

**INSTRUCTIONS FOR THE SELLERS**  
**DRAFT OF THE INSTRUCTIONS FOR THE FIRST (GENERAL) TREATMENT**

## **Instructions for the Sellers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Selco, a company which is in the business of extracting and selling bauxite, an indispensable input in the production of aluminum. Your company's costs of extracting and delivering one indivisible unit of bauxite are \$1000.

Buyco, in turn, is a company in the business of manufacturing and selling aluminum to its customers downstream. Buyco intends to purchase one indivisible unit of bauxite from your company at a price to be negotiated by you and the Chief Executive Officer of Buyco.

If Buyco enters into a sales agreement with your company, it will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum, which will be delivered to a Buyco's customer downstream: Cusco. While you do not know the accurate financial information of Buyco, your personnel has estimated the following figures: (1) Buyco's estimated costs of manufacturing one indivisible unit of aluminum are around \$1000; (2) Buyco will need to make an investment of \$1500 to customize the aluminum in accordance with the specifications that Cusco has indicated (due to this customization, this investment and the customized aluminum are worthless for any other customer); and (3) if Buyco closes the deal with your company (Selco), Buyco would also close the deal with Cusco at a price around \$7500 and this contract will provide that Buyco shall deliver the customized aluminum according to a very tight schedule because time is of the essence. If Buyco does not close the deal with your company, the contract with Cusco will not be agreed on and, of course, the relationship-specific investment will not be made.

Please notice that buyers of bauxite other than Buyco are very far away and, therefore, are not willing to pay more than \$500 for the bauxite. Please also take into account that if you and your buyer do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, you will submit an offer to Buyco at a fixed price. Buyco, in turn, will decide whether to accept or reject this offer. After you learn the buyer's decision, the second stage will follow. So, please submit the offer to your buyer using the Form No. 1 and filling the blank space there with the proposed price.

## 2. Instructions for the Second Stage for the Sellers

While you do not know the answer of your buyer, please assume that he/she has accepted your offer.

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your buyer take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the higher the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
<p>You entered into a contract with Buyco and the price was increased (<math>P_1</math> is the new price).</p> <p>Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00.</p>	$\begin{aligned} &\text{If } P_1 \geq 5000, \text{ fee} = \$20; \\ &\text{If } P_1 \leq 1000, \text{ fee} = \$0; \\ &\text{Otherwise, fee} = 20 * \\ &\quad (P_1 - 1000) / 4000 \end{aligned}$
<p>You entered into a contract with Buyco and the price was not increased.</p>	\$0

Notice that, at this stage, Buyco has already entered into a contract with its customer, Cusco, to sell one indivisible unit of aluminum at a price that your employees estimate at \$7500, and has made its investment, whose value is around \$1500. Please remind that this investment is not valuable for any customer other than Cusco.

Buyco has also recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to your company, which was \$500 during the first stage, may have changed upwards. More particularly, Buyco was informed that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to your company. You, indeed, received this envelope and noticed that it is an offer from Thirdco to buy bauxite from you at the same price as before, \$500.

Please remind that, due to manufacturing constraints, if you decide to sell one indivisible unit of bauxite to Thirdco, you will not be able to honor your contract with Buyco; i.e., you will not have enough bauxite to deliver to this buyer.

In spite of this manufacturing constraints and of the fact that the price that Thirdco has offered is lower than the price of the contract between Buyco and your company, you may or may not falsely claim to Buyco that your company has received a better offer for the sale of one indivisible unit of bauxite. Since the Thirdco's offer was sent to you only

two days before the term fixed for delivery of the bauxite, Buyco will not be able to check in the market, at a reasonable cost, whether or not your claim is true.

Please also note that if you do not deliver the bauxite to Buyco (which entails to your company breaching the contract), Buyco would be unable to find another supplier at a reasonable cost to meet its tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, this company will suffer some losses, some of which will not be recoverable, such as the most of the investment made to customize the aluminum for Cusco's needs. More precisely, you will need to pay Buyco \$5500 in legal damages resulting from your breach of contract (an amount that includes the reimbursement of the contract price, which had been paid in advance). Buyco's unrecoverable losses, in turn, will amount to \$2500.

Based on this information, you will send a message to your buyer demanding a new and higher contract price under threat to breach. You will select the new price and you will be able to say the true about the Thirdco's offer (i.e., that the offer amounts to \$500) or to falsely claim that the offered price was higher.

Please use Form No. 2 to send this message. Before doing that, however, please notice that your buyer, after receiving your message, will decide whether: (1) to accept the new price, an scenario that will end this stage, or (2) to reject the new price; in such a case, you will decide whether to breach the contract or to continue with this performance at the original contract price. Now, please use Form No. 2 filling the information in the blank spaces.

**DRAFT OF THE INSTRUCTIONS FOR THE SECOND TREATMENT (PENALTY  
CLAUSES)**

## **Instructions for the Sellers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Selco, a company which is in the business of extracting and selling bauxite, an indispensable input in the production of aluminum. Your company's costs of extracting and delivering one indivisible unit of bauxite are \$1000.

Buyco, in turn, is a company in the business of manufacturing and selling aluminum to its customers downstream. Buyco intends to purchase one indivisible unit of bauxite from your company at a price to be negotiated by you and the Chief Executive Officer of Buyco.

If Buyco enters into a sales agreement with your company, it will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum, which will be delivered to a Buyco's customer downstream: Cusco. While you do not know the accurate financial information of Buyco, your personnel has estimated the following figures: (1) Buyco's estimated costs of manufacturing one indivisible unit of aluminum are around \$1000; (2) Buyco will need to make an investment of \$1500 to customize the aluminum in accordance with the specifications that Cusco has indicated (due to this customization, this investment and the customized aluminum are worthless for any other customer); and (3) if Buyco closes the deal with your company (Selco), Buyco would also close the deal with Cusco at a price around \$7500 and this contract will provide that Buyco shall deliver the customized aluminum according to a very tight schedule because time is of the essence. If Buyco does not close the deal with your company, the contract with Cusco will not be agreed on and, of course, the relationship-specific investment will not be made.

In addition, if you enter into a contract with Buyco, this contract will provide an enforceable penalty clause by which any party breaching the contract (e.g., you not delivering the bauxite or the buyer refusing to take delivery or to pay the goods) shall pay to the aggrieved party \$7000 regardless of the quantity of actual damages. Assume that the likelihood of a court striking down the penalty clause or reducing its amount is 0%.

Please notice that buyers of bauxite other than Buyco are very far away and, therefore, are not willing to pay more than \$500 for the bauxite. Please also take into account that if you and your buyer do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, you will submit an offer to Buyco at a fixed price. Buyco, in turn, will decide whether to accept or reject this offer. After you learn the buyer's decision, the second stage will follow. So, please submit the offer to your buyer using the Form No. 1 and filling the blank space there with the proposed price.

## 2. Instructions for the Second Stage for Sellers

While you do not know the answer of your buyer, please assume that he/she has accepted your offer.

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your buyer take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the higher the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
You entered into a contract with Buyco and the price was increased ( $P_1$ is the new price).  Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00	$\begin{aligned} &\text{If } P_1 \geq 5000, fee = \$20; \\ &\text{If } P_1 \leq 1000, fee = \$0; \\ &\text{Otherwise, } fee = 20 * (P_1 - 1000) / 4000 \end{aligned}$
You entered into a contract with Buyco and the price was not increased.	\$0

Notice that, at this stage, Buyco has already entered into a contract with its customer, Cusco, to sell one indivisible unit of aluminum at a price that your employees estimate at \$7500, and has made its investment, whose value is around \$1500. Please remind that this investment is not valuable for any customer other than Cusco.

Buyco has also recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to your company, which was \$500 during the first stage, may have changed upwards. More particularly, Buyco was informed that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to your company. You, indeed, received this envelope and noticed that it is an offer from Thirdco to buy bauxite from you at the same price as before, \$500.

Please remind that, due to manufacturing constraints, if you decide to sell one indivisible unit of bauxite to Thirdco, you will not be able to honor your contract with Buyco; i.e., you will not have enough bauxite to deliver to this buyer.

In spite of this manufacturing constraints and of the fact that the price that Thirdco has offered is lower than the price of the contract between Buyco and your company, you

may or may not falsely claim to Buyco that your company has received a better offer for the sale of one indivisible unit of bauxite. Since the Thirdco's offer was sent to you only two days before the term fixed for delivery of the bauxite, Buyco will not be able to check in the market, at a reasonable cost, whether or not your claim is true.

Please also note that if you do not deliver the bauxite to Buyco (which entails to your company breaching the contract), Buyco would be unable to find another supplier at a reasonable cost to meet its tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, this company this company will suffer some losses, such as the most of the investment made to customize the aluminum for Cusco's needs. Please remind that the original contract provided a penalty clause pursuant to which you should pay Buyco \$7000 in legal damages plus the reimbursement of the contract price. Thus, Buyco may not only recover all its losses but also obtain a net benefit if the contract is breached.

Based on this information, you will send a message to your buyer demanding a new and higher contract price under threat to breach. You will select the new price and you will be able to say the true about the Thirdco's offer (i.e., that the offer amounts to \$500) or to falsely claim that the offered price was higher.

Please use Form No. 2 to send this message. Before doing that, however, please notice that your buyer, after receiving your message, will decide whether: (1) to accept the new price, an scenario that will end this stage, or (2) to reject the new price; in such a case, you will decide whether to breach the contract or to continue with this performance at the original contract price. Now, please use Form No. 2 filling the information in the blank spaces.



**DRAFT OF THE INSTRUCTIONS FOR THE THIRD TREATMENT (HIGH  
LEVEL OF REMEDIES)**

## **Instructions for the Sellers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Selco, a company which is in the business of extracting and selling bauxite, an indispensable input in the production of aluminum. Your company's costs of extracting and delivering one indivisible unit of bauxite are \$1000.

Buyco, in turn, is a company in the business of manufacturing and selling aluminum to its customers downstream. Buyco intends to purchase one indivisible unit of bauxite from your company at a price to be negotiated by you and the Chief Executive Officer of Buyco.

If Buyco enters into a sales agreement with your company, it will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum, which will be delivered to a Buyco's customer downstream: Cusco. While you do not know the accurate financial information of Buyco, your personnel has estimated the following figures: (1) Buyco's estimated costs of manufacturing one indivisible unit of aluminum are around \$1000; (2) Buyco will need to make an investment of \$1500 to customize the aluminum in accordance with the specifications that Cusco has indicated (due to this customization, this investment and the customized aluminum are worthless for any other customer); and (3) if Buyco closes the deal with your company (Selco), Buyco would also close the deal with Cusco at a price around \$7500 and this contract will provide that Buyco shall deliver the customized aluminum according to a very tight schedule because time is of the essence. If Buyco does not close the deal with your company, the contract with Cusco will not be agreed on and, of course, the relationship-specific investment will not be made.

Please notice that buyers of bauxite other than Buyco are very far away and, therefore, are not willing to pay more than \$500 for the bauxite. Please also take into account that if you and your buyer do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, you will submit an offer to Buyco at a fixed price. Buyco, in turn, will decide whether to accept or reject this offer. After you learn the buyer's decision, the second stage will follow. So, please submit the offer to your buyer using the Form No. 1 and filling the blank space there with the proposed price.

## 2. Instructions for the Second Stage for the Sellers

While you do not know the answer of your buyer, please assume that he/she has accepted your offer.

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your buyer take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the higher the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
<p>You entered into a contract with Buyco and the price was increased (<math>P_1</math> is the new price).</p> <p>Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00</p>	<p>If <math>P_1 \geq 5000</math>, <math>fee = \\$20</math>; If <math>P_1 \leq 1000</math>, <math>fee = \\$0</math>; Otherwise, <math>fee =</math> <math>20 * (P_1 - 1000) / 4000</math></p>
<p>You entered into a contract with Buyco and the price was not increased.</p>	<p>\$0</p>

Notice that, at this stage, Buyco has already entered into a contract with its customer, Cusco, to sell one indivisible unit of aluminum at a price that your employees estimate at \$7500, and has made its investment, whose value is around \$1500. Please remind that this investment is not valuable for any customer other than Cusco.

Buyco has also recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to your company, which was \$500 during the first stage, may have changed upwards. More particularly, Buyco was informed that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to your company. You, indeed, received this envelope and noticed that it is an offer from Thirdco to buy bauxite from you at the same price as before, \$500.

Please remind that, due to manufacturing constraints, if you decide to sell one indivisible unit of bauxite to Thirdco, you will not be able to honor your contract with Buyco; i.e., you will not have enough bauxite to deliver to this buyer.

In spite of this manufacturing constraints and of the fact that the price that Thirdco has offered is lower than the price of the contract between Buyco and your company, you may or may not falsely claim to Buyco that your company has received a better offer for

the sale of one indivisible unit of bauxite. Since the Thirdco's offer was sent to you only two days before the term fixed for delivery of the bauxite, Buyco will not be able to check in the market, at a reasonable cost, whether or not your claim is true.

Please also note that if you do not deliver the bauxite to Buyco (which entails to your company breaching the contract), Buyco would be unable to find another supplier at a reasonable cost to meet its tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, this company will suffer some losses, some of which will not be recoverable, such as the most of the investment made to customize the aluminum for Cusco's needs. More precisely, you will need to pay Buyco \$7500 in legal damages resulting from your breach of contract (an amount that includes the reimbursement of the contract price, which had been paid in advance). Buyco's unrecoverable losses, in turn, will amount to \$500.

Based on this information, you will send a message to your buyer demanding a new and higher contract price under threat to breach. You will select the new price and you will be able to say the true about the Thirdco's offer (i.e., that the offer amounts to \$500) or to falsely claim that the offered price was higher.

Please use Form No. 2 to send this message. Before doing that, however, please notice that your buyer, after receiving your message, will decide whether: (1) to accept the new price, an scenario that will end this stage, or (2) to reject the new price; in such a case, you will decide whether to breach the contract or to continue with this performance at the original contract price. Now, please use Form No. 2 filling the information in the blank spaces.

**INSTRUCTIONS FOR THE BUYERS**  
**DRAFT OF THE INSTRUCTIONS FOR THE FIRST (GENERAL) TREATMENT**

## **Instructions for the Buyers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Buyco, a company which is in the business of manufacturing and selling aluminum to its customers downstream. Bauxite is an indispensable input to manufacture aluminum. Your company intends to purchase one indivisible unit of bauxite from Selco at a price to be negotiated by you and the Chief Executive Officer of this company.

Selco is a company engaged in the business of extracting and selling bauxite. While you do not know the Selco's costs of extracting and delivering one indivisible unit of bauxite, your personnel estimates that these costs are around \$1000. Please notice that other buyers of bauxite are very far away from Selco's facilities and, therefore, are not willing to pay Selco more than \$500 for the bauxite.

If your company enters into a sales agreement with Selco, Buyco will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum to be delivered to a customer downstream: Cusco.

Regarding this manufacturing process, please take into account the following figures: (1) the costs of manufacturing one indivisible unit of this customized aluminum are \$1000; (2) additionally, and in order to customize the aluminum to Cusco's needs, you shall make an investment amounting to \$1500 (and due to this customization, the investment and the aluminum adapted to the special needs of Cusco are worthless for any other customer; (3) if your company closes the deal with Selco, it will also close the deal with Cusco at a price of \$7500 per one indivisible unit of aluminum (otherwise, if you do not reach an agreement with Selco, neither the contract with Cusco nor the investment necessary to customize the aluminum will be made; (4) Cusco has agreed on the \$7500 price for the customized aluminum on the condition that Buyco delivers the goods according to a tight schedule since time is of the essence; if your company does not deliver the aluminum on time, Cusco will be entitled to refuse taking delivery of the goods.

Please also take into account that if you and your seller do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, Selco will submit an offer at a fixed price to sell one indivisible unit of bauxite price to your company. After receiving this offer, you will decide whether to accept or reject it. You cannot make any counteroffer. Once you learn this information, the second stage will follow.

Please wait few minutes while the seller prepares its offer. After that, please decide whether or not to accept the seller's offer by checking the respective box in Form No. 6.

## 2. Instructions for the Second Stage for the Buyers

If you did not accept the seller's offer in the first stage, please do not write anything in Form No. 7 and briefly answer the following questions:

- a. Which price did the seller offered in the first stage?

Answer/. \_\_\_\_\_

- b. Why did you reject the seller's offer?

Answer/. \_\_\_\_\_

If you accepted the seller's offer in the first stage, please follow these instructions:

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your seller take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the lower the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
You entered into a contract with Selco and the price is increased ( $P_1$ is the new price).  Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00	$\begin{aligned} &\text{If } P_1 \geq 5000, \text{ fee} = \$0; \\ &\text{If } P_1 \leq 1000, \text{ fee} = \$20; \\ &\text{Otherwise, fee} = 20 * \\ &\quad (5000 - P_1) / 4000 \end{aligned}$
You entered into a contract with Selco, the price is not increased, and Selco does not breach the contract	\$20
You entered into a contract with Selco, the price was not increased, and Selco breaches the contract	\$0

Please remind that, at this stage, your company has already entered into a contract with Cusco to sell one indivisible unit of aluminum at a price of \$7500 and has made an investment, whose cost was \$1500, necessary to customize this aluminum to Cusco's needs.

On top of that, you recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to Selco, which was \$500 during the first stage, may have changed upwards. You do not know the new price. Indeed, since Thirdco's offer was sent to Selco only two days before the term fixed for delivery of the bauxite, you are not be able to check in the market, at a reasonable cost, the approximate value of this offer. All that you

know is that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to Selco. Due to manufacturing constraints, if Selco decides to sell one indivisible unit of bauxite to Thirdco, it will not be able to honor the contract with your company; in simpler words, it will not deliver any bauxite to you.

Please also note that if Selco does not deliver the bauxite to you, your company would be unable to find another supplier at a reasonable cost to meet the tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, your company will suffer some losses. More precisely, your company will suffer the following losses: (1) the expected profit of the transaction with Selco, which was estimated at \$5000 minus the contract price that Selco and you have agreed (by the way, you had already paid this contract price, which will be reimbursed; (2) the value of the investment that you made to customize the aluminum to Cusco's needs would be scrap (after selling this scrap, you will lose \$1000); and (3) other losses amounting to \$2000. These losses will result from some liquidated damages in the contract with Cusco, your stained reputation for breaching the contract with this company and the litigation expenses resulting from suing. Summing up, your losses would amount to \$8000 minus the agreed contract price.

Of course, if you sue Selco for breach of contract and prevail in trial, you will recover some losses. Unfortunately, due to some legal limitations on legal remedies for breach of contract, you will only recover from Selco \$5500 minus the contract price. Thus, the difference between the total losses and the recoverable losses is \$2500.

Based on this information, Selco will send a message to you demanding a new and higher contract price. This offer will be backed by a threat to sell the bauxite to Thirdco (and to breach the contract with you) if you do not accept the new price. You will decide whether to accept or reject Selco's offer. You cannot make counteroffers. If you accept the new price, Selco will deliver to you the bauxite and you will honor your contract with Cusco. If you reject the new price, Selco may or may not breach the contract. If the contract is not breached, Selco will deliver the bauxite at the original price. Otherwise, Selco will not deliver the bauxite, you will not be able to honor your contract with Cusco and you will suffer unrecoverable losses amounting to \$2500.

Please wait some few minutes while Selco prepares its offer of a new price. Then, once the individual conducting this experiment instructs to do so, please use Form No. 7 to decide whether to accept or reject the offer by checking the appropriate box.

After checking the box, please keep silent in your place. If you accepted the offer, you will not receive any additional information. If you rejected the offer, you will know whether or not the seller breached the contract at the time of receiving your payment.



**DRAFT OF THE INSTRUCTIONS FOR THE SECOND TREATMENT (PENALTY  
CLAUSES)**

## **Instructions for the Buyers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Buyco, a company which is in the business of manufacturing and selling aluminum to its customers downstream. Bauxite is an indispensable input to manufacture aluminum. Your company intends to purchase one indivisible unit of bauxite from Selco at a price to be negotiated by you and the Chief Executive Officer of this company.

Selco is a company engaged in the business of extracting and selling bauxite. While you do not know the Selco's costs of extracting and delivering one indivisible unit of bauxite, your personnel estimates these costs at \$1000. Notice that other buyers of bauxite are far away from Selco's facilities and not willing to pay Selco more than \$500 for it.

If your company enters into a sales agreement with Selco, Buyco will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum to be delivered to a customer downstream: Cusco.

Regarding this manufacturing process, please take into account the following figures: (1) the costs of manufacturing one indivisible unit of this customized aluminum are \$1000; (2) additionally, and in order to customize the aluminum to Cusco's needs, you shall make an investment amounting to \$1500 (and due to this customization, the investment and the aluminum adapted to the special needs of Cusco are worthless for any other customer; (3) if your company closes the deal with Selco, it will also close the deal with Cusco at a price of \$7500 per one indivisible unit of aluminum (otherwise, if you do not reach an agreement with Selco, neither the contract with Cusco nor the investment necessary to customize the aluminum will be made; (4) Cusco has agreed on the \$7500 price for the customized aluminum on the condition that Buyco delivers the goods according to a tight schedule since time is of the essence; if your company does not deliver the aluminum on time, Cusco will be entitled to refuse taking delivery of the goods.

If you enter into a contract with Selco, this contract will provide an enforceable penalty clause by which any party breaching the contract (e.g., you refusing to take delivery of the bauxite or to pay the price of these goods, or the seller refusing to deliver the bauxite) shall pay to the aggrieved party \$7000 regardless of the quantity of actual damages. The likelihood of a court striking down the penalty or reducing its amount is 0%.

Please also take into account that if you and your seller do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, Selco will submit an offer at a fixed price to sell one indivisible unit of bauxite price to your company. After receiving this offer, you will decide whether to accept or reject it. You cannot make any counteroffer. Once you learn this information, the second stage will follow. Please wait a few minutes while the seller prepares its offer. After that, please decide whether or not to accept the seller's offer by checking the respective box in Form No. 6.

## 2. Instructions for the Second Stage for the Buyers

If you did not accept the seller's offer in the first stage, please do not write anything in Form No. 7 and briefly answer the following questions:

- a. Which price did the seller offered in the first stage?

Answer/. \_\_\_\_\_

- b. Why did you reject the seller's offer?

Answer/. \_\_\_\_\_

If you accepted the seller's offer in the first stage, please follow these instructions:

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your seller take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the lower the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
You entered into a contract with Selco and the price is increased ( $P_1$ is the new price).  Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00	If $P_1 \geq 5000$ , $fee = \$0$ ; If $P_1 \leq 1000$ , $fee = \$20$ ; Otherwise, $fee = 20 * (5000 - P_1) / 4000$
You entered into a contract with Selco, the price is not increased, and Selco does not breach the contract	\$20
You entered into a contract with Selco, the price was not increased, and Selco breaches the contract	\$0

Please remind that, at this stage, your company has already entered into a contract with Cusco to sell one indivisible unit of aluminum at a price of \$7500 and has made an investment, whose cost was \$1500, necessary to customize this aluminum to Cusco's needs.

On top of that, you recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to Selco, which was \$500 during the first stage, may have changed upwards. You do not know the new price. Indeed, since Thirdco's offer was sent to Selco only two days before the term fixed for delivery of the bauxite, you are not be able

to check in the market, at a reasonable cost, the approximate value of this offer. All that you know is that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to Selco. Due to manufacturing constraints, if Selco decides to sell one indivisible unit of bauxite to Thirdco, it will not be able to honor the contract with your company; in simpler words, it will not deliver any bauxite to you.

Please also note that if Selco does not deliver the bauxite to you, your company would be unable to find another supplier at a reasonable cost to meet the tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, your company will suffer some losses. More precisely, your company will suffer the following losses: (1) the expected profit of the transaction with Selco, which was estimated at \$5000 minus the contract price that Selco and you have agreed (by the way, you had already paid this contract price, which will be reimbursed); (2) the value of the investment that you made to customize the aluminum to Cusco's needs would be scrap (after selling this scrap, you will lose \$1000); and (3) other losses amounting to \$2000. These losses will result from some liquidated damages in the contract with Cusco, your stained reputation for breaching the contract with this company and the litigation expenses resulting from suing. Summing up, your losses would amount to \$8000 minus the agreed contract price.

The good news is that if you sue Selco for breach of contract and prevail in trial, you will recover some losses. Remind that the original contract provided a penalty clause. Pursuant to this clause, Selco should pay to you \$7000 for breaching the contract. That is, the difference between the total losses and the recoverable losses is \$1000 minus the contract price. I.e., you may obtain a net benefit from a breach.

Based on this information, Selco will send a message to you demanding a new and higher contract price. This offer will be backed by a threat to sell the bauxite to Thirdco (and to breach the contract with you) if you do not accept the new price. You will decide whether to accept or reject Selco's offer. You cannot make counteroffers. If you accept the new price, Selco will deliver to you the bauxite and you will honor your contract with Cusco. If you reject the new price, Selco may or may not breach the contract. If the contract is not breached, Selco will deliver the bauxite at the original price. Otherwise, Selco will not deliver the bauxite, you will not be able to honor your contract with Cusco, Selco would pay you the value of the penalty clause (\$7000) but you would still suffer unrecoverable losses amounting to \$1000 minus the contract price.

Please wait some few minutes while Selco prepares its offer of a new price. Then, once the individual conducting this experiment instructs to do so, please use Form No. 7 to decide whether to accept or reject the offer by checking the appropriate box.

After checking the box, please keep silent in your place. If you accepted the offer, you will not receive any additional information. If you rejected the offer, you will know whether or not the seller breached the contract at the time of receiving your payment.

**DRAFT OF THE INSTRUCTIONS FOR THE THIRD TREATMENT (HIGH  
LEVEL OF REMEDIES)**

## **Instructions for the Buyers**

### **1. Instructions for the First Stage**

You are the Chief Executive Officer of Buyco, a company which is in the business of manufacturing and selling aluminum to its customers downstream. Bauxite is an indispensable input to manufacture aluminum. Your company intends to purchase one indivisible unit of bauxite from Selco at a price to be negotiated by you and the Chief Executive Officer of this company.

Selco is a company engaged in the business of extracting and selling bauxite. While you do not know the Selco's costs of extracting and delivering one indivisible unit of bauxite, your personnel estimates that these costs are around \$1000. Please notice that other buyers of bauxite are very far away from Selco's facilities and, therefore, are not willing to pay Selco more than \$500 for the bauxite.

If your company enters into a sales agreement with Selco, Buyco will use the bauxite and other inputs in the manufacturing of one customized indivisible unit of aluminum to be delivered to a customer downstream: Cusco.

Regarding this manufacturing process, please take into account the following figures: (1) the costs of manufacturing one indivisible unit of this customized aluminum are \$1000; (2) additionally, and in order to customize the aluminum to Cusco's needs, you shall make an investment amounting to \$1500 (and due to this customization, the investment and the aluminum adapted to the special needs of Cusco are worthless for any other customer; (3) if your company closes the deal with Selco, it will also close the deal with Cusco at a price of \$7500 per one indivisible unit of aluminum (otherwise, if you do not reach an agreement with Selco, neither the contract with Cusco nor the investment necessary to customize the aluminum will be made; (4) Cusco has agreed on the \$7500 price for the customized aluminum on the condition that Buyco delivers the goods according to a tight schedule since time is of the essence; if your company does not deliver the aluminum on time, Cusco will be entitled to refuse taking delivery of the goods.

Please also take into account that if you and your seller do not reach an agreement, you will only receive the show-up fee for participating in this experiment (\$6). On the contrary, if you reach an agreement, you may receive fees between \$6 and \$26.

Based on this information, Selco will submit an offer at a fixed price to sell one indivisible unit of bauxite price to your company. After receiving this offer, you will decide whether to accept or reject it. You cannot make any counteroffer. Once you learn this information, the second stage will follow.

Please wait few minutes while the seller prepares its offer. After that, please decide whether or not to accept the seller's offer by checking the respective box in Form No. 6.

## 2. Instructions for the Second Stage for the Buyers

If you did not accept the seller's offer in the first stage, please do not write anything in Form No. 7 and briefly answer the following questions:

- a. Which price did the seller offered in the first stage?

Answer/. \_\_\_\_\_

- b. Why did you reject the seller's offer?

Answer/. \_\_\_\_\_

If you accepted the seller's offer in the first stage, please follow these instructions:

At this point, you have already earned \$6 for participating in this experiment. You may earn up to \$20 more depending on the decisions that you and your seller take. Table 1 shows the additional fees that you may receive. As a rule of thumb, the lower the renegotiated price that you get for your company, the more the money that you will receive for participating in this experiment.

**TABLE 1 – PAYMENTS IN ADDITION TO THE SHOW UP FEE**

SCENARIO	PAYMENT
You entered into a contract with Selco and the price is increased ( $P_1$ is the new price).  Please notice that your payment will be rounded to the closest amount of dollars. If the number of cents is 50 or more, the payment will be rounded upwards. Otherwise, it will be rounded downwards. For example, if the calculation equals \$10,57, you will be paid \$11,00. In contrast, if the calculation equals \$15,26, you will be paid \$15,00.	If $P_1 \geq 5000$ , $fee = \$0$ ; If $P_1 \leq 1000$ , $fee = \$20$ ; Otherwise, $fee =$ $20 * (5000 - P_1) / 4000$
You entered into a contract with Selco, the price is not increased, and Selco did not breach the contract	\$20
You entered into a contract with Selco, the price is not increased, and Selco breaches the contract	\$0

Please remind that, at this stage, your company has already entered into a contract with Cusco to sell one indivisible unit of aluminum at a price of \$7500 and has made an investment, whose cost was \$1500, necessary to customize this aluminum to Cusco's needs.

On top of that, you recently learned that the price that another buyer of bauxite (Thirdco) may be willing to pay to Selco, which was \$500 during the first stage, may have changed upwards. You do not know the new price. Indeed, since Thirdco's offer was sent to Selco only two days before the term fixed for delivery of the bauxite, you are not be able

to check in the market, at a reasonable cost, the approximate value of this offer. All that you know is that Thirdco revealed the new price that it was willing to pay for the bauxite in a confidential envelope addressed to Selco. Due to manufacturing constraints, if Selco decides to sell one indivisible unit of bauxite to Thirdco, it will not be able to honor the contract with your company; in simpler words, it will not deliver any bauxite to you.

Please also note that if Selco does not deliver the bauxite to you, your company would be unable to find another supplier at a reasonable cost to meet the tight deadline with Cusco. In such a case, Cusco might reject the aluminum, claim that Buyco breached the contract and, as a result, your company will suffer some losses. More precisely, your company will suffer the following losses: (1) the expected profit of the transaction with Selco, which was estimated at \$5000 minus the contract price that Selco and you have agreed (by the way, you had already paid this contract price, which will be reimbursed); (2) the value of the investment that you made to customize the aluminum to Cusco's needs would be scrap (after selling this scrap, you will lose \$1000); and (3) other losses amounting to \$2000. These losses will result from some liquidated damages in the contract with Cusco, your stained reputation for breaching the contract with this company and the litigation expenses resulting from suing. Summing up, your losses would amount to \$8000 minus the agreed contract price.

Of course, if you sue Selco for breach of contract and prevail in trial, you will recover some losses. Unfortunately, you will only recover from Selco \$7500 minus the contract price. Thus, the difference between the total losses and the recoverable losses is \$500.

Based on this information, Selco will send a message to you demanding a new and higher contract price. This offer will be backed by a threat to sell the bauxite to Thirdco (and to breach the contract with you) if you do not accept the new price. You will decide whether to accept or reject Selco's offer. You cannot make counteroffers. If you accept the new price, Selco will deliver to you the bauxite and you will honor your contract with Cusco. If you reject the new price, Selco may or may not breach the contract. If the contract is not breached, Selco will deliver the bauxite at the original price. Otherwise, Selco will not deliver the bauxite, you will not be able to honor your contract with Cusco and you will suffer unrecoverable losses amounting to \$2500.

Please wait some few minutes while Selco prepares its offer of a new price. Then, once the individual conducting this experiment instructs to do so, please use Form No. 7 to decide whether to accept or reject the offer by checking the appropriate box.

After checking the box, please keep silent in your place. If you accepted the offer, you will not receive any additional information. If you rejected the offer, you will know whether or not the seller breached the contract at the time of receiving your payment.



**QUESTIONS TO TEST THAT THE SUBJECTS UNDERSTOOD THE  
INSTRUCTIONS – WITHOUT ANSWERS**

A. Questions for the buyers

1. First stage

- a. Which are the estimated seller's costs of extracting and delivering the bauxite?
- b. How much are other buyers of bauxite willing to pay?
- c. Which is the value of the investment that you must make if the contract is formed?
- d. Which are your costs of manufacturing aluminum?
- e. Which is the price of the contract to be made with Cusco?
- f. How many offers will you receive from the seller?
- g. Could you make counteroffers?

2. Questions for the buyers - Second stage

- a. Which is the new price that Thirdco will offer to Selco?
- b. If you reject the new price offered by Selco, will this company breach the contract?
- c. If Selco decides to deliver the bauxite to Thirdco, could it deliver another unit of bauxite to you?.
- d. Can you make a counteroffer to Selco during this renegotiation stage?
- e. If Selco breaches the contract, will you breach your contract with Cusco?
- f. Which would be the consequences of Selco breaching the contract and of you breaching the contract with Cusco?

## B. Questions for the sellers

### 1. First stage

- a. Which are your costs of extracting and delivering the bauxite?
- b. How much are other buyers of bauxite willing to pay?
- c. Which is the estimated value of the investment that the buyer must make if the contract is formed?
- d. Which are the estimated buyer's costs of manufacturing aluminum?
- e. Which is the estimated price of the contract for sale of aluminum between the buyer and Cusco?
- f. How many offers will you make to your buyer?
- g. Could the buyer make any counter offer?

2. Questions for the sellers - Second stage

- a. Which is the new price that Thirdco will offer to you?
- b. Does the buyer know this new price?
- c. Can you falsely claim to your buyer that the new price offered by Thirdco is higher than \$500?
- d. How many offers of a new price will you make to your buyer?
- e. Can the buyer make counteroffers?
- f. If Buyco rejects your new price, is it profitable for you to breach the contract?
- g. If you breaches the contract with Buyco, will Buyco breach the contract with Cusco?
- h. Which would be the consequences of you breaching the contract and, as a result, of Buyco breaching the contract with Cusco?

## **QUESTIONS TO TEST THAT THE SUBJECTS UNDERSTOOD THE INSTRUCTIONS – WITH ANSWERS**

### **A. Questions for the buyers**

#### **1. First stage**

- a. Which are the estimated seller's costs of extracting and delivering the bauxite? Answer: \$1000
- b. How much are other buyers of bauxite willing to pay? Answer: \$500
- c. Which is the value of the investment that you must make if the contract is formed? Answer: \$1500
- d. Which are your costs of manufacturing aluminum? Answer: \$1000
- e. Which is the price of the contract to be made with Cusco? Answer: \$7500
- f. How many offers will you receive from the seller? Answer: One
- g. Could you make counteroffers? Answer: No.

2. Second stage

- a. Which is the new price that Thirdco will offer to Selco? Answer: This information is unknown for buyers
- b. If you reject the new price offered by Selco, will this company breach the contract? Answer: This is unpredictable for you. Maybe yes, maybe no. The answer, in any event, depends on the price that Thirdco offers to Selco.
- c. If Selco decides to deliver the bauxite to Thirdco, could it deliver another unit of bauxite to you? Answer: No. The production of bauxite is limited.
- d. Can you make a counteroffer to Selco during this renegotiation stage?  
Answer: No.
- e. If Selco breaches the contract, will you breach your contract with Cusco?  
Answer: Yes
- f. Which would be the consequences of Selco breaching the contract and of you breaching the contract with Cusco? Answer: They depend on the facts of each treatment but, generally speaking, Buyco will suffer significant losses, some of which may be unrecoverable from Selco.

## B. Questions for the sellers

### 1. First stage

- a. Which are your costs of extracting and delivering the bauxite? Answer: \$1000.
- b. How much are other buyers of bauxite willing to pay? Answer: \$500.
- c. Which is the estimated value of the investment that the buyer must make if the contract is formed? Answer: \$1500.
- d. Which are the estimated buyer's costs of manufacturing aluminum? Answer: \$1000.
- e. Which is the estimated price of the contract for sale of aluminum between the buyer and Cusco? Answer: \$7500.
- f. How many offers will you make to your buyer? Answer: One.
- g. Could the buyer make any counter offer? Answer: No.

2. Second stage

- a. Which is the new price that Thirdco will offer to you? Answer: The same than before, that is, \$500.
- b. Does the buyer know this new price? Answer: No.
- c. Can you falsely claim to your buyer that the new price offered by Thirdco is higher than \$500? Answer: Yes, you may bluff.
- d. How many offers of a new price will you make to your buyer? Answer: One.
- e. Can the buyer make counteroffers? Answer: No.
- f. If Buyco rejects your new price, is it profitable for you to breach the contract? Answer: No, because the price that Thirdco offers is only \$500.
- g. If you breaches the contract with Buyco, will Buyco breach the contract with Cusco? Answer: Yes.
- h. Which would be the consequences of you breaching the contract and, as a result, of Buyco breaching the contract with Cusco? Answer: They depend on the facts of each treatment but, generally speaking, Buyco will suffer significant losses, some of which may be unrecoverable from Selco.



## **FORM 1 – FORMATION STAGE**

Dear Buyco: We will be pleased to sell to your company one indivisible unit of bauxite at a price of \$\_\_\_\_\_.

## **FORM 2 – RENEGOTIATION STAGE**

Dear Buyco: Our company considers that the price of the contract for sale of bauxite is too low taking into account the current conditions of the market, especially after Thirdco sent to us an offer to buy our bauxite at a price of \$\_\_\_\_\_. We propose to you the following new price: \$\_\_\_\_\_. Unfortunately, if your company does not accept this new price, our company will breach the contract and sell the bauxite to Thirdco.

## **FORM 6**

### **DECIDING WHETHER OR NOT TO ENTER INTO A CONTRACT WITH THE SELLER**

Please take your decision by checking the respective box.

Option 1: Acceptance of the offer. Dear Selco: We decided to accept the offer for  
the sale of one unit of indivisible bauxite at the price mentioned by you. ☐

Option 2: Rejection of the offer. Dear Selco: We decided to reject your offer  
because the price is too high. ☐

## **FORM 7 DECIDING WHETHER TO ACCEPT OR TO REJECT THE NEW PRICE**

Please take your decision by checking the respective box.

Option 1: Acceptance of the offer. Dear Selco: We consider that the price that you request is a little high. However, since we value our relationship, we have decided to accept your offer and, therefore, will pay the renegotiated price for your bauxite. ☐

Option 2: Rejection of the offer. Dear Selco: The new price that you propose is too high. Indeed, we do not see any reason to change the original price. So, we have decided to reject your offer. ☐