alues. Interpre "I think this ti AND have an ost likely] pere t this estimate imum] % and i %." (numbers n to 100)	me do you e most likely ervable and et this range hreat would observeable cent (%) of e could be as as high as	In the context of a Federal elect assuming the threat is realized, what percentage of the time wo it have a low, medium, and high impact? (numbers should sum to 100)				
Voting Step: RETURNED BALLOT PROCESSING & TABULATION	Minimum	Most Likely	Maximum	Low	Medium	High		
UNINTENTIONAL DISRUPTIONS								
ERRORS AT LOCAL ELECTION OFFICE		_						
Errors in VRDB	10	15	20	60	30	10		
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	5	10	15	70	20	10		
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	5	10	15	60	30	10		
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	2	3	5	60	30	10		
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	10	15	20	20	60	20		
Types of threat vectors: Weather-related; Earthquake; Outbreak;								
Disruptions by Environmental Events	10	15	20	20	60	20		
Types of threat vectors: Fire; Spill; Flooding;								
Disruptions by Human-Created Collateral Events	10	15	20	20	60	20		
Types of threat vectors: Technical failure; Labor-related; Terrorism;								

THREAT VECTORS		LIKELIHOC	)D	IMPACT			
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Voting Step: POST-ELECTION AUDIT	Minimum	Most Likely	Maximum	Low	Medium	High	
ATTACKS							
INSIDER ATTACKS							
Attacks Against VRDB	5	10	15	60	30	10	
Types of threat vectors: Intentional modification of registration records; Intentional destruction of registration records; Intentional addition of fake registration records; VRDB intentional crash;							
Attacks Against Post-Election Audit	5	10	15	60	30	10	
Types of threat vectors: Intentionally compromise auditors; Intentionally select audit samples non-randomly; Intentional modification of audit results; Intentional destruction of audit results;			•				
UNINTENTIONAL DISRUPTIONS							
ERRORS AT LOCAL ELECTION OFFICE							
Errors in VRDB	5	10	15	60	30	10	
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	5	10	15	60	30	10	
Types of threat vectors: Accidental non-random selection of audit samples; Accidental modification of audit results; Accidental loss of audit results; Accidental destruction of audit results;							
ACCIDENTAL DISRUPTIONS				_			
Disruptions by Natural Events	10	15	20	80	15	5	
Types of threat vectors: Weather-related; Earthquake; Outbreak;							

THREAT VECTORS	ı	IKELIHOO	D	IMPACT					
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation  Completed by: Cyber Security  Expert 1  Data extracted.	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)			assuming the what perce it have a lov	ext of a Feder ne threat is re ntage of the t w, medium, a umbers shoul	ealized, time would nd high			
Voting Step: POST-ELECTION AUDIT	Minimum	Most Likely	Maximum	Low	Medium	High			
Disruptions by Environmental Events	10	15	20	80	15	5			
Types of threat vectors: Fire; Spill; Flooding;									
Disruptions by Human-Created Collateral Events	10	15	20	80	15	5			
Types of threat vectors: Technical failure; Labor-related; Terrorism;									