



Partnering with the community for life.



Prepared for
AECT / PacifiCorp
Design and Development Competition 2011
Trin20 Biologics



Prepared by
Heads Together Consulting
Chapin Brinegar
Jean Snider
Master of Instructional Technology (MIT) Program
University of North Carolina Wilmington
November 9, 2011

Deborah O'Connor, PhD, Mentor
Booz Allen Hamilton



Heads Together Consulting



CONTENTS

EXECUTIVE SUMMARY	1
PROBLEM STATEMENT	3
Assumptions	3
OUR APPROACH.....	4
Create a Vision.....	4
Align Organizational Elements for Community Impact	5
Close the Gap Between Community and Organization Needs	6
COMMUNITY PARTNERSHIP PACKAGE	7
EMPLOYEE DEVELOPMENT PACKAGE	8
Occupational Worker Training	9
Ancillary Worker Training	9
Standard Operating Procedures (SOPs)	10
Competencies/Job Descriptions	10
Policies and Procedures.....	10
Employee Recognition.....	10
COMMUNITY TRAINING PACKAGE	11
Ambassador Program	12
Trin20 Junior Employee Training Program.....	13
Virtual Tour Video	13
Community Outreach and Materials	13
Facebook Page	13
DOCUMENTATION PACKAGE.....	15
IMPLEMENTATION PLAN	16
Deliverables	16
Required Resources	17



EVALUATION PLAN	18
PROJECT PHASES	20
COST PROPOSAL	22
REFERENCES	23
APPENDIX A	25
Community Analysis	25
APPENDIX B	26
Research Methodology	26
APPENDIX C	27
Trin20 Project Proposal Gantt Chart	27
APPENDIX D	28
Trin20 Project Proposal Budget	28



LIST OF FIGURES AND TABLES

Figure 1. Branding for Trin20 Vision	4
Figure 2. Using Kaufman's OEM to Support a Community Partnership Vision.....	5
Figure 3. Aligning Community and Organizational Needs.....	6
Figure 4. Trin20 Social Media Presence on Facebook	14
Figure 5. Community Partnership Proposal Deliverables	16
Figure 6. Trin20 Project Proposal Gantt Chart	27
Figure 7. Trin20 Project Proposal Budget.....	28
Table 1: Summary of Package Objectives and Deliverables	2
Table 2. Occupational Worker Training Products.....	9
Table 3. Ambassador Program Products.....	12
Table 4. Required Resources.....	17
Table 5. Employee Development Evaluation	18
Table 6. Community Outreach Evaluation	19
Table 7. Project Phases	20



Executive Summary

Partnering with the Community for Life, a comprehensive proposal for community partnership developed by Heads Together Consulting (HTC), provides a cost-effective solution to meet Trin20 Biologic's needs for employee development, community outreach, and documentation control. Built on aligning operational needs with a vision for community partnership, HTC's solution bridges the gap between community and organizational needs through integrated employee and community training and development.

Analysis of Trin20's current situation indicated several challenges for Trin20. First, radioactive waste is a sensitive subject for both employees and community members, and perceptions are not always accurate. Second, Trin20 is relatively new to the community with an unknown track record. Third, Trin20 has competition for human resources and community support. Lastly, Trin20 does business in a small community where relationships are important.

Trin20 operates within a larger framework, which is the community system; therefore, the community must become part of any solution to ensure sustainability. Although a training program about radioactive waste would satisfy Trin20's immediate needs, HTC proposes a long-term solution that will set Trin20 apart from the competition and demonstrate a commitment to employees and community through responsible waste disposal, valued employees, and open communication with the community.

HTC's approach is rooted in a vision of a partnership between Trin20 and the community in which they do business. With this vision in place, organizational elements are aligned to ensure the vision is supported and achieved. HTC targeted key areas to support the vision and developed four integrated packages designed to achieve the vision of community partnership. These packages are outlined in Table 1 on the next page.

We recognize the importance of evaluating both employee training as well as the impact on community. The Kirkpatrick Model of Training Evaluation will be used to provide the framework for evaluating employee training as well as the impact of community training. This model focuses on measuring reactions, learning, behavior, and results both before and after implementation of the various packages.

HTC proposes a timeline of six months to design, develop, and implement this solution. Project management strategies and development of deliverables have been designed to maximize efficiencies and contain costs. For example, HTC will use Trin20 employees as much as possible to reduce

Scan to learn more about
the proposed products for
Trin20 Biologics





contracting costs. Deliverables, such as the Documentation Package will be implemented as soon as possible to facilitate collaboration and workflow during the project. In addition, HTC will use software readily available to Trin20 to facilitate cost-effective updates in the future.

The cost of this package is approximately \$152,000, which includes internal, external, and direct costs associated with a full implementation plan—from kickoff meeting to program evaluation.

Table 1: Summary of Package Objectives and Deliverables

Package Objective	Deliverables
<p>Community Partnership Package enables Trin20 to demonstrate commitment to the community by inviting stakeholders to participate in a vision of community partnership.</p>	<p>Establish community advisory board (Vision Team) to partner with Trin20 Executive Team and draft participation guidelines.</p>
<p>Employee Development Package integrates training programs and employee competencies into organizational processes to build confidence in employees and community by demonstrating the safe and proper handling of radioactive waste.</p>	<ul style="list-style-type: none"> • Occupational Worker Training to include: Facilitator Guide, Student Guide, Train-the-Trainer instruction, and Job Aids (safety procedures poster) • Ancillary Worker Training to include: Computer-based Instruction and job aid • Other Deliverables include: <ul style="list-style-type: none"> ○ Standard Operating Procedures that outline required competencies for occupational worker certification ○ Policies and Procedures for handling and disposing of radioactive waste ○ Policies and procedures for safety and emergency situations ○ Updated job descriptions for all employees to indicate risk of radiation exposure on the job
<p>Community Outreach Package utilizes outreach activities and education designed to alleviate concerns of the community by establishing open and honest communications in regard to the Trin20 research and radioactive waste.</p>	<ul style="list-style-type: none"> • Five-minute video highlighting operations and radioactive waste handling • Implementation of social media presence (Facebook) • Trin20 Junior Employee Training • Trin20 Ambassador Program • Train-the-Trainer instruction
<p>Documentation Control Package establishes a system to effectively manage training materials, certificates, and regulatory documents in a secure, collaborative space.</p>	<ul style="list-style-type: none"> • Install ten Microsoft® SharePoint Workspace seats • Develop documentation control workflow and procedures for training, compliance, and procedures



Problem Statement

Trin20 Biologics (Trin20) is a biotech start-up company that operates a research facility in a rural community in the Southeastern part of the United States. As one of several biotech companies, Trin20 has been welcomed to the community to boost the local economy. Trin20 and the community have enjoyed a symbiotic relationship; the local community has welcomed Trin20 as an employer and Trin20 has found a dedicated workforce within the community. However, recently, production of low-level radioactive waste at the Trin20 facility has raised concerns about the effects this waste could have on environment, health, and community.



As a relatively new employer in the area, Trin20 is operationally established, but may still lack credibility. Our community analysis (Appendix A) confirms that concern over radioactive waste is unsettling because there are unanswered questions about how safety, health, and environment will be addressed. Trin20 also faces competition for employees from other biotech companies in the area. Trin20 must ensure that programs comply with local, state, and federal laws as well as maintain good standing in the community. The radioactive waste produced by Trin20 is not just an organizational problem, but also a community problem. The Trin20 Executive Team desires a solution to help the company live in harmony with the community as well as support operational requirements for handling and disposing of radioactive waste.

Assumptions

For the purpose of this project, we make the following assumptions:

- Use of radioactive materials and waste disposal is long-term;
- Research is neither controversial nor ethically divisive;
- Trin20 is still relatively new to the community; and
- Trin20 has invested in proper waste storage facilities and licensing.



Our Approach

Our approach focuses on how Trin20 operates within the larger framework of the community. To be successful, Trin20 must be seen as a community partner, and not the company associated with radioactive waste. A basic training solution to address regulatory requirements and community outreach would satisfy Trin20's short-term needs; however, Trin20 would benefit long-term by using this opportunity to demonstrate that they value employees, the environment, and safety of the community. To fully understand Trin20 needs and develop a comprehensive approach, we conducted community analysis (Appendix A). We also interviewed several subject matter experts in the field of low-level radiation and radioactive waste and consulted governmental resources, such as the National Regulatory Commission (NRC), for regulations and disposal information. (Appendix B).

Kaufman's (1983) Organizational Elements Model (OEM) and Mega Planning Approach (Kaufman, 2005) provided a framework that places an emphasis on establishing a vision for the organization in terms of its positive impact on society and then aligning elements of operations with that vision.

Create a Vision

Our vision for Trin20, *Partnering with the Community for Life*, (Figure 1) provided a starting point for evaluating and aligning organizational elements to the problem of radioactive waste disposal and community concern over this waste. Figure 2 illustrates how the addition of key inputs, processes and products directed toward community partnership will achieve this vision. Our proposal does not suggest a reorganization of Trin20's operations, but rather adoption of new products and processes that complement or expand on existing elements. Our proposal is designed to enable Trin20 to demonstrate their commitment to community partnership through responsible waste disposal, employee safety, and open communication with the community.

Figure 1. Branding for Trin20 Vision





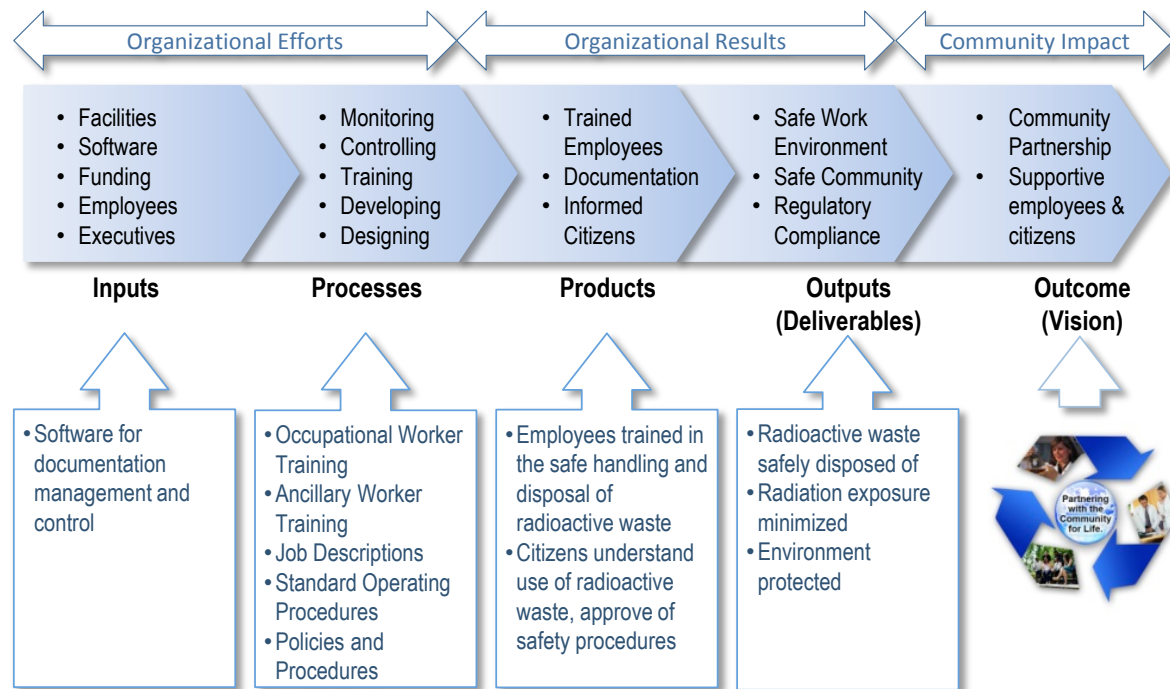
Align Organizational Elements for Community Impact

Successful organizations are shifting away from the traditional focus on organizational output and focusing on using the organization as a driver for adding value to society (Kaufman, 2005).

Companies like Trin20, whose operations have a direct impact on health or safety, can no longer afford to operate in a vacuum and focus only on internal results. Instead, a results-driven, proactive strategy that puts an emphasis on the organization’s social responsibility is required for long-term viability and success.

Kaufman’s Organizational Elements Model (OEM) provided a framework for (1) analyzing organizational elements in the context of our recommended vision and (2) determining the true needs based on desired results. This analysis put the radioactive waste issue into perspective at both an organizational and community level.

Figure 2. Using Kaufman’s OEM to Support a Community Partnership Vision



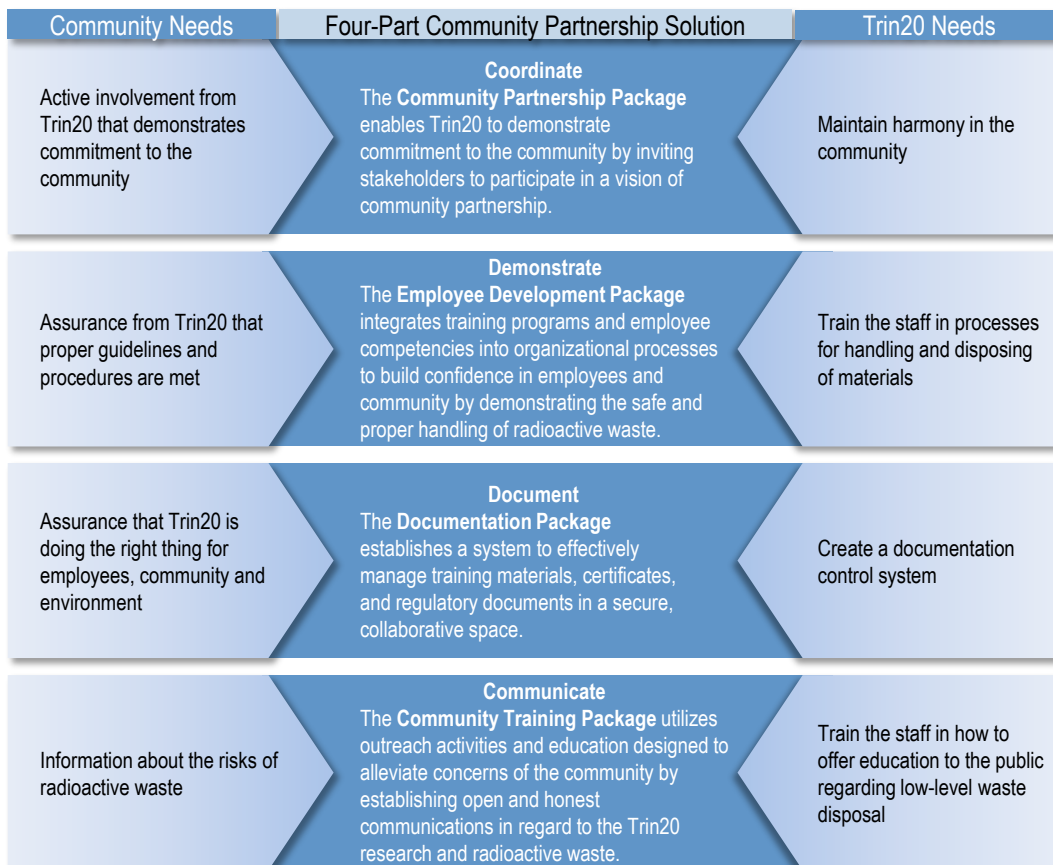


Close the Gap Between Community and Organization Needs

The driver of organizational success will be community support; however, currently, both employees and citizens are concerned about radioactive waste in the community. To close this gap, we addressed several causes, the primary of which is: radioactive waste, even low-level waste, is perceived as hazardous to health and environment. It is not enough to simply educate citizens and train employees on radioactive waste disposal, rather Trin20 must demonstrate their commitment to the community by creating a safe working and living environment.

Our solution bridges the gap between community and organizational needs through a four-part solution built on aligning operational needs with the community partnership vision. Figure 3 illustrates the community needs gathered from our community analysis (Appendix A), Trin20 organizational needs, and our four-part solution, including a Community Partnership Package, Employee Development Package, Documentation Package, and Community Training Package.

Figure 3. Aligning Community and Organizational Needs





Community Partnership Package

In order to fulfill a partnership role with the community, Trin20 must reach out to opinion leaders to understand how to best support the community. Trin20 will assemble a *Vision Team* of eight volunteer stakeholders, which will include: Trin20 Executive Team, employees, citizens, customers, and regulatory agencies (as available). Working with an Instructional Designer Consultant, the Trin20 Executive Team will identify team members, develop a mission for the vision team, and specify scope of team involvement.



Community Partnership Package

Demonstrates commitment to the community by inviting stakeholders to participate in the vision of community partnership.

The Community Partnership Package creates a foundation for the vision team to guide and advise executives on how Trin20 can provide community partnership support; for example, through sponsorship of events, such as blood drives or adopting a cause in community. The vision team will also raise awareness to the Trin20 Executive Team about concerns within the community, enabling Trin20 to be proactive with community concerns.

Benefits:

- ✓ Forming a *Vision Team* assists the Trin20 Executive Team in understanding community concerns and opportunities for community involvement.
- ✓ Establishing community partnerships with civic groups and businesses puts Trin20 in the driver's seat of community involvement.
- ✓ Sponsoring community events demonstrates Trin20's commitment to the community.



Employee Development Package

The Employee Development Package is designed to prepare occupational and ancillary workers for working in a facility that contains radioactive materials and waste.

Training will comply with state, federal, and local regulations, but more importantly will ensure that employees perform within the safety and health guidelines set forth by those regulations. According to National

Regulatory Commission (NRC Regulation 10 CFR 19.12, individuals who may receive an occupational dose of radiation over 100 mrem in a year must be instructed about health protection problems, storage of radiation material, and the responsibility to report unnecessary exposure to radiation.

The Employee Development Package demonstrates to employees that Trin20 intends to make employee safety a priority. Radioactive waste is a sensitive issue; therefore, Trin20 must ensure that employees feel confident in working at the Trin20 facility and can report to the community that Trin20 follows and exceeds safety, health, and regulatory requirements. The package also includes development of standard operating procedures (SOPs), policies, job descriptions, and employee performance recognition.



Employee Development Package

Integrates training programs and employee competencies into organizational processes to build confidence in employees and community by demonstrating the safe and proper handling of radioactive waste.

Benefits:

- ✓ Occupational Worker Training ensures every employee who works with radioactive materials and waste is compliant with laws and safety procedures.
- ✓ Ancillary Worker Training informs employees who do not work with radioactive materials of risks and safety procedures.
- ✓ Standard Operating Procedures ensure all processes and procedures are carried out in the safest and most effective manner.
- ✓ Competencies/Job Descriptions communicate job requirements and risks of every position at Trin20.
- ✓ Policies/Procedures ensure safety procedures are followed and licensing is not compromised.



Occupational Worker Training

The Trin20 Executive Team has indicated that they will deliver the occupational training, however, a formally developed and documented course is still needed. A standardized course will ensure that every occupational worker is trained consistently on disposal procedures and will offer documentation of training protocol for regulatory agencies. Occupational workers will be assessed through a written test and receive a certificate upon successful completion of the course. This course and certification will serve as evidence of training to meet state and federal regulations. Once the course is developed, it will be updated annually and offered to employees to renew their certification.

Products for Occupational Worker Training are listed in Table 1.

Table 2. Occupational Worker Training Products

Product	Description
Facilitator Guide	Provides content and scripting for facilitators (executives), instructions on how to use the guide, and suggestions for training each section (materials needed, time needed, etc.).
Learner Guide	The learner guide includes an overview of training which includes objectives, instructions, lessons, a glossary of terms, and removable job aids.
Job Aids to include	Procedures checklist for radioactive material/waste storage and disposal; and Safety Procedures poster for prominent display in work areas.

Ancillary Worker Training

Ancillary training targets employees who work at Trin20, but do not work directly with radioactive materials. This course mirrors requirements of NRC Regulation 10 CFR 19.12, Instruction to Workers. Ancillary training will be developed as a computer-based instruction (CBI) module for flexibility in delivering the course on demand at the employee's convenience. The course will include a job-aid that summarizes key points of instruction: radiation signage, locations of radioactive materials, and disposal locations. To minimize cost, this course will be developed using a Microsoft® PowerPoint presentation as the basis of the CBI with a voice over recorded by one of the Trin20 executives. With this format, the course can be easily updated as needed for annual retraining.

(Sample pages of Ancillary Worker Training:

<http://headstogetherconsulting.weebly.com/interactive-modules.html>)



Standard Operating Procedures (SOPs)

Training. SOPs for training will define the training requirements for occupational and ancillary workers, the timeline in which training must be completed, the process for updating training materials, the content required to meet the needs of the regulatory agencies, and licensing requirements.

Radioactive Waste and Disposal. SOPs for waste handling and disposal will be documented and included as part of both occupational and ancillary worker training.

Competencies/Job Descriptions

Current job descriptions will be updated to align with occupational training and ancillary training. Job descriptions for all employees must specify the risk of radiation exposure in relation to the job.

Policies and Procedures

Adherence to safety protocol and terms of the license are vital to Trin20's operations. For example, if an employee does something that violates the terms of the license, the incident must be reported to NRC immediately. Otherwise, Trin20 could lose their license. Trin20 will develop written policies to ensure terms of license and safety protocol are followed.

Employee Recognition

Employee training and performance are key to ensuring licensing compliance and a safe working environment. Trin20 will implement a program to recognize employees in two ways: completing training and passing performance assessments.

1. When a Trin20 employee receives certification in occupational training, a framed certificate will be displayed in the reception area of the company. The employee will also be recognized on the Trin20 Facebook page, which is part of the Community Training Package.
2. To recognize performance accomplishments, Trin20 will implement random, unannounced performance assessments and inspections. Employees recognized for passing performance tests will be recognized on the Trin20 Facebook page.



Community Training Package

There is a saying, “Perception is reality.” An important component of our approach is ensuring that the community has the correct perception about Trin20 and radioactive waste. The Community Training Package is designed to address the four concerns gathered from our community analysis (Appendix A):

1. Lack of information about radioactive materials and waste;
2. Assurance that proper guidelines and procedures are met;
3. Skepticism about companies doing the right thing; and
4. Evidence of community involvement.

As a community partner, Trin20 must help the community understand radioactive waste. First, citizens must make sense of radioactive waste and recognize that radiation is all around us. Second, the risk of radiation exposure must be put into perspective regarding Trin20 and their handling of the waste. Finally, open and honest communication is imperative to relay the facts objectively and without bias.

The basis of the Community Training Package is in the Ambassador Program, which will train employees on how to communicate with the community about radioactive waste. This program not only educates employees, but also develops employees as sources of information for those outside



Community Training Package

Addresses concerns of the community by establishing open and honest communications about Trin20 research and radioactive waste through resources and education.

Benefits:

- ✓ The Ambassador Program offers Trin20 employees the opportunity to close the gap between organizational and community concerns by educating the community about radioactive waste.
- ✓ Trin20 Junior Training Program enables Trin20 to share with future generations the science of radioactivity and the use of radiation in biotech research.
- ✓ Social Media Presence allows Trin20 to stay connected to the community 24x7.



the company. Since the community knows little about radioactive waste, it is important that employees understand the facts before they can communicate effectively. Other products such as a video, a school outreach program, awareness materials, and social media will provide vehicles for educational opportunities.

Ambassador Program

Employees will provide the most visible form of public relations for Trin20; therefore, they must understand Trin20's business and the use of radioactive materials in Trin20 operations. All employees will participate in the Trin20 Ambassador Program to learn about radioactive materials, and most importantly, learn how to respond to concerns regarding radioactive waste. Morgan, Fischhoff, Bostrom, and Atman (2002) recommend a single voice in creating risk communications. "It should authoritatively reflect the state of the science and explain uncertainties, and controversies in a balanced, scientifically accurate manner" (p. 29). While some employees may never actively engage in a conversation about radioactive waste, the Ambassador Program will help ensure consistent communication with the community. When an employee successfully completes the Ambassador Program they will receive a T-shirt with the vision branding and the message, "Ask me about Trin20."

Products for the Ambassador Program are listed in Table 2.

Table 3. Ambassador Program Products

Product	Description
Facilitator Guide	Guides instructor through the "soft skills" strategies: <ul style="list-style-type: none"> • Prompts on how to start conversations • Provides scripting for delivering the training • (Sample pages of Trin20 Ambassador Program: http://headstogetherconsulting.weebly.com/ambassador-program.html).
Job Aid	Highlights the topics covered in the training
Scenario Cards	"Soft skills" training is most effective when learners are able to practice. Scenario cards will be developed to prompt learners to think about how they would respond in certain situations.
Presentation Slides	Coordinating Microsoft® PowerPoint presentation summarizes key points, procedures, and strategies delivered in the course



Trin20 Junior Employee Training Program

The Trin20 Junior Employee Training Program is an outreach program for local school science programs to teach about radioactive materials and waste. A thirty-minute course will be developed to teach the basics of radiation and demonstrate simple activities, which can be easily facilitated by a Trin20 Ambassador. For example, using a Geiger counter to measure radioactivity in “Red Fiesta” Fiesta ware manufactured in the 1940’s. This also follows the premise that when you teach, you also comprehend. See <http://headstogetherconsulting.weebly.com/junior-employee-program.html>

Virtual Tour Video

Our learner analysis revealed that citizens want to know the nature of Trin20’s research as well as how Trin20’s processes and procedures ensure the safety and security of radioactive materials. A short video will serve as an overview of the company and provide a virtual tour of Trin20 facilities. The video will be posted on the Trin20 Facebook page and used with other community outreach events. The video features Trin20 employees; therefore, actors or a voice over professional will not be required. See <http://headstogetherconsulting.weebly.com/videos.html>

Community Outreach and Materials

Open House. An important goal of the Community Training Package is tying Trin20 to the community. A semi-annual open house will be hosted by Trin20 to answer any questions about their business and radioactive waste. This outreach will demonstrate Trin20’s effort to show openness and commitment to the community.

Educational Resources. The American Nuclear Society has developed a number of educational pamphlets to explain radiation. Trin20 can purchase these resources as needed without the cost of development. See <http://www.ans.org/pi/resources/brochures/>

Facebook Page

Social media provides a cost-effective way for Trin20 to communicate with employees and the community. Facebook is widely used by large and small organizations and is becoming a mainstream communication method. Trin20’s Facebook page will communicate employee certifications, awareness materials, announcements for sponsored events, and links to resources. A Trin20 employee will oversee maintenance of the page. Figure 4 provides a screen capture of the Trin20 Facebook page. To visit the site: <http://www.facebook.com/?ref=home#!/pages/Trin20-Biologics/138548416223658>



Figure 4. Trin20 Social Media Presence on Facebook



The screenshot shows the Facebook profile for Trin20 Biologics. The page header includes the Facebook logo, a search bar, and navigation links for Home, Wall, and Hidden Posts. The profile picture is a circular collage of images related to biotechnology and community engagement. The cover photo features the Trin20 Biologics logo and the tagline "Partnering with the community for life." The main content area displays two posts from Trin20 Biologics. The first post, dated August 4 at 4:33pm, congratulates Mrs. Smith's 6th grade class at Southside Middle School on their completion of the Trin20 Junior Employee Training, with 56 impressions and 3.57% feedback. The second post, dated August 4 at 4:32pm, announces a Trin20 Open House on Tuesday night from 6:00-8:00pm, with 54 impressions and 1.85% feedback. A comment from Nick Brinegar, dated August 11 at 4:07pm, thanks Trin20 for a great time at the open house and expresses support for their research. The page also includes a "Share" section with options for Status, Photo, Link, Video, and Question, and a "Write something..." text box for posting.



Documentation Package

Microsoft® SharePoint Workspace 2010 will be implemented as the collaboration and documentation control system. After an evaluation of open source documentation systems, we chose SharePoint Workspace for its security, collaboration, and workflow features as well as ease of integration with SharePoint Server and advanced edit settings. SharePoint Workspace can be used without a SharePoint server to create secure shared folder workspaces across workstations with multiple team members. Installation and setup are relatively easy for non-technology savvy individuals. SharePoint Workspace is also included in Microsoft Office 2010.



Documentation Package

Effectively manages training materials, certificates, and regulatory documents by storing in a secure, collaborative space.

As part of the Documentation Package, a quick start guide will be developed to instruct users on documentation control procedures for Trin20 operations. Trin20 will purchase a one-year customer support package for Microsoft® SharePoint Workspace to ensure that any software issues are quickly resolved.

Benefits:

- ✓ Microsoft® SharePoint Workspace enables instant sharing and collaboration for key employees with flexibility to add seats as Trin20 grows.
- ✓ Development of a Quick Start Guide ensures consistent documentation and collaboration workflow among all Trin20 employees and contract staff.
- ✓ One-year Customer Support package ensures quick turnaround on technical issues.



Implementation Plan

Deliverables

Figure 5 summarizes the deliverables for the Trin20 community partnership proposal.

Figure 5. Community Partnership Proposal Deliverables





Required Resources

The proposed packages will require a variety of resources to plan, design, develop, and deliver the program. Figure 6, Required Resources, provides a summary of required personnel.

Table 4. Required Resources

Resource	Role
Instructional Designer (ID) Consultant	Acts as project manager, instructional designer and editor. Develops instructional strategies and content sequencing; designs and develops instruction; ensures plan stays on schedule and within budget; coordinates activities to support the plan, and tracks resources and budgeting.
Trin20 Executive Team	Acts as subject matter experts (SME) for all content development.
Production Team	Includes Desktop Publisher, Media Specialist, and Content Writers.
Desktop Publisher	Creates style guide, branding materials, and graphics.
Media Specialist	Creates virtual tour video and develops computer-based instruction (ancillary training).
Content Writers (three total)	Writes content for instructional materials.
Microsoft® Customer Support	Provides one year of customer support for Microsoft® SharePoint Workspace 2010.
Trin20 Administrative Assistant	Assists ID Consultant with planning activities.
Trin20 Information Technology (IT) Administrator	Installs documentation software, configures the system for collaboration, sets user authorities, determines archiving procedures, and documents file management process.
Industry Subject Matter Experts (SMEs): Environmental Protection Agency (EPA) Nuclear Regulatory Commission (NRC)	Provides guidance and resources, as needed, for required and recommended training materials produced by Trin20.
Vision Team	Advises Trin20 on community planning activities.
Trin20 Employee Representatives	Provides input for product development and feedback in formative evaluation.



Evaluation Plan

The Kirkpatrick evaluation model will provide the framework for evaluating employee training as well as the impact of community training. The Kirkpatrick Model of Training Evaluation (Clark, 1995) focuses on measuring reactions, learning, behavior, and results before and after a training program. The four levels of evaluation will be implemented. Figure 7 summarizes the evaluation plan.

Table 5. Employee Development Evaluation

Level	Expected Outcome	Measurement Tools
Level 1: Reactions	Employees will have positive perceptions of training. They will find the training to be relevant and to have kept their attention.	Survey given following all training sessions to collect data on instructor, delivery, content, and other various training components.
Level 2: Learning	The employees will have acquired new knowledge, enhanced skills and attitudes, changed for the better.	Pre- and post-assessments given before and after all training sessions; on the job observation to measure physical tasks.
Level 3: Behavior	Employees will implement new skills and knowledge into day-to-day job tasks properly.	Post-training survey, on the job observations, unannounced performance assessments and inspections, incident reports to evaluate employee behavior and attitude.
Level 4: Results	Employees work efficiently and perform properly. Training program will have positive overall impact.	Trin20 will collect business data, such as increased production, reduction of safety incidents, low turnover, positive performance evaluations and affirmative feedback from executives.



Table 6. Community Outreach Evaluation

Level	Expected Outcome	Measurement Tools
Level 1: Reactions	Community members will have positive reaction to Trin20's presence in community and will be interested in learning from the Trin20 ambassadors.	Surveys given, face to face interviews after participating in event where Trin20 ambassadors are present.
Level 2: Learning	Community members will acquire new knowledge and exhibit positive attitudes after participating in events with Trin20 ambassadors.	Prior to ambassador program being established, a survey will be sent out to collect data on knowledge level of community. Another survey will be sent out after ambassador program has been in place.
Level 3: Behavior	Community members will work alongside Trin20 as they take up a cause. This will show support of Trin20's business and efforts, provide positive feedback on Facebook page, at community forums, and other vehicles of communication.	Face-to-Face interviews, Facebook page feedback, numbers of citizens involved in volunteer activities with Trin20.
Level 4: Results	Community members will exhibit positive perceptions of Trin20 and the ambassador program, and will support future efforts.	Survey community members one-year after implementation; data on community turnout at events will be collected.



Project Phases

Implementation of the project will take place in twelve phases over a seven-month period. The key activities and resources required for each phase are outlined in Figure 8, Project Phases, and detailed in the Gantt chart in Appendix C, Figure 9.

Table 7. Project Phases

Phase	Key Activities	Resources
Begin project	<ul style="list-style-type: none"> Assemble the vision team Kick-off meeting with Trin20 Executive Team, Instructional Design Consultant, Project Manager and employee representative to begin the project 	Trin20 Executive Team ID Consultant Vision Team
Planning	<ul style="list-style-type: none"> Gather learner and instructor characteristics, characteristics of the learning environment, and organizational support Identify employees for supportive roles in documentation control, planning, and formative evaluation Develop objectives for packages and standard operating procedures for employee training as well as performance requirements for occupational worker certification, policies and procedures, and updates for job descriptions Establish community partners to promote interest in sponsoring events Identify schools interested in Trin20 Junior Employee Training Program 	Trin20 Executive Team ID Consultant
Documentation system	<ul style="list-style-type: none"> Set up documentation management system Assess available technology, purchase software, set up the system, create job aids for user instruction Assign employee as administrator for documentation system 	Content Writer I Trin20 IT Administrator Trin20 Administrative Assistant
Design instruction	<ul style="list-style-type: none"> Develop learning design plan deliverables Collect content and resources Create production plan for style guidelines, layout, color scheme, organization of material, file sharing, templates, writing style, in order to ensure consistency of all products 	Trin20 Executive Team ID Consultant Desktop Publisher



Phase	Key Activities	Resources
Develop evaluation package	<ul style="list-style-type: none"> • Create surveys, pre- and post-test assessments • Specify business data collection methods 	ID Consultant
Develop first draft of materials	<ul style="list-style-type: none"> • Complete first draft of materials 	ID Consultant Content Writers I, II, III Media Specialist Desktop Publisher
Develop awareness materials	<ul style="list-style-type: none"> • Develop Trin20 Facebook page and assign employee administrator • Recruit employees to deliver Trin20 Junior Employee training for local schools • Develop internal and external awareness materials <ul style="list-style-type: none"> • Internal materials include communications with employees about upcoming training, the training schedule, and the benefits of upcoming training. • External materials will be targeted to the community, which will be posted on Trin20's new Facebook page. 	ID Consultant Content Writers II, III Desktop Publisher Trin20 Employee Trin20 Administrative Assistant
Train the trainer	<ul style="list-style-type: none"> • ID Consultant trains executive team how to use the facilitator guides to effectively deliver training and coaches the team on soft skills needed to lead Ambassador Program training • ID Consultant leads training for the Trin20 Junior Employee Program 	ID Consultant Trin20 Executive Team
Conduct formative evaluation	<ul style="list-style-type: none"> • One-on-one evaluation of products with Trin20 employees • Implement initial phases of evaluation package 	ID Consultant Trin20 Employees (3)
Develop final deliverables	<ul style="list-style-type: none"> • Finalize deliverables. • Trin20 Executive Team and ID Consultant provide final signoff on all deliverables 	Trin20 Executive Team ID Consultant Content Writers I, II Media Specialist Desktop Publisher
Implement products	Deploy training.	Trin20 Executive Team ID Consultant
Set plan for summative evaluation in motion	Begin later phases of evaluation plan.	ID Consultant Trin20 Executive Team



Cost Proposal

The projected cost for project management, internal and external labor fees, deliverables, training, and other direct costs is \$151,320, of which \$118,275 is allocated for external labor costs and consulting fees. This is a one-time cost to establish the needed products for community outreach and regulatory compliance. We anticipate a minimal cost per year to maintain all of the products. The cost breakdown for deliverables and consulting fees are provided in Figure 10 of Appendix D. We have assumed that Trin20 utilizes Microsoft® Office Products; therefore, most products will be delivered in MS Office formats (Word, PowerPoint), which will allow Trin20 to update or edit materials without hiring a consultant. We will use rapid development tools such as Captivate to quickly and cost-effectively develop computer-based instruction. In addition, we will utilize freely available literature from organizations such as the EPA and NRC and the freely available social media site, Facebook.

A substantial amount of the budget (53%) is allocated to the Instructional Design Consultant and to the content writers (41%). As much as possible, we combined roles to reduce the number of resources. For example, scope of work for the ID Consultant will include instructional design, project management, and editing. We utilized a desktop publisher instead of a more expensive graphic designer to design training materials; a media specialist instead of more expensive videographer or film producer for the video and CBI. To further minimize project costs, we utilized Trin20 employees, such as an IT administrator for software installation and configuration and an administrative assistant for various planning activities.



References

- (2011, July 19) 19.12 Instruction to Workers. Retrieved from US Nuclear Regulatory Commission website: <http://www.nrc.gov/reading-rm/doc-collections/cfr/part019/part019-0012.html>
- Clark, D. (1995, July 13). Kirkpatrick's four-level training evaluation model. Retrieved from Big Dog & Little Dog's Performance Juxtaposition website: <http://www.nwlink.com/~donclark/hrd/isd/kirkpatrick.html>
- Graphics & Clip Art Images. Retrieved from the Microsoft® Office Images website: <http://office.microsoft.com/en-us/images/>
- Kaufman, R. (2005). Defining and delivering measurable value: A mega thinking and planning primer. *Performance Improvement Quarterly*, 18(3), 6-16.
- Kaufman, R., & Stone, B. (1983). *Planning for organizational success*. New York, NY: Wiley.
- (2011, July 08). Low level radioactive waste. Retrieved from U.S Environmental Protection Agency website: <http://www.epa.gov/radiation/docs/radwaste/402-k-94-001-llw.html>
- (2011, April 27). Low level waste. Retrieved from United States Nuclear Regulatory Commission website: <http://www.nrc.gov/waste/low-level-waste.html>
- (n.d.) Mertz, C., Flynn, J., MacGregor, D. G., Satterfield, T., Johnson, S. M., Tuler, S. , & Webler, T. (n.d.). Community surveys: Low dose radiation, Fernald, Ohio and Rocky Flats, Colorado. Retrieved from Cern Document Server website: <http://cdsweb.cern.ch/record/747962/files/34022074.pdf>
- Morgan, M., Fischhoff, B., Bostrom, A., & Atman, C. J. (2002). *Risk communication, a mental models approach*. Cambridge, UK: Cambridge University Press.
- (2011, July 8) Radiation protection. Retrieved from U.S. Environmental Protection Agency website: <http://www.epa.gov/rpdweb00/basic/index.html>
- (2011, June 28) Radiation safety. Retrieved from the University of Texas, Health and Safety Division website: <http://www.utexas.edu/safety/ehs/radiation/>
- Ruskin, J. (n.d.). Radiation. Retrieved from University of North Carolina at Wilmington website: <http://uncw.edu/ba/safety/radiation.html>



Appendix A

Community Analysis

We conducted one-on-one interviews with twelve people from our local community, asking opinions and concerns about a scenario similar to Trin20's. The results are presented here.

Our community analysis suggests two important points about radioactive waste. First, there is a high potential to wrongly categorize the radioactive waste. Although the risk of low-level radioactive waste is relatively low, people are likely to put any radioactive waste into a category with which they are already familiar (Morgan, et al., 2002). When asked to name sources of radioactivity, respondents identified the local nuclear facility and power plant. There is a considerable difference between the radiation risk of the nuclear plant and the low-level waste handled by Trin20.

Second, there is a lack of information about radiation as well as how the company plans to handle it. Our research suggests four areas of concern regarding companies handling potentially hazardous materials:

1. **Lack of information about radioactive materials and waste.** Participants indicated that lack of information was the biggest barrier to overcoming concerns about radioactive waste.
2. **Assurance that proper guidelines and procedures are met.** Overwhelmingly, those interviewed wanted "proof" that the company was following proper standards and guidelines for handling radioactive materials and waste. Participants want assurance from third-party regulators or inspectors.
3. **Skepticism about companies working in the best interest of the community.** Speaking in general terms about companies, participants would like to think that companies consider the impact their operations have on the community, but most felt that companies do not consider such impacts without a watch dog from an objective third party.
4. **Community involvement.** Most participants felt that companies should show a commitment to community by being involved.



Appendix B

Research Methodology

Radiation Subject Matter Experts

Radiation Therapy Manager, cancer center. Provided a tour of facilities and explained safety procedures regarding radiation and disposal procedures for waste materials, and training requirements.

Radiation Protection Specialist, nuclear power facility. Provided information about licensure, isotopes, required training, and topics for community awareness.

Radiation Safety Officer, local university. Provided information about use of isotopes for marine biology research, required training, and licensure.

Governmental Resources

The following were used as resources for radiation, safety, and training requirements:

- Environmental Protection Agency
- Electronic Code of Federal Regulations e-CFR
- Nuclear Regulatory Commission

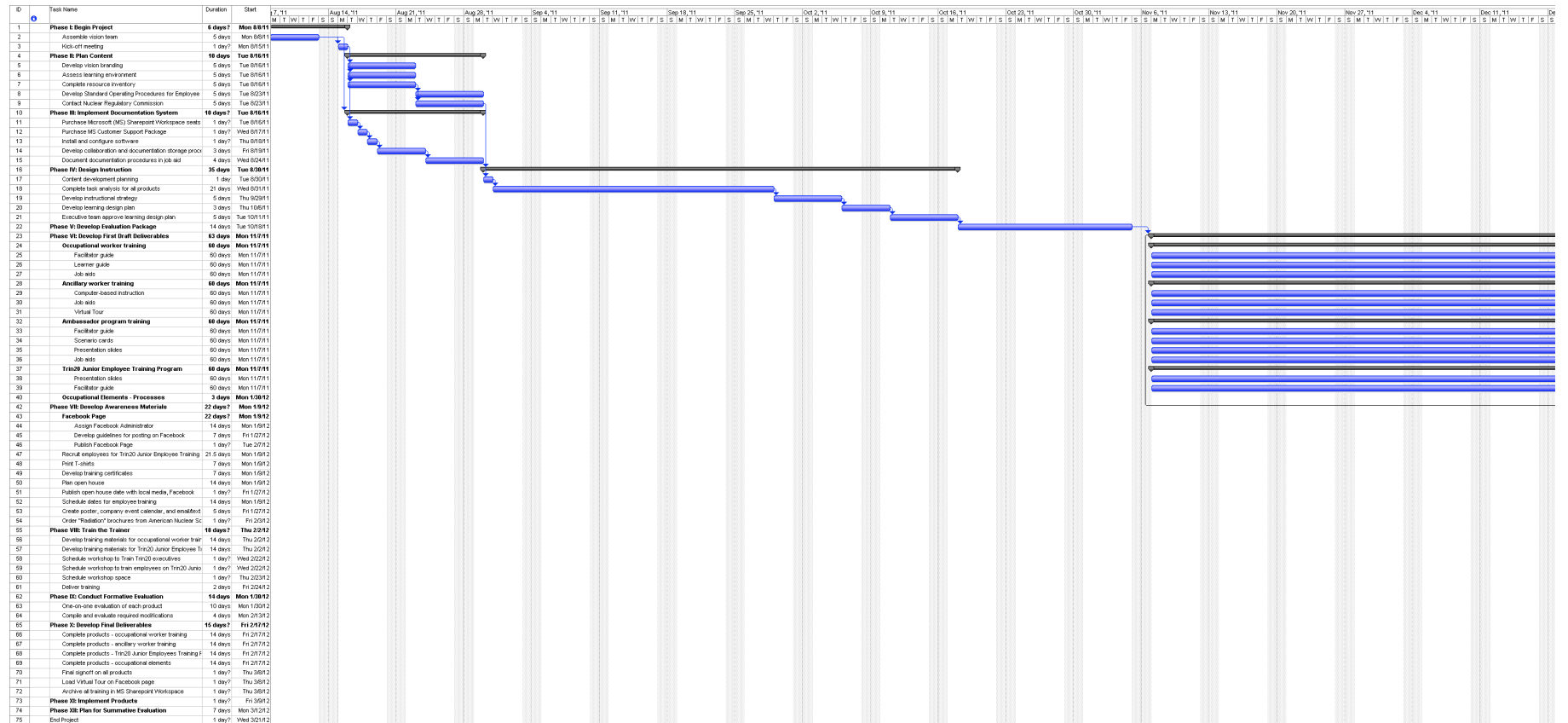
Community Data

We used data from a community survey that was conducted by the U.S. Department of Energy Low Dose Radiation Research Program (Mertz, et al.).

Appendix C

Trin20 Project Proposal Gantt Chart

Figure 6. Trin20 Project Proposal Gantt Chart



Appendix D

Trin20 Project Proposal Budget

Figure 7. Trin20 Project Proposal Budget

Position	Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI	Phase VII	Phase VIII	Phase IX	Phase X
	Begin Project	Planning	Doc. System	Instructional Design	Evaluation Package	First Draft	Awareness Materials	Train the Trainer	Formative Evaluation	Final Deliverab
Internal Costs										
Trin20 Executive Team	45	45		48		60	20	24		
Trin20 Admin Assistant	10		5	30			40		20	
IT Administrator			20							
Trin20 Employee (3 total)									15	
Total Internal Labor Hours	55	45	25	78	0	60	60	24	35	
External Costs										
ID Consultant	20	100	5	240	80	80	20	96	80	
Content Writer I						300	40			
Content Writer II						300				
Content Writer III						184				
Media Specialist						80				
Desktop Publisher			10		10	120	20			
Total										
Total External Labor Hours	20	100	15	240	90	1064	80	96	80	3
Direct Costs										
MS Sharepoint Workspace	\$ 100	seat	6	\$ 600						
Radiation Brochures	\$ 0	brochure	100	\$ 45						
T-shirts	\$ 10	shirt	23	\$ 230						
Printing	\$ 500			\$ 500						
Facilities Rental - Training				\$ 750						
Total Direct Costs				\$ 2,125						