

**I PRO 346**  
**BP Whiting Refinery Expansion:**  
**Developing Lake Michigan Wastewater**  
**Cleanup Options**  
*Spring 2008*

**Code of Ethics**

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**Team:**

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### **Overarching Standard**

Our team will conduct ourselves in a professional manner to find an economically feasible solution to reduce the projected increase in pollution at the BP Whiting Refinery in order to keep personal, the public and Lake Michigan's wildlife healthy.

#### **1) Law**

Canon: We will respect all patent and copyright laws when researching and modeling the wastewater treatment plant.

Pressure: Creating an accurate model of the wastewater treatment plant.

Pressure: Modeling the treatment plant in the most inexpensive way possible.

Risk: The team may obtain and use an illegal copy of modeling software.

Measure: Our team will make sure that all mathematical models are created in licensed software packages.

#### **2) Contracts**

Canon: The team will obey all contracts, both expressed and implied.

Pressure: Sharing information with friends and family on the projects our members are working on.

Pressure: Sharing information with public news sources because of how controversial the problem is.

Risk: The team could break our confidentiality agreement.

Measure: If there is an absence of legal action taken, our team has followed all contracts.

#### **3) Professional Codes**

Canon: All members will follow all guidelines and codes set forth by the National Society of Professional Engineers.

Pressure: Designing an economically viable unit that operates under set emission limits by a set deadline.

Pressure: Assigning a team member to work they are not qualified for in order to fill all positions and to complete all work.

Risk: Delivering a project that is not professionally sound.

Measure: If there is an absence of legal action taken, our team has followed all guidelines and codes.

#### **4) Industry Standards**

Canon: Our Team will strive to design a process that exceeds the petroleum industry's environmental standards while taking into consideration the economic impact of the project on the company.

Pressure: Finding a solution that is more economically friendly to stay competitive in the petroleum industry.

Pressure: To only meeting the petroleum industry standards on pollution emission rates.

Risk: Increasing the pollution rates and causing more pollution to Lake Michigan because of inadequate pollution controls.

Measure: Fees and sanctions will be assigned by state and federal officials if pollution emissions exceed permitted amounts.

#### **5) Community**

Canon: Our team will strive to find the cleanest solution to the emission problem while keeping economic constraints in mind.

Pressure: Finding the cheapest solution for reducing the pollution emissions.

Risk: Causing further damage to Lake Michigan and the wildlife because of an economical but deficient solution.

Risk: Poorer quality drinking water for the public because the pollution emissions were not reduced to the goal emission rates.

Measure: Review of public news sources will reveal any concerns the public may have of the proposed solutions. Modeling the proposed solutions can give an accurate estimation of the emission rates.

#### **6) Personal Relations**

Canon: Each member will do their best to put forth their efforts and available time to support the team and its work.

Pressure: Each member has external concerns and time commitments.

Risk: Work needed for the project to be completed will not get done before set deadlines.

Risk: Not working together as a cohesive team and some members end up doing more than their share.

Measure: Holding each member accountable for their deadlines and keeping track of any extensions.

## **7) Moral Values**

Canon: Our team will strive to create a model for the wastewater treatment plant which will not increase the ammonia and total suspended solids deposited into lake Michigan without compromising the health and safety of both the workers and the surrounding community.

Pressure: Finishing work by set deadlines.

Pressure: Simplifying the model for ease in mathematical calculations.

Risk: Producing a low quality product.

Measure: The team can seek input from third party experts to determine quality of the product.