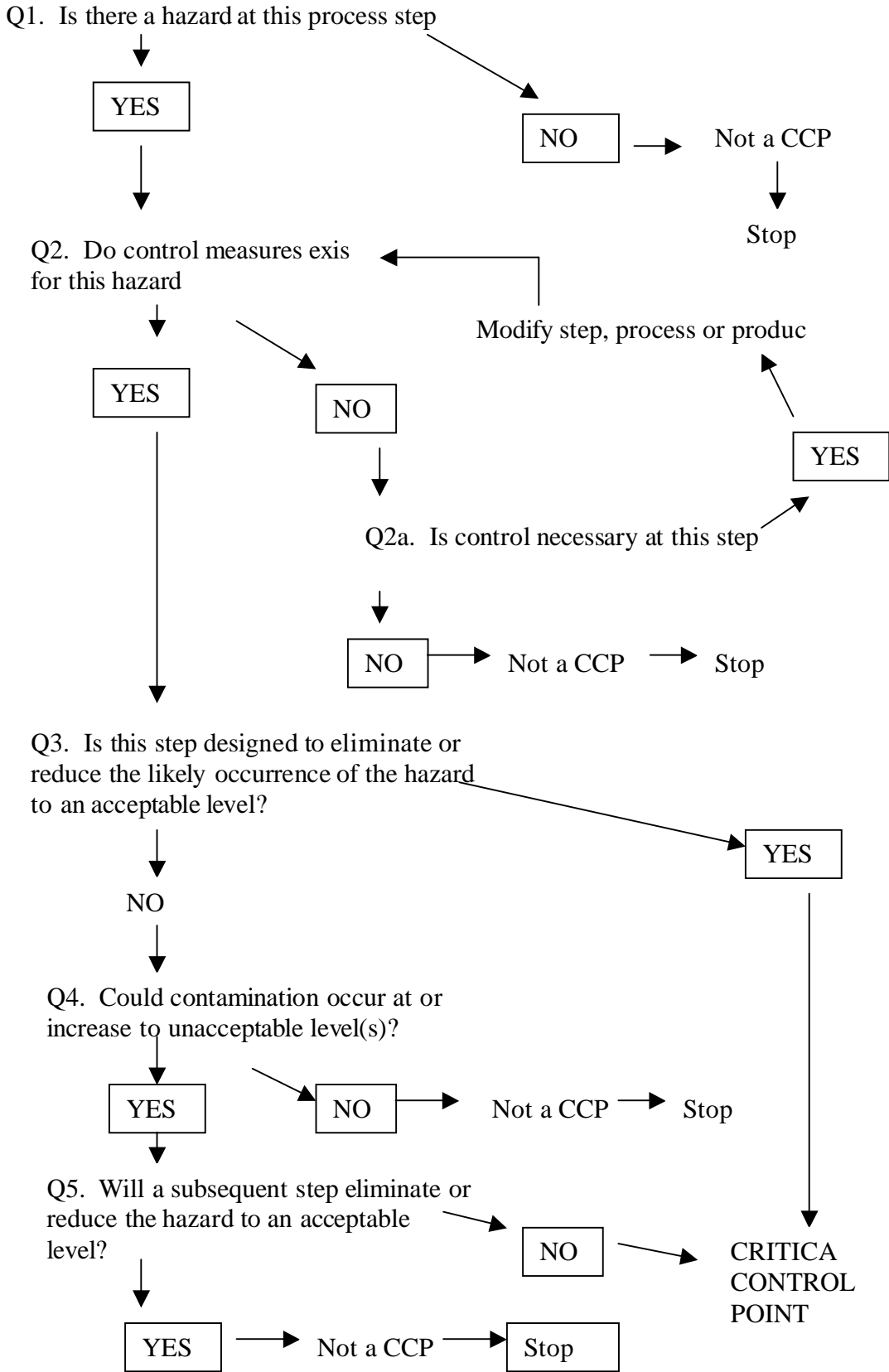
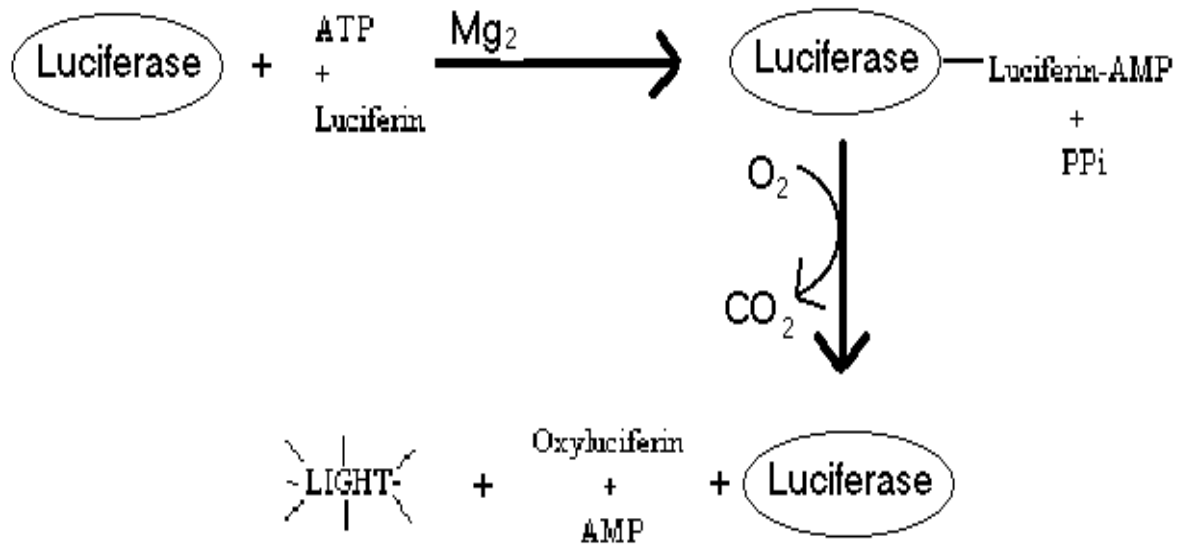


## APPENDIX



**Figure 1:** Decision tree used in determining CCPs



**Figure 2:** Reaction of ATP with Luciferase to produce light

ATP reacts with luciferase and luciferin with Magnesium to produce a luciferase-luciferin-AMP complex resulting in elimination of inorganic pyrophosphate. The luciferase-luciferin-AMP complex then reacts with molecular oxygen to produce light while carbon dioxide is removed.

ATP = Adenosine Triphosphate  
 AMP = Adenosine Monophosphate

## HACCP PLAN EVALUATION CHECK LIST

Plant : \_\_\_\_\_

Region: \_\_\_\_\_

Date: \_\_\_\_\_

HACCP plan: \_\_\_\_\_

<u>Plant Meets Regulatory Requirements</u>				
<u>Category</u>	<u>Yes</u>	No	Needs modifications	Suggested Comments
<b>Sanitation SOP Plan (Pre-HACCP)</b>				
Meets Basic Requirements				
Records (maintained)				
<b>HACCP Plan(s)</b>				
List Team Member(s)				
Product Description				
List of Ingredients				
Flow Diagra				
Hazard Analysis				
Critical Control Point				
Critical Limits				
Monitoring Procedures				
Corrective Actions				
Verification Procedures				
Record Keeping Procedures				
Pre-shipment Review				
Forms for each CCP				
Maintenance of Current Records				
Maintenance of Accurate Records				
Evidence of Plan Execution				
Evidence that the Plan is Working				
Other:				

**Evaluated by:** \_\_\_\_\_

**Figure 3:** Check sheet used in assessing Virginia Meat and Poultry Processing plants

**Table 1**—Examples of differences between Critical Control Points (CCPs) and Control Points (CPs)

Type of hazard	Examples of hazards controlled by:	
	<u>CCPs</u>	<u>CPs</u>
Biologica	Salmonella Aflatoxin	Coliforms Insect parts
Chemica	Antibiotics Labeling	Food colors Fumigants
Physica	Bone Metal fragments	Net weight Packaging

**Table 2**—Pass/fail bands for the Biotrace Hygiene Management System

<u>BAND</u>	PASS LEVEL (RLU*)	FAIL LEVEL (RLU)
A	1000	2000
B	750	1500
C	500	1000
D	400	800
E	300	600
F	250	500
G	200	400
H	150	300

\*RLU = Relative Light Units measured by bioluminescence

## VITA

Brenton Peter Quinn was born on March 10, 1978 in Wilmington Delaware, the son of Robert J. and Phyllis A. Quinn. He lived in New Jersey until he was 16 years old, when he then moved to Virginia. He graduated from York High School in Yorktown Virginia in June, 1996.

He studied Biology at Virginia Polytechnic Institute and State University where he received a Bachelor of Science with a minor in Chemistry in May, 2000. He continued graduate studies there in August, 2000 in Food Science and Technology.

He is a member of the Institute of Food Technology and the American Meat Science Association. Upon completion of his masters he plans find a career in the food science industry.