



# The Environmental Challenge Program

...a competition for university students

## THE PROBLEM – 2007

October 17-19, 2007 – Boise, ID

*“Powering the Future”*

### The Purpose

The Environmental Challenge gives teams the opportunity to develop solutions to a mock environmental problem and have the experience of presenting their solution to a panel of environmental professionals. We do not give you a lot of numbers to crunch. We are more interested to hear about the issues involved, how you interpreted the problem, how you got to your conclusions, and how well you can communicate your thoughts. We want you to have fun! This exercise gives us all a chance to participate and gets the professionals of tomorrow to interact with the professionals of today.

### The Problem

The town of Meatfall, Idaho has been a quiet continually growing city. Over the last two decades continual expansion and increasing property values have pressed middle class families into rural areas of the county in order to purchase affordable property. Coincidentally, there has been an increase in odor complaints, which had never been an issue in the past, as residents move south. Property owners are becoming frustrated with the lack of action being taken by the local environmental agencies to address the nuisance odor issue(s).

“We can’t go outside, we have to keep our windows shut in the summer, and I am always extremely irritated! Why won’t the environmental agencies do anything? We have lived in our house for over 5 years and this was never a problem in the past. The odors are horrible and BJ’s Chop-it-Up is ruining our lives! I can’t even imagine what is in our drinking water! We thought about selling our property, but who would want to live here?”

–Local Resident

BJ’s Chop-it-Up has been around for over a hundred years and is critical to the local meat packing industry and agricultural operations in the area. BJ, owner and operator, of BJ’s Chop-it-Up has been irritated with by the complaints and is doing what he can to alleviate the problem.

“This business has been here for over a hundred years, we were here first and we have never had this problem in the past. I am tired of people building homes nearby and pointing their fingers at my facility as an odor

problem! I have put a lot of money into this operation and I am proud of what I do! Why don't the nearby residents complain about the other sources causing odor problems?"

–BJ, Owner of BJ's Chop-it-Up

In this problem your team represents a group of consultants who have been hired by BJ's Chop-it-Up to assist with determining any odor and contamination problems that may be associated with their operation. These include, and are not limited to, community relations, hazardous materials usage, environmental impacts including air and water, and potential upgrades to the facility as a result of recent facility and regional changes.

Your team might all be engineers and scientists in real life but in this Problem you morph into whatever and whoever you think that you need to "win" the competition.

### **Your Assignment**

BJ, owner and operator of BJ's Chop-it-Up, needs to understand what is necessary to avoid further enforcement actions from the local environmental agency (see Attachment A). As consultants to the business you must understand the process and provide solutions to any potential environmental issues. Additionally, due to the strain between the company and nearby residents you have also been contracted to improve public relations. While BJ is not looking for absolute costs at this time, it is important to understand that there are limitations and spending less is always better. If BJ's Chop-it-Up goes out of business, there is no other facility within the region that can accept the feedstock.

### **The Expectation**

Numbers are not what is most important – logic train, process, conceptualizations, and creativity are most important to proposal and presentation composition. And then you have to present your thoughts in a public forum. Logic of your vision and clarity in your presentation are critical. Remember you can come up with assumptions, but they will need to pass the "straight-face" test. This is like the real world!

We have expectations with regard to your team Proposal (see below) and Presentation (see below). The **Proposal** expectations include identifying each team member by name and the role they will have in the presentation (ie "Nilly Willy" is going to be engineer and will address waste issues, "Jim Bean" is going to be your air expert, "Justin Timberlake" is going to be our 'architect', and "Martha Stewart" is going to be your shaman etc, - you put in the disciplines that you think you need). In the proposal you should have an outline of the approach that you are going to take and the issues that you will be discussing. **Remember you will only have a maximum time of 15 minutes to present your plan and you have a two page limit for the proposal submittal.**

For the **Presentation**, your team will need to demonstrate your understanding of the issues that you addressed in your proposal. Sustainable approaches for these and other site issues are of great interest to the owners. The winning team presentation will be strong in approach, logic, clarity, application, and creativity.

## **The Proposal**

Each team will develop a proposal for problem solution which must be submitted on the first day of the conference (October 17) at registration. The proposal should include key elements such as areas of team member expertise, issues to be addressed, and the general approach to project solutions. The proposal should be in summary form and limited to two pages. Each proposal will be judged and given points as a factor in the competition.

## **The Presentation**

Teams should arrive at the conference on the 17th of October. Each team will present their problem solution on Friday morning the 19<sup>th</sup> of October as part of the technical session program that day. When we know how many schools will be presenting we will develop a schedule, but plan on presentations beginning at 8:30 AM and conclude an hour before the Awards Luncheon. PNWIS will have a projector and a laptop (w/Microsoft Power Point). Please bring a data stick or disk burner so we transfer your presentation to the laptop. Plan for on no more than 15-minute presentation followed by 5 minutes of questions and answers.

## **The Tweak**

No matter how much you do and know, in real life unexpected events and expectations can and do occur. To this end, you should expect (when you pick up your registration package) some late breaking information that might alter your approach and/or require your plan to evolve. The problem and the tweak will require that you find and talk to “experts” and attend technical sessions, during the conference, for answers and important information.

## ATTACHMENT A

### ENVIRONMENTAL AGENCY FACILITY REPORT

**Facility:** BJ's Chop-it-Up

**Physical Address:** 17429 Ilikecow Dr.  
Meatfall, ID 47390

**Invoice Address:** See above

**Contact Information:** BJ Killsworth, Owner (280) 430-3490

**Facility Type:** Rendering and Meat Byproduct Processing

**Employees:** 50

**Facility History:** AJ's Chop-it-Up was founded in 1890, purchased by BJ Killsworth in 1999 and the name changed to BJ's Chop-it-Up at the time of purchase. The facility was registered by the agency in 1998 during an odor complaint investigation. There has been no compliance history issues recorded prior to this date and the facility has been grandfathered into Agency regulations. BJ's Chop-it-Up receives feed stocks from all the regional slaughter houses as well as full carcasses from agricultural operations. A variety of feed stocks are transported as far as 300 miles away.

**Process Description:** The facility takes remnants from slaughter houses, restaurant grease and animal carcasses that include dead horses, cows, miscellaneous livestock and meat scraps from butchers that arrive by trucks. The materials are dumped onto a concrete pad, then moved to be cut, chopped, and grinded into pieces that can fit into the cooker. Grease is received in an open receiving basin and vacuumed into a heat treatment tank.

Moisture is driven off in the cooking process. The material is dried. Grease is rendered into white and yellow grease products, and solids are dried and sold as bone meal. Storage silos and conveying systems are included for these products, which are then picked up by trucks. Finished grease product is stored in above ground tanks.

The raw material pad and process areas are continually hosed off with water to remove blood, liquids and remnant scraps.

#### **Equipment:**

Boiler  
Installed: 1963  
Fuel: Diesel

Cooker  
Installed 1961

Centrifuge  
Installed 1961

Wet Scrubber  
Installed 2003

### **Inspections:**

Inspection Frequency: Annual

July 12, 1998 – Full compliance inspection: No problems found.

December 23, 1999 – Full compliance inspection: No problems found.

November 1, 2002 – Driveby inspection: No odor detected.

February 3, 2005 – Driveby inspection: No odor detected.

October 9, 2007 – Full compliance inspection: Notice of Violation

### **Compliance History:**

*July 12, 1998: No problems found.*

Inspection Summary: On July 12, 1998, RTD conducted a field investigation based on a single complaint that was received. Weather conditions were approximately 70F with light winds coming out of the north. Upon arriving at the facility, which is not registered with the agency, a perimeter inspection was completed and no odors were detected. I spoke with the complainant and they noted that the business was not very active and there have never been any problems in the past. After visiting with the complainants, I went to the facility. I knocked on the front door and no one answered. I viewed into an open hole in the building and the facility was very clean. Additionally, I walked around the building and everything appeared to be acceptable. The majority of the facility property is dirt and the receiving pad was concrete with a lot of cracks and open holes. No odors detected on site. I left my business card and will follow-up via mail.

*October 9, 2007: Notice of Violation issued for nuisance odors.*

Inspection Summary: On July 17, 2007, JFB conducted a field investigation based on 17 complaints received in a one week period. Weather conditions were approximately 105F with winds coming out of the southwest. Upon arriving at the facility, a perimeter inspection was conducted and an odor on a scale of 9 out of 10 was detected intermittently at the boundary and on a nearby resident's property located on Calm Lane. The resident stated that there were often entire carcasses lying on the ground in front of the site for days at a time and just last week a steer head rolled out of the delivery truck along Franklin Avenue. After visiting with the complainants, I went to the facility entrance and did not detect any odors. I was greeted by BJ Killsworth in the old rusting main office and he stated that operations were normal. We began the inspection of the facility and I was not able to complete the inspection due to feeling nauseous and vomiting as a result of an extremely foul odor inside the facility. Also, at the time of

inspection, trucks were lined up 20 deep along Franklin Avenue. A follow-up inspection will be conducted in two weeks.

**\*Complaint History:**

1998: 1

2002: 10

2003: 17

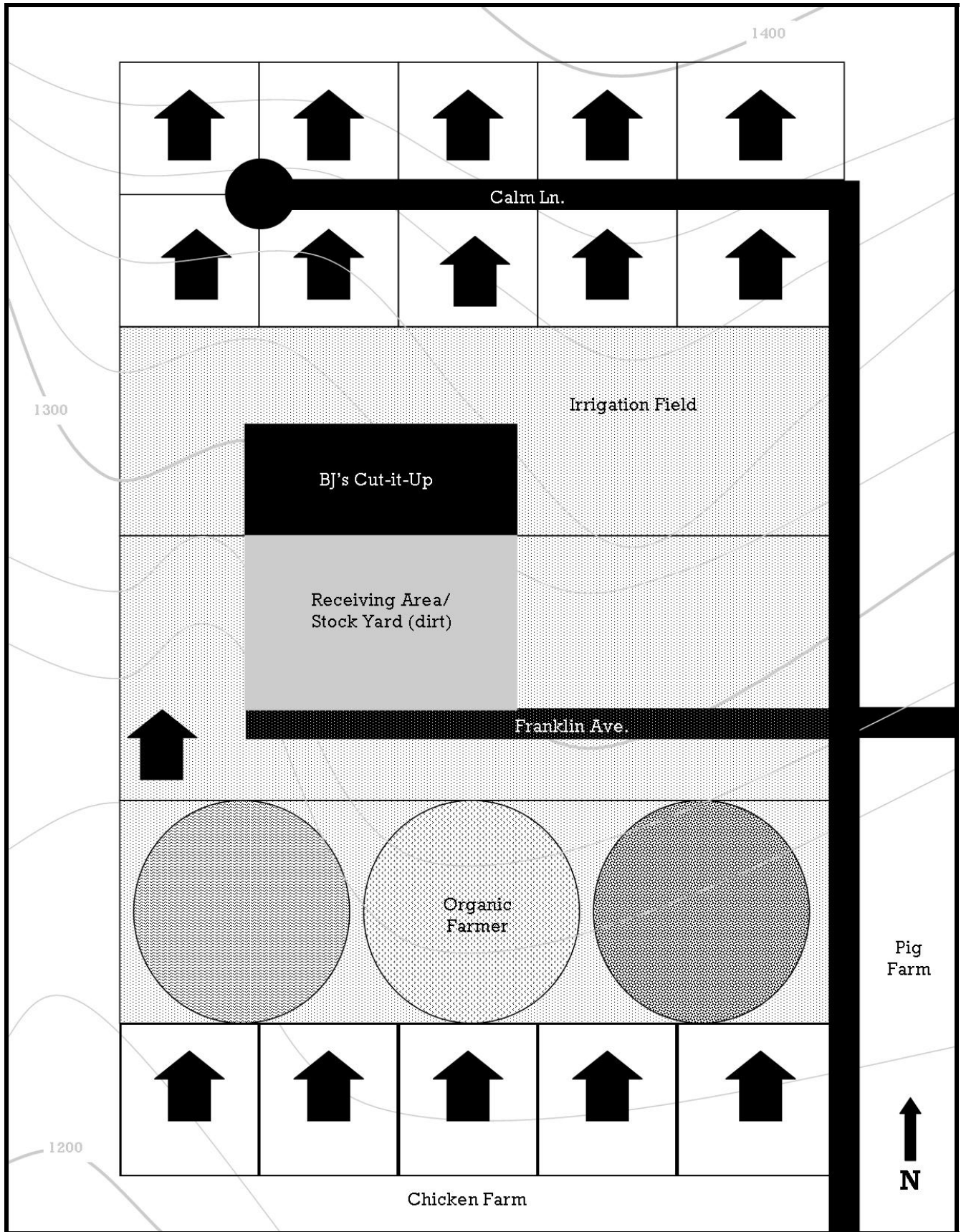
2004: 15

2006: 60

2007: 63 (as of October 9, 2007)

\*If year is not denoted then zero complaints occurred during that year.

# ATTACHMENT B





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## THE PLAYERS

In order to grasp a complete understanding of the project, your team must acknowledge that there is a large amount of community interest, positive and negative. Sustainable, cost-effective approaches to the solution and odor reduction are of great interest to the community and plant owner. “Winning” will hinge on approach, clarity and creativity.

**Environmental Agency - Regulator**  
Role Player - TBA

**Owner – BJ Killsworth**  
Role Player - TBA

**Nearby Resident**  
Role Player - TBA

**Nearby Resident**  
Role Player - TBA

**Farmer/Economic Business Council**  
Role Player - TBA