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 1 Data extracted. Voting Step: REGISTRATION	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
ATTACKS						
INSIDER 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corruption by malicious insiders of information provided to voters (omission, false or incomplete statement, outdated information);						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;						

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 1 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: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High
Attacks During Transmission of Registration Forms and Instructions 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;	5	10	15	60	30	10
Attacks Against Marking of Registration Forms Types of threat vectors: Phishing attack; Election webserver tampering; Coerced registration; Masqueraded registration; Vote buying; Pay voter not to vote; Ineligible registration;	10	15	20	70	20	10
Attacks During Transmission of Completed Registration Packets 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;	10	15	20	60	30	10
Attacks Against Processing of Completed Registration Packets 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;	5	10	15	60	30	10
Attacks During Transmission of Registration Rejections 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;	5	10	15	60	30	10
OUTSIDER ATTACKS						
Attacks Against Voter's Assistance Types of threat vectors: Intentional corruption by malicious outsiders of information provided to voters (omission, false or incomplete statement, outdated information);	10	15	25	60	30	10

THREAT VECTORS	LIKELIHOOD			IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	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)			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.						
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;						

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 1 Data extracted. Voting Step: REGISTRATION	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
Attacks Against Marking of Registration Forms Types of threat vectors: Phishing attack; Election webserver tampering; Coerced registration; Masqueraded registration; Vote buying; Pay voter not to vote; Ineligible registration;	10	15	25	35	35	30
UNINTENTIONAL DISRUPTIONS						
ERRORS AT LOCAL ELECTION OFFICE						
Errors in VRDB 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;	15	20	30	60	30	10
Errors in Voter's Assistance Types of threat vectors: Erroneous information provided to voters (omission, false or incomplete statement, outdated information);	15	20	30	60	30	10
Errors in Registration Forms and Instructions 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;	15	20	30	60	30	10
Errors in Processing Completed Registration Packets 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;	15	20	30	60	30	10

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 1 Data extracted. Voting Step: REGISTRATION	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)		
	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;						
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 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.	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: REGISTRATION	Minimum	Most Likely	Maximum	Low	Medium	High
Errors in Registration Application Types of threat vectors: Incorrect contact information provided to LEO; Registration packet incorrectly completed/signed; Registration packet incorrectly transmitted to LEO;	20	30	40	60	30	10
ACCIDENTAL DISRUPTIONS						
Disruptions by Natural Events Types of threat vectors: Weather-related; Earthquake; Outbreak;	10	15	20	70	20	10

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 1 Data extracted. Voting Step: REGISTRATION	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
Disruptions by Environmental Events Types of threat vectors: Fire; Spill; Flooding;	10	15	20	70	20	10
Disruptions by Human-Created Collateral Events Types of threat vectors: Technical failure; Labor-related; Terrorism;	20	25	30	35	35	30

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 1 Data extracted. Voting Step: ABSENTEE BALLOT REQUEST	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
ATTACKS						
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;						

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 1 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: ABSENTEE BALLOT 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 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	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 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	5	10	15	60	30	10
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	5	10	15	70	20	10
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 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; 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 Expert 1 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: 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;						
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);						

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 1 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: 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 destruction 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	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;						
ERRORS 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 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.	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: 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 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. Voting Step: ABSENTEE BALLOT DELIVERY	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)		
	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	LIKELIHOOD			IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	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)			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.						
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 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.	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: 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 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. Voting Step: BALLOT MARKING	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
ACCIDENTAL DISRUPTIONS						
Disruptions by Natural Events Types of threat vectors: Weather-related; Earthquake; Outbreak;	10	15	20	10	20	70
Disruptions by Environmental Events Types of threat vectors: Fire; Spill; Flooding;	10	15	20	10	20	70
Disruptions by Human-Created Collateral Events Types of threat vectors: Technical failure; Labor-related; Terrorism;	10	15	20	10	20	70

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 1 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: MARKED BALLOT RETURN	Minimum	Most Likely	Maximum	Low	Medium	High
ATTACKS						
INSIDER ATTACKS						
Attacks by Denial of Service Types of threat vectors: Intentional disruption of transmission of marked ballots from voter to LEO;	10	15	20	20	50	30
Attacks During Transmission of Marked Ballots Packets 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;	5	10	15	20	50	30
OUTSIDER ATTACKS						
Attacks to Voting Access Types of threat vectors: Phishing attack;	10	15	20	60	30	10
Attacks by Denial of Service Types of threat vectors: Intentional disruption of transmission of marked ballots;	5	10	15	60	30	10
UNINTENTIONAL DISRUPTIONS						
ERRORS DURING TRANSMISSION OF ELECTION MATERIALS						
Errors in Transmission of Marked Ballot Packets 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;	5	10	15	35	35	30

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 1 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: MARKED BALLOT RETURN	Minimum	Most Likely	Maximum	Low	Medium	High
ACCIDENTAL DISRUPTIONS						
Disruptions by Natural Events Types of threat vectors: Weather-related; Earthquake; Outbreak;	10	15	20	60	30	10
Disruptions by Environmental Events Types of threat vectors: Fire; Spill; Flooding;	10	15	20	60	30	10
Disruptions by Human-Created Collateral Events Types of threat vectors: Technical failure; Labor-related; Terrorism;	10	15	20	60	30	10

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 1 Data extracted. Voting Step: RETURNED BALLOT PROCESSING & TABULATION	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
ATTACKS						
INSIDER ATTACKS						
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 Types of threat vectors: Intentional disruption of processing of marked ballots at LEO;	2	3	5	60	30	10
Attacks Against Processing of Returned Ballots 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;	2	3	5	10	20	70
Attacks Against Tabulation Types of threat vectors: Intentional subversion of the counting process; Intentional subversion of the validation process; Intentional subversion of the tabulated results;	2	3	5	10	20	70
Attacks Against Adjudication Types of threat vectors: Intentional refusal of legitimate ballots; Intentional acceptance of invalid ballots; Intentional misapplication of rules for determining voter's intent;	2	3	5	35	35	30
OUTSIDER ATTACKS						
Attacks by Denial of Service Types of threat vectors: Intentional disruption of marked ballot processing and tabulation activities at LEO;	5	10	15	40	35	25

THREAT VECTORS	LIKELIHOOD			IMPACT		
VOTING SCENARIO: Electronic absentee voting system with balloting via Web interface, transmission via the Internet, and automated tabulation	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)			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.						
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 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. Voting Step: POST-ELECTION AUDIT	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)		
	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 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. Voting Step: POST-ELECTION AUDIT	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)		
	Minimum	Most Likely	Maximum	Low	Medium	High
Disruptions by Environmental Events Types of threat vectors: Fire; Spill; Flooding;	10	15	20	80	15	5
Disruptions by Human-Created Collateral Events Types of threat vectors: Technical failure; Labor-related; Terrorism;	10	15	20	80	15	5