

BRANDON'S SIREN DEMONSTRATION AND EVALUATION PROJECT PLAN

APPENDIX O

DEMONSTRATION AND EVALUATION PROJECT PLAN

BRANDON'S SIREN DEMONSTRATION AND EVALUATION PROJECT PLAN

Siren Demonstration
and
Evaluation Project Plan

Brandon Manitoba

March 2003

BRANDON'S SIREN DEMONSTRATION AND EVALUATION PROJECT PLAN

Introduction

The City of Brandon, the Brandon Emergency Support Team, the Community Advisory Committee for Emergency Preparedness, Acoustic Technology Inc., Probe Research, Manitoba Hydro, Brandon Regional Health Centre, Brandon School Division, Riding Mountain Broadcasting, Craig Broadcasting, Standard Radio, The Brandon Sun, The Wheat City Journal are pleased to take part in this demonstration and evaluation of new public alerting technologies and products. We will demonstrate siren technologies that are new to Canada. This will be done in a specified geographical area in the eastern portion of the City of Brandon, Manitoba.

Our long term vision for public alerting sees a community that has the technological resources to notify each and every one of its citizens through a variety of means. We recognize that the majority of emergency events occur at the local level and impact upon localized populations. With this in mind, we see our citizens as being educated to the point where they understand what an alerting message is telling them and they are motivated to take the actions necessary to help themselves and their neighbours. We see the citizens of Brandon as partners in our emergency preparedness program and as such each having a vital role to play to protect everyone's safety.

The hazard assessment for the City of Brandon identifies transportation and industrial accidents as likely occurrences. Any release of a chemical product by such an occurrence has a high level of maximum threat to the community. Brandon is also identified as being vulnerable to severe weather such as tornadoes. Portions of the City are built below the flood level of the Assiniboine River and are protected by dikes. Failure of a dike would require instant notification of the people located in the flood zone. The City also has occasional fires, in both residential and commercial buildings and smoke carrying toxic chemicals may necessitate a notification.

We believe that an alerting technology is part of a complete system of emergency preparedness and that it coupled with proper and realistic public education will have a dramatic effect on the lives of everyone living in our City. This includes people with special needs. An alerting system must be part of a complete program so that people are not surprised by the alert. In fact they should be expecting to be alerted every time the need arises and they should be expecting to be alerted in a variety of ways.

This project plan provides a description of the new public alerting technology that will be installed and activated as part of Brandon's demonstration and evaluation of new public alerting technology. It includes a schedule on how and when the testing and evaluation will occur. A final report will be created that will be available to any interested parties.

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Project Goal

To determine the effectiveness and acceptance of using a wireless siren system to alert the public to large scale emergencies within the City of Brandon.

Project Objectives and Procedures

Objective 1

Install the siren system and radio links.

<u>Procedure</u>	<u>Date:</u>
1. Consult with ATI :	
a. determine correct equipment to order	March
b. determine likely delivery schedule	March
c. supply City mapping	March
d. determine desired location for installation	March
2. Consult with Brandon Regional Health Centre and radio supplier:	
a. determine equipment requirements	March
b. have ATI consult with BRHC radio supplier	March
c. determine process for using radio link	March
3. Prepare purchase order(s)	March
4. Consult property owner(s) regarding installation of equipment	March
5. Receive ATI software	March
a. confirm correct software supplied	March
b. inspect for damage	March
6. Consult Manitoba Hydro to establish an installation schedule	April
7. Receive equipment:	
a. confirm correct equipment has been received	April
b. inspect for damage	April
8. Notify MB Hydro, BRHC and radio supplier of equipment readiness	
a. confirm installation date, time, and location	April
b. confirm installation process	April
9. Provide Media Release to siren installation	
a. invite Media	May
b. invite Mayor and Councillors	May
c. invite project partners	May
10. Hold Media event at installation	
a. project manager coordinates event	May
12. Coordinate technical adjustment of system	May
a. ATI technician performs adjustments	May
b. ATI technician performs testing	May
13. Coordinate siren system training	
a. Select people are identified for training	May
b. ATI technician provides training	May
c. ATI technician supervises testing	May

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Objective 2

Introduce the project to the community.

Procedure.

The project has been introduced to various sectors of the public: through a Community Advisory Committee meeting December 10, 2003; through discussions with the City Manager and City Council; and through Brandon Emergency Support Team meetings in June and December 2003.

The project will be introduced to the community at large:

- | | | |
|-----|--|-------|
| 14. | Brandon School Division emergency planning meeting | March |
| 15. | Safe Communities meeting | March |
| 16. | Canadian Red Cross volunteer training | March |
| 17. | Community meeting for residents in test area | March |
| 18. | Public Education Campaign launched as per schedule | April |

Objective 3

Seek guidance from focus group.

Procedure

A meeting of the Community Advisory Committee for Emergency Preparedness was held December 10, 2002 to seek this group's initial reaction to this project. Positive feedback and support for the concept was received. Committee member Tab Dudley assisted with the drafting of the proposal and this plan.

Further guidance will be obtained from focus group:

- | | | |
|-----|---|-------|
| 19. | e-mail correspondence for input | March |
| | a. follow-up telephone meeting | March |
| 20. | follow-up meeting | April |
| | a. Review draft project plan | |
| | b. Solicit response and suggestions for improvement | |
| | c. Review possible roles for committee | |
| | d. Solicit volunteers for those roles (including) | |
| | i. sound pressure level (SPL) sampling | |
| | ii. Trouble shooter/Team Leader contact | |
| | (1) radio stations | |
| | (2) CCU | |
| | (3) speaker station | |
| | iii. assist with silent alarm testing | |
| | iv. assist with tone remote testing | |
| | v. project review and suggestions for improvement | |

Objective 4

Launch and manage public education campaign.

Procedure

The public education campaign will be launched and managed according to the Public

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Education Campaign Plan.

Objective 5

Conduct first phase of siren tests.

Procedure

Siren tests will be conducted as follows:

1. Select and confirm date and time
 - a. working dates are:
 - i. May 10 (Saturday, daytime)
 - ii. May 23 (Friday, evening)
 - iii. June 9 (Monday, daytime - key facility)
2. Launch public education as per Public Education Campaign Plan April
3. Select tone and/or voice message to be used Test dates
 - a. May 10:
 - i. alerting tone
 - ii. voice message to tone remote device:
 - (1) "This is a test of the Brandon Emergency Alerting Project. Turn on your local radio station for further information"
(Repeat)
4. Determine duration of test Test dates
 - a. alerting tone for 3 minutes
5. Determine sound pressure level (SPL) sampling locations April
 - a. provided by ATI
6. Select Testing Team volunteers: April
 - a. SPL sampling
 - i. conduct orientation training session for volunteers April
 - ii. assign trained volunteers to gather data Test dates
 - b. speaker performance assessment
 - i. conduct orientation training session for volunteers April
 - ii. assign trained volunteers to gather data Test dates
 - c. CCU performance assessment
 - i. conduct orientation training session for volunteers April
 - ii. assign trained volunteers to gather data Test dates
7. Brief Testing Team:
 - a. day before test provide training refresher for volunteers Test dates
 - b. day of test brief volunteers Test dates
 - c. provide assessment locations Test dates
 - d. provide equipment for gathering data Test dates
 - e. provide forms for recording data Test dates
 - f. provide Testing Coordinator's phone # for trouble shooting Test dates
 - g. following test gather data Test dates
8. Assign trained volunteer to assess speaker station performance: Test dates
 - a. Alarm tones:
 - i. alert

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- (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - ii. alert test
 - (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - iii. all clear
 - (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - b. Live PA broadcast
 - i. volume
 - ii. clarity
 - iii. length of tone or message
 - iv. local speaker status reporting
 - c. Strobe light
 - i. intensity
 - ii. reflectivity off of surfaces
 - iii. attention grabbing ability
9. Assign volunteer to assess Central Control Unit: Test dates
- a. Stop/start function
 - b. system self-diagnostics
 - c. computer functions
 - d. monitor display
 - e. display of system activation
 - f. software use

Objective 6

Evaluate first phase of siren tests.

Procedure

1. SPL information gathered from each siren test will be forwarded to ATI for a technical evaluation.
 - a. ATI will provide a brief test exercise report for each test
 1. see appendix
 - b. ATI will recommend adjustments to subsequent test
2. Probe Research will conduct surveys to gather public response to each test:
 - a. develop survey instrument (questionnaire)
 1. Probe Research consults with Siren Team April
 2. Probe tests survey instrument April
 3. Probe complete survey instrument April

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- b. conduct telephone survey Test dates
 - 1. telephone survey conducted following each siren test
 - 2. random and representative survey of 250 adult residents
- c. Probe Research will provide a brief report for each test
- d. Probe Research will recommend adjustments to subsequent test

Objective 7

Conduct equipment tests.

- 1. Silent alarm tests will be conducted:
 - a. working date: July
 - b. Testing will include:
 - i. local speaker and central control unit status reporting
 - ii. CCU start/stop function
 - iii. local speaker start/stop function
 - iv. display of system activation
- 2. Central Control Unit testing will be conducted:
 - a. working date: July
 - b. Testing will include:
 - i. system self-diagnostics
 - ii. computer functions
 - iii. monitor display
 - iv. display of system activation
 - v. software use
- 3. Radio linkages to the tone remote device will be tested as follows:
 - a. working date: August
 - b. select locations to be tested August
 - i. north limit of test area
 - (1) Canadian Pacific Yard
 - ii. south limit of test area
 - (1) Civic Service Complex
 - iii. east limit of test area
 - (1) Simplot Canada
 - iv. west limit of test area
 - (1) Brandon Regional Health Centre
 - v. northern boundary of City
 - (1) Univar
 - vi. southern boundary of City
 - (1) Shoppers Mall
 - vii. eastern boundary of City
 - (1) Nexen
 - viii. western boundary of City
 - (1) Victoria Inn
 - c. Key facilities
 - i. CKX Radio/Television

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- ii. CKLQ Radio/Television
- iii. Brandon School Division
- iv. King George School
- v. Green Acres School
- vi. Paul's Hauling
- vii. Keystone Centre

Objective 8

Evaluate equipment testing

- 4. Testing will include:
 - a. encoder function
 - i. assess for:
 - (1) ability to interface control station and base station
 - b. activation of tone remote
 - i. assess for:
 - (1) ability to interface control station and base station

Objective 9

Provide the first interim Siren Field Trial and Evaluation Report.

Procedure

The report will:

- 5. include project milestones,
- 6. describe test size, location, demographics in test area, duration of tests, and other relevant test data,
- 7. include an interim technical report which will:
 - a. describe and assess the acoustic performance including decibel level and pattern,
 - b. describe and assess speaker station performance including alarm tone, P.A. broadcast, local speaker and central control unit status reporting capability, local speaker and central control unit silent test, power supply and back up,
 - c. describe and assess control station performance including ability to start/stop functions from the central control unit and at location manually, self-diagnostics, encoder, computer, monitor, display of system activation, and software use,
 - d. describe and assess radio link performance including ability to interface with control station and base station,
 - e. describe and assess strobe performance including type, size and wattage of light tested,
 - f. describe and assess security assurance including methods and procedures to prevent unauthorized access and use of the siren, the control station and the radio station,
- 8. describe technical, operational and policy issues encountered and solutions used, and
- 9. describe lessons learned, improvements or changes recommended for the next phase of tests, and
- 10. include any other relevant findings.

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Objective 10

Research, gather and analyze public reaction.

Probe Research will conduct a telephone survey following each siren test.

11. questions for the survey will be developed by the Project Team (see Project Management)
12. 250 respondents will be interviewed per test
13. information will be analyzed by Probe Research
14. Project Team will determine adjustments in questions for subsequent test

Objective 11

Assess public education campaign.

Procedure

15. The effectiveness of the Public Education Campaign will be assessed based on:
 - a. public reaction to the project
 - b. public participation in the project
 - c. positive and negative information gathered/received by media partners
 - d. positive and negative information received by Project Team members
 - e. positive and negative information received by Mayor and Councillors
 - f. specific questions in the telephone surveys
 - g. input from focus group
 - h. input from B.E.S.T.
16. The campaign will be assessed:
 - a. during the campaign by Project Team members
 - b. following each test
 - c. on a continual basis by media partners

Objective 12

Provide the first interim Public Education Campaign report

Procedure

The report will:

- i. describe the events, processes and results from assessing the public targeted for the project,
- ii. describe and assess public education events conducted,
- iii. describe and assess educational messages sent out to the public,
- iv. assess of the effectiveness of public education events conducted,
- v. include survey data and analysis,
- vi. describe the level of awareness and knowledge of the public as a result of this campaign,
- vii. describe best practices and lessons learned,
- viii. describe public education barriers encountered and solutions used,
- ix. describe improvements or changes recommended for the next phase of campaign events, and
- x. include any other relevant findings.

Objective 13

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Recommend adjustments for next phase of the project.

Procedure

17. Information will be reviewed at a Community Meeting:
 - a. test results will be reviewed
 - b. suggestions for improvement obtained
18. Information will be reviewed at a Community Advisory Committee meeting
 - a. test results will be reviewed
 - b. suggestions for improvement obtained
 - c. project team membership adjusted as required
19. Project team members :
 - a. kept informed of developing issues to facilitate regular review and recommendations for adjustments to subsequent testing. up-to-date survey results
 - b. other available information will be communicated via e-mail
 - c. team members will be encouraged to raise concerns as they see fit
 - d. a “meeting” will be held via e-mail or phone to set parameters for upcoming tests
 - e. the Team Leader will seek consensus on issues before adjustments are made
 - f. where for purposes of expedience, a team meeting is not possible, the Team Leader will determine action and report to the team as soon as possible

Objective 14

Conduct second phase of siren tests.

Procedure

Siren tests will be designed and conducted based on modifications as a result of first phase of testing and will be conducted as follows:

- | | |
|---|---|
| <ol style="list-style-type: none"> 20. Select and confirm date and time <ol style="list-style-type: none"> a. working dates are: <ol style="list-style-type: none"> i. September 10 (Wednesday, daytime - workplace) ii. September 25 (Thursday, evening) iii. October 14 (Tuesday) 21. Launch revised public education 22. Select tone and/or voice message to be used 23. Determine duration of test 24. Determine sound pressure level (SPL) sampling locations <ol style="list-style-type: none"> a. provided by ATI 25. Select Testing Team volunteers: <ol style="list-style-type: none"> a. SPL sampling <ol style="list-style-type: none"> i. conduct orientation training session for volunteers ii. assign trained volunteers to gather data b. speaker performance assessment <ol style="list-style-type: none"> i. conduct orientation training session for volunteers ii. assign trained volunteers to gather data c. CCU performance assessment <ol style="list-style-type: none"> i. conduct orientation training session for volunteers ii. assign trained volunteers to gather data | <p>September</p> <p>Test dates</p> <p>Test dates</p> <p>September</p> <p>September</p> <p>September</p> <p>Test dates</p> <p>September</p> <p>Test dates</p> <p>September</p> <p>Test dates</p> |
|---|---|

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7. Brief Testing Team:
 - a. day before test provide training refresher for volunteers Test dates
 - b. day of test brief volunteers Test dates
 - c. provide assessment locations Test dates
 - d. provide equipment for gathering data Test dates
 - e. provide forms for recording data Test dates
 - f. provide Testing Coordinator's phone # for trouble shooting Test dates
 - g. following test gather data Test dates
8. Assign trained volunteer to assess speaker station performance: Test dates
 - a. Alarm tones:
 - i. alert
 - (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - ii. alert test
 - (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - iii. all clear
 - (1) volume
 - (2) clarity
 - (3) length of tone or message
 - (4) local speaker status reporting
 - b. Live PA broadcast
 - i. volume
 - ii. clarity
 - iii. length of tone or message
 - iv. local speaker status reporting
 - c. Strobe light
 - i. intensity
 - ii. reflectivity off of surfaces
 - iii. attention grabbing ability
9. Assign volunteer to assess Central Control Unit: Test dates
 - a. Stop/start function
 - b. system self-diagnostics
 - c. computer functions
 - d. monitor display
 - e. display of system activation
 - f. software use

Objective 15

Provide the second interim Siren Field Trial and Evaluation Report.

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Procedure

The report will:

10. describe any adjustments, changes and modification as a result of first phase of testing,
11. describe project milestone including number of tests accomplished, number of people in test area, test size, location, duration, and other relevant test data,
12. include an interim Field Trial Evaluation report which will:
 - a. describe and assess the acoustic performance including decibel level and pattern,
 - b. describe and assess speaker station performance including alarm tone, live P.A. broadcast, local and central control unit status reporting capability, local and central control unit silent test, power supply and back up,
 - c. describe and assess control station performance including ability to start/stop functions from the central control unit and at location manually, self-diagnostics, encoder, computer, monitor, display of system activation, and software use),
 - d. describe and assess radio link performance including ability to interface with control station and base station,
 - e. describe and assess strobe performance including type, size and wattage of light tested,
 - f. describe and assess security assurance including methods and procedures to prevent unauthorized access and use of the siren, the control station and the radio station,
13. describe technical, operational and policy issues encountered and solutions used,
14. describe lessons learned, improvements or changes recommended for the next phase of tests, and
15. include any other relevant findings.

The interim Public Education Campaign report will:

- 1 describe any adjustments, changes and modification as a result of Task #2,
- 2 describe the events, processes and results from assessing the diverse make-up of the public targeted for the project
- 3 describe and assess the public education events conducted
- 4 describe and assess educational messages sent out to the public,
- 5 include survey data and analysis
- 6 describe the level of public education achieved, include evidence indicating the level of education achieved,
- 7 describe best practices and lessons learned,
- 8 describe public education barriers encountered and solutions used, and
- 9 include any other relevant findings

Objective 16

Research, gather and analyze public reaction.

Probe Research will conduct a telephone survey following each siren test.

16. questions for the survey will be developed by the Project Team (see Project Management)

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17. 250 respondents will be interviewed per test
18. information will be analyzed by Probe Research
19. Project Team will determine adjustments in questions for subsequent test

Objective 17

Assess public education campaign.

Procedure

20. The effectiveness of the Public Education Campaign will be assessed based on:
 - a. public reaction to the project
 - b. public participation in the project
 - c. positive and negative information gathered/received by media partners
 - d. positive and negative information received by Project Team members
 - e. Positive and negative information received by Mayor and Councillors
 - f. specific questions in the telephone surveys
 - g. input from focus group
21. The campaign will be assessed:
 - a. during the campaign by Project Team members
 - b. following each test
 - c. on a continual basis by media partners

Objective 18

Provide second interim Public Education Campaign report

Procedure

The report will:

1. describe any adjustments, changes and modification as a first phase of testing,
2. describe the events, processes and results from assessing the diverse make-up of the public targeted for the project
3. describe and assess the public education events conducted
4. describe and assess educational messages sent out to the public,
5. include survey data and analysis
6. describe the level of public education achieved, include evidence indicating the level of education achieved,
7. describe best practices and lessons learned,
8. describe public education barriers encountered and solutions used, and
9. include any other relevant findings

Objective 19

1. Submit the following four draft reports.
 - a. a draft Siren Field Trial and Evaluation report which will at a minimum:
 - i. describe that project objectives stipulated in the Demonstration and Evaluation Project Plan have been met or exceeded,
 - ii. describe and assess the overall technical effectiveness of the siren, summarize any data, analysis and feedbacks and,
 - (1) Acoustic
 - (a) describe and assess the sound quality and pattern,

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- (b) describe and assess the volume and clarity of the tone and voice message (both pre-recorded and live broadcast) as perceived by the public,
 - (c) identify any deficient or excessive decibel levels in locations indoor, outdoor, too far or too close to the siren unit,
- (2) Speaker station
- (a) describe and assess the performance of live P.A. broadcast, both tone and voice,
 - (b) describe and assess the ability to block insects, dirt, debris and other adverse environmental elements from the equipment,
 - (c) describe and assess the performance of local and central control unit operational status reporting ability,
 - (d) describe and assess the performance of local and central control unit silent test ability, and
 - (e) describe the options and the associated advantages and disadvantages of power back up.
- (3) Control station
- (a) describe and assess the performance of siren activation and deactivation, including a description of the importance of having remote, wireless access to the siren,
 - (b) describe and assess the performance of self-diagnostics and its importance,
 - (c) describe the importance and assess the ability to start/stop from the central control computer and at location manually,
 - (d) describe the relevance and assess printing capability of the system,
 - (e) describe the importance and assess the performance of remote station status report (ie. power supply, temperature, intrusion alarm, operation, receiver signal to noise ratio),
 - (f) describe and assess the software: ease of use, ability to report activities including activation, power failure, maps, permit activation/deactivation, polling, and diagnostics of additional siren units, status verification, interoperability with other commonly used software.
- (4) Radio link
- (a) describe the importance (as it applies to the existing Brandon radiocommunication system) and assess the ability to interconnect VHF, UHF and 800 MHz two way radios, and
 - (b) describe any technical issues, considerations and solutions in constructing the radio links to alert indoor facilities.
- (5) Strobe
- (a) describe the type, size, height and wattage of the strobe light tested,
 - (b) describe and assess the performance and public reception, include any public feedbacks and technical analysis,
- (6) Security
- (a) describe and assess the methods to prevent unauthorized access and use of the siren, and
 - (b) describe and assess the methods to secure the control station, speaker station

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- and radio link station,
- iii. describe and assess the ability to automatically capture, store, compile and report data,
- iv. describe the importance and assess the ability to provide fault detection and reporting for maintenance and warnings of malfunction,
- v. describe and assess the effectiveness of the alerting voice messages,
 - vi. describe the time taken to disseminate alerts, including the length of tones and messages,
- vii. describe the advantages and disadvantages of having a radio link to access the siren and to alert indoor facilities,
- viii. describe and assess the ability to alert the population in their homes when they are not watching or listening to radio, television, cable, DTH, etc,
- ix. describe and assess the ability to alert motorists, commuters and people at homes with doors/windows open and closed,
- x. describe and assess the ability to alert those with special needs,
- xi. describe the cost effectiveness and user friendliness of the siren,
- xii. describe and assess system scalability and reliability,
- xiii. describe and assess system security, procedural security, procedures to prevent unauthorized access and use of the siren, control station, speaker station and radio station,
- xiv. describe and assess the ability to provide all hazards and severe weather alerts,
- xv. describe public's level of understanding and acceptance to the tone and message,
- xvi. describe and assess the overall effectiveness of the siren technology including the radio links,
- xvii. describe and assess the overall effectiveness in reaching the public at risk,
- xviii. indicate any emergency preparedness organization satisfaction or dissatisfaction, including comments from Manitoba EMO,
- xix. from the authority/City perspective, describe the pro's and con's of the overall control, access, security requirements and procedural requirements of the siren technology,
- xx. describe and assess the siren technology's ability and effectiveness to declare an emergency, announce the imminent danger, and advise the public of other essential information in comparison with existing public alerting system,
- xxi. describe any noted efficiencies/deficiencies in the sirens that may have positive/negative impact on the existing public alerting system,
- xxii. describe how the sirens compliment the existing public alerting system,
- xxiii. describe how the new siren technology meets the need of public alerting and helps to build a more diversified public alerting system in Brandon,
- xxiv. provide a summary of public reaction, include survey results, comments, objections and concerns from the residents, businesses, radio and television broadcasters, siren suppliers, institutions, organization, commuters, city officials, and others who are within the test area,
- xxv. for the construction of the siren pole and installation of the strobe light, outline steps to obtain the necessary approval for Aviation Obstruction Clearance with

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- Transport Canada. Also list the type of documents and data needed for the approval, approval duration and approval conditions, and
- xxvi. include any other relevant findings.
- b. a draft Procedural Guide for the implementation of a siren system as public alerting tool which will at a minimum:
- i. include a summary of Brandon's experience as a result of this project,
 - ii. briefly describe the technology and its effectiveness,
 - (1) describe how the new siren system fills the gap in public alerting for Brandon,
 - (2) describe the system design and performance, including a diagram of the siren, speaker station, control stations, coverage map, and radio links,
 - (3) list the equipment used and describe its performance,
 - (4) describe the cost and maintainability, including an estimated cost for a city wide deployment of a siren system,
 - (5) describe the reliability,
 - iii. describe the security measurements used in this project,
 - iv. recommend security measurements for a city wide siren network,
 - v. recommend a procedure for the development of a siren system in a Canadian urban city such as Brandon,
 - vi. recommend a procedure for the implementation of a siren system in a Canadian urban city such as Brandon,
 - vii. describe possible technical issues and possible solutions,
 - viii. describe the policy to activate and deactivate the siren,
 - ix. recommend a list of voice messages for siren alerting,
 - x. describe the importance, advantages and disadvantages of including sirens in the public alerting system,
 - xi. describe issues, policies and solutions regarding the coordination of a community alerting system made up of a siren system and radio and television broadcast systems,
 - xii. recommend a procedure to co-ordinate the community alerting system made up of a siren system and radio and television broadcast systems,
 - xiii. recommend a list of the types of emergencies that will trigger alerts through sirens, radio, and television broadcast systems,
 - xiv. describe best practices and lessons learned, and
 - xv. include any other relevant findings.
- c. a draft Public Education Campaign report which will at a minimum:
- i. include detailed description that the project objectives stipulated in the Public Education Campaign Plan have been met or exceeded,
 - ii. describe and assess the steps used to identify the diverse public make-up while complying with privacy regulations and policies,
 - iii. include the results of the identified public groups,
 - iv. summarize the overall public reaction, including data captured from surveys before, during and after the public education campaign, and reactions to the siren,
 - v. describe and assess the overall effectiveness of activities performed,
 - vi. describe and assess the overall level of public education achieved,
 - vii. analyse the overall effectiveness of the campaign,

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- viii. describe any barriers to the public's understanding of the alerting tone and voice message,
 - ix. recommend steps to overcome the barriers,
 - x. describe best practice and lessons learned,
 - xi. recommend methods and steps to nurture and develop a culture of public alerting awareness in the community,
 - xii. recommend methods and steps to maintain the level of education for future generations, and
 - xiii. include any other relevant findings
- d. a draft Public Education Reference Guide which will at a minimum:
- i. briefly describe the public education campaign experience from this project,
 - ii. include a strategy to match the diversified public to the most effective public education method. The strategy will:
 - (1) describe the importance of identifying the diverse public make-up according to their culture, language, degree of education and learning style,
 - (2) recommend steps to identify the diverse public make-up while complying with the Privacy Act,
 - iii. describe privacy issues, considerations and recommend solutions,
 - iv. provide a strategy to match the diversified public with the most effective public education method, and
 - v. describe the pros and cons of each method.
 - vi. provide a template of a public education campaign so that the public will have a good understanding of a new public alerting technology and be willing and ready to accept and cooperate with alerting officials. The template will
 - (1) provide the steps needed from the start to the finish of the campaign,
 - (2) include processes, procedures, possible problems and solutions,
 - (3) recommend best practices,
 - (4) estimate time and resources needed for the campaign,
 - (5) describe possible partners and their contributions,
 - (6) describe the importance of including the media as partners,
 - (7) describe the best way to approach the media for their contributions and support, and
 - (8) provide a list of types of contributions and supports that the general media may be willing to give, including samples and/or case studies of utilizing free media community services as a mean of public education,
 - vii. provide a guide to measure public education campaign results,
 - viii. describe best practices, lessons learned, potential issues and solutions from this project,
 - ix. recommend a strategy to create and nurture a culture of public alerting awareness in the community,
 - x. recommend a strategy to maintain the level of education for future generations, and
 - xi. include any other relevant findings.

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Objective 20

1. Co-ordinate with Industry Canada to discuss the four draft reports and to receive feedback for the final reports. Submit the following reports:
 - a. final Siren Field Trial and Evaluation report based on the initial report and feedback from Industry Canada,
 - b. final Procedural Guide for the implementation of a siren system based on the initial guide and the feedback from Industry Canada,
 - c. final Public Education Campaign report based on the initial report and feedback from Industry Canada,
 - d. final Public Education Reference Guide based on the initial report and feedback from Industry Canada.

Project management (3)

The project will be managed by the City of Brandon's Emergency Coordinator. Technical assistance will be provided by ATI personnel. Research assistance will be provided by Probe Research Inc. Clarification of community issues will be provided by the Community Advisory Committee for Emergency Preparedness. Clarification of media issues will be provided by the media partners. Clarification of business, health care, and school issues will be provided by the members of the Brandon Emergency Support Team.

A Project Team will be established from the interested parties.

Membership will be as follows:

- | | |
|---------------------------------|--|
| 2. Team Leader | Brian Kayes, City of Brandon |
| 3. City Council | Councillor Jessiman,
Councillor Black |
| 4. B.E.S.T. Representatives | Bruce Bunting, Nexen
Tom Hutchinson, Simplot
Ken Pratt, Westco
Rich Gregoire, Brandon Fire Department |
| 5. Community Advisory Committee | Tab Dudley
Bob Edmundson |
| 6. ATI | Brian Kelly, Antonio Cracchiolo |
| 7. Industry Canada | Wendy Wu |
| 8. Media | Russell Maloney |

Project Partners Involvement

1. Industry Canada
 - a. funding
 - b. Project Authority
2. City of Brandon
 - a. project management
 - b. funding
3. Brandon Emergency Support Team

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- a. Industry and Business input
- b. funding
4. Community Advisory Committee for Emergency Preparedness
 - a. community input
 - b. volunteers for project implementation
5. Standard Radio, Riding Mountain Broadcasting, Craig Broadcasting, Westman Communications, Innovative Media Group, News in a Minute, Brandon Shopper, Brandon Sun, Wheat City Journal (see Public Education Campaign Plan)
6. Acoustic Technology Incorporated
 - a. engineering expertise
 - b. advice on site selection
 - c. advice on testing protocol
 - d. acoustical interpretation of results
 - e. written report on testing
7. Manitoba Hydro
 - a. advice and expertise selecting a proper location
 - b. mounting siren
 - c. installing pole
 - d. electricity for the test period

Project Schedule of Events

8. The project started on March 17, 2003
9. The project will end on January 20, 2003

Project Siren Technology (6)

1. System Diagram
 - a. see appendix.....
2. Equipment (including radio link)
 - a. One Central Control Station - REACT 4000 Central Control Unit Model 4000CCU. battery back up, radio, antenna, antenna surge suppressor (one way system). The CCU provides RF communications to control and monitor an ATI emergency warning system.
 - b. One High-Power Speaker Station - Model HPSS16. With integrated RC for UHF/VHF radio communications with Central Station, antenna and antenna surge suppressor. Custom configured speaker head. Capable of producing various tone signals and live voice broadcasts. Standard power feed of 120V and battery back-up operation in the event of power loss. NEMA - 4 enclosure of painted metal.
 - c. One high power strobe light. This will be mounted at the top of the siren.
 - d. One wireless interface to key facilities.
 - e. See Appendix for supporting documents.
3. Expected Coverage
 - a. The siren is designed to notify an area approximately 1.1 kilometres at 70dB in radius of the siren when mounted 15 metres above the ground. Sound travel distance is impacted by tall structures, vegetation, and topography.

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- b. Boundaries for the Brandon siren project:
 - i. North boundary is the property along Rosser Avenue
 - ii. South boundary is the property along Richmond Avenue
 - iii. East boundary is the property along 17th Street east
 - iv. West boundary is the property along 1st Street

See Appendix for supporting documents.

- 4. Specifications to manage the siren tests

The goal is to notify everyone within the test area while at the same time causing a minimum of business interruption.

 - a. Technical
 - i. Siren range is approximately 1.1 kilometres
 - ii. System has ability to cancel signal if required
 - iii. System has ability to conduct silent tests
 - iv. System has a distinct non-alerting signal for testing (Westminster Chime)
 - v. Remote tone device will cause activation within a facility
 - b. Procedural
 - i. Implementation of the Public Education Campaign
 - ii. Personnel will be situated at key locations to assess impact and advise if a cancellation is required

Project siren tone and voice tests

The siren tones will be set up in the following manner:

Activation	CCU Front Panel Display	Activation Description
Alert	Alert	Sounds a 3 minute Steady Tone
Alert Test	Alert Test	Sounds one cycle of Westminster Chimes

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Growl Test	Growl Test	Sounds 5 seconds Steady Tone
All Clear	All Clear	Sound a 30 second Alternating Steady Tone
PA	PA	Performs a PA for 1 minute
Silent Test	Silent Test	Performs silent activation
Cancel	Cancel	Cancels current activation

Existing public alerting system

Brandon’s present alerting process involves using the Brandon Police Service to go door to door to notify a given area of the City. This can be a dangerous process depending on the circumstances. It is also labour intensive, takes significant time to engage, is not appropriate for air borne chemical releases, is limited by manpower to a relatively small geographical area, and is time consuming to the point where an entire area may not be completely alerted in an acceptable time frame. This public alerting process is supplemented by news bulletins provided by the local media. This process takes significant time to engage and the public must have their radio or television turned on and tuned to the proper station. Recent world events of terrorism also point to an increased danger for Canadian cities and their significant facilities.

The City of Brandon presently has immediate access to live radio broadcasting from 5:00 a.m. to 11:00 p.m. at two commercial radio stations CKLQ and CKX. CKLQ has agreed to respond and

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provide live broadcasts as required during off hours and estimate a response time of between 30 minutes and one hour. There are several specialty FM radio stations that are also accessed to provide supplementary public alerting.

Some businesses have contracted telephone alerting companies to notify residents within an identified radius of their facility. Testing of these systems have proven that for more than a handful of residences the system becomes extremely difficult to keep up-to-date. As residents move in and out of the area, both educating people about the system and keeping telephone lists current is very time consuming.

Immediate access to television broadcasting through community access television on Westman Communications Group television, CBC affiliate CKX television

The Weather Channel is available through Westman Communications Group cable television and Skycable and satellite providers such as Star Choice and Bell Express Vu.

Environment Canada's Weather Radio system operates in the Brandon area at 162.550 MHz

Environment Canada's website provide weather information.

City of Brandon website provides up-dates on developing situations such as river conditions.

Siren, public address from vehicles, and loud haler notification by Brandon City Police and Brandon Fire Department.

Roadblocks placed at strategic intersections by the Brandon police Service to stop traffic and notify motorists of a situation.

Door to door notification by Brandon City Police and Brandon Fire Department.

Use of mobile advertising signs strategically located at perimeter of emergency sites alerting people to the hazard. During flooding some areas that have easy public access, such as parking lots in parks along the river, may become dangerous with shallow but swiftly moving flood water. Signs would be positioned to alert people to the danger.

Policy or procedural adjustments (9)

1. Procedural adjustments to the public alerting system will include:
 - a. activation of alerting process by project team leader instead of
 - i. Brandon City Police, or
 - ii. Brandon Fire Department, or
 - iii. City Emergency Public Information Team
 - b. early notification of the testing times:
 - i. Brandon City Police, or
 - ii. Brandon Fire Department, or
 - iii. City Emergency Public Information Team

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- iv. Provincial 911 Communications Centre
- c. information that the siren will not be used for actual emergencies:
 - i. Brandon City Police, or
 - ii. Brandon Fire Department, or
 - iii. City Emergency Public Information Team
 - iv. Provincial 911 Communications Centre
 - v. public
- d. testing will not include other public alerting methods presently in use

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