

**RESULTS OF REDETERMINATION
PURSUANT TO REMAND**

PSC VSMPO - Avisma Corp. v. United States
Consol. Court No. 08-00321 (CIT Aug. 17, 2010)

Summary

This remand determination, submitted in accordance with the order of the U.S. Court of International Trade (the Court) of August 17, 2010, in *PSC VSMPO - Avisma Corp. v. United States*, Consol. Court No 08-00321, Slip Op. 10-93 (CIT August 17, 2010) (Remand Order), involves a challenge to the determination of the U.S. Department of Commerce (the Department) in the administrative review of the antidumping duty order on magnesium metal from the Russian Federation. See *Magnesium Metal from the Russian Federation: Final Results of Antidumping Duty Administrative Review*, 73 FR 52642 (September 10, 2008) (*Final Results*), covering the period April 1, 2006, through March 31, 2007. In accordance with the Court's order, in determining the normal value of the subject merchandise and under respectful protest, the Department is taking into account PSC VSMPO–AVISMA Corporation's (AVISMA's) "ordinary course of business" by focusing on AVISMA's entire production process, including the stages of production encompassing and following ilmenite catalyzation. As a result, the Department has recalculated the dumping margin for AVISMA.

Background

As described in the *Final Results* and accompanying Issues and Decision Memorandum (I&D Memo) at Comments 1-3, the Department determined that it was appropriate to treat raw magnesium and chlorine gas as co-products and employed a net-realizable-value (NRV) analysis using prices for magnesium-metal end products and market prices for liquid chlorine to allocate

joint costs incurred up to the split-off point where raw magnesium and chlorine gas become separately identifiable products.

On October 20, 2009, the Court remanded the *Final Results* to the Department to take into account an affidavit from Dr. George Foster, an accounting professor (the Foster Affidavit), when considering the best methodology for calculating the NRV for the chlorine gas.¹ Slip Op. 09-120 at 14.

In accordance with the Court's order, the Department admitted the Foster Affidavit into the record, considered the arguments of Dr. Foster upon remand and, as a result of that consideration, decided not to recalculate the dumping margin for AVISMA. Specifically, in the March 30, 2010, Final Results of Redetermination Pursuant to Court Remand (*First Remand*), the Department explained why Dr. Foster's methodology was not appropriate to use in this case. We explained that the processes within the facility were not as intertwined as AVISMA represents and, thus, it was reasonable to associate the joint costs at issue with only specific products generated at the same joint process. *See First Remand* at 6-11. Second, we explained that, contrary to the claims by AVISMA, a reasonable value for chlorine gas can be determined and applied at the split-off point, an alternative approach that was addressed by Dr. Foster. *Id.* at 11-13. Third, the approach proposed by AVISMA and Dr. Foster implicitly allocates an unreasonably high cost to chlorine gas. *Id.* at 13-20. As a result, in the *First Remand* the Department adhered to same allocation methodology it used in the *Final Results*.

On August 17, 2010, the Court again remanded the *Final Results* for the Department to consider AVISMA's entire production process, including titanium production, in allocating joint costs to the subject merchandise. *See Remand Order* at 15. The Court found the Department's

¹ AVISMA submitted the Foster Affidavit as part of its administrative case brief, dated June 11, 2008, which the Department rejected as untimely new factual information.

cost-allocation methodology in the *Final Results* to be unsupported by substantial record evidence and not in accordance with section 773(e)(1) of the Tariff Act of 1930, as amended (the Act). *See* Remand Order at 9-15. Determining that titanium production is the primary focus of AVISMA's business and that subject merchandise is "subservient" to titanium production while focusing on the interdependence of AVISMA's operations between production stages, the Court found that the Department's cost-allocation methodology did not take into account AVISMA's costs "in the ordinary course of business" as required under section 773(e)(1) of the Act. *Id.* The Court ordered the Department to submit remand results no later than November 9, 2010.

On October 15, 2010, we released our draft results of redetermination to interested parties for comment. *See* Draft Results of Redetermination Pursuant to Remand, *PSC VSMPO – Avisma Corp. v. United States*, Consol. Court No 08-00321, October 15, 2010 (draft remand results). On October 25, 2010, we received comments from AVISMA and US Magnesium LLC (US Magnesium). No other interested party commented on our draft remand results.

On November 2, 2010, the Court granted a fourteen-day extension of time to November 23, 2010, to file these results of redetermination pursuant to remand.

Discussion

At the outset, the Department respectfully disagrees with the Court's Remand Order. Section 773(f)(1)(A) of the Act states that "[c]osts shall normally be calculated based on records of the exporter or producer of the merchandise, if such records are kept in accordance with the generally accepted accounting principles of the exporting country . . . and reasonably reflect the costs associated with the production and sale of the merchandise." Reflecting Congressional intent, the Statement of Administrative Action (SAA) specifically directs the Department to allocate costs, when it is unable to calculate costs based on the records kept, "using a method that

reasonably reflects and accurately captures all of the actual costs incurred in producing and selling the product under investigation or review.” *See* SAA, H.R. Doc. No. 103-316, vol. 1,834-35, reprinted in 1994 U.S.C.C.A.N. 3773, 4172.

In that regard, the Department respectfully contends that the Court should have given additional consideration to the specific facility where AVISMA produces subject merchandise. In discussing the importance of titanium production to AVISMA, the Court placed its focus on AVISMA’s consolidated corporate group. *See* Remand Order at 10 (citing AVISMA’s consolidated financial report). Even AVISMA’s own expert, Dr. Foster, does not recommend allocating costs at a specific facility based upon a consolidated conglomerate’s global finances. *See* Foster Affidavit at 7. Indeed, such an allocation could not be supported by accounting literature. Dr. Foster stated that “the sales value of the split off point method of joint cost allocation is the preferred approach where feasible.” *Id.* Likewise, the Court does not appear to give full consideration to record evidence supporting the Department’s finding that taking into account AVISMA’s entire operations resulted in a value for chlorine gas that is too high relative to the market value of chlorine. In the *First Remand*, the Department demonstrated the implicit valuation under AVISMA’s proposed methodology and compared that value to the available values for chlorine on the record, whether from AVISMA’s own books and records value or from the market values submitted by the petitioner. *See First Remand* at 13-14. This analysis supports our finding in the *First Remand* that our method for valuing chlorine gas in the *Final Results* comports more closely with the economic reality in which AVISMA operates. In other words, to imply that the value of chlorine gas we derive by taking into account AVISMA’s entire operations accurately reflects the benefit AVISMA obtains from it cannot be justified economically, given the market price of chlorine.

While we respectfully disagree with the Court, we have nonetheless complied with the Remand Order by focusing solely on the fact that chlorine gas is a catalyst in titanium production. In doing so, we have 1) disregarded the split-off point where chlorine gas and raw magnesium become separately identifiable, 2) omitted the market prices for liquid chlorine that are available on the record, and 3) ignored the fact that AVISMA disposed of chlorine gas during the cost-calculation period. Instead, in order to comply with the Court's instructions, we have co-mingled certain titanium cost centers with magnesium and chlorine production costs and have allocated this amalgamation using the relative market values of titanium products, magnesium metal products, and other miscellaneous products.

As we stated in the *First Remand*, there is a significant error in the net NRV calculations performed by AVISMA upon which Dr. Foster relied in the analysis of record information. *See First Remand* at 20. The total direct costs and the total factory overhead costs of raw magnesium and chlorine gas in finished products per AVISMA's books (as indicated in column "D" and "F" of the NRV calculation) are [] rubles (RUR) and RUR [], respectively (also referred to in the NRV worksheet as the "pre-split-off" values). *See Foster Affidavit* at Attachment 1.B. AVISMA deducts the RUR [] and RUR [] from the factory-wide total direct costs and factory overhead costs in columns "C" and "E" to calculate the post-split-off costs in column "G." Next, AVISMA deducts the post-split-off costs in column "G" from the end values in column "H" to calculate the NRVs in column "I." *Id.* Instead of allocating the total direct costs of raw magnesium and chlorine gas in finished products of RUR [], AVISMA only allocates RUR [] as indicated in column "J" of the NRV calculation worksheet. *Id.* As such, AVISMA under-allocated its costs by RUR []. No party commented on this issue in the *First Remand* proceeding.

After correcting for this error, we have calculated the value of raw magnesium and chlorine gas at the OPU-2 (“OPU” is AVISMA’s abbreviation for the operating unit) split-off point using AVISMA’s method as advocated in the Foster Affidavit. We distributed the under-allocated cost of RUR [] to titanium, magnesium, and other products in proportion to their NRVs (Attachment 1). As a result, the values of raw magnesium and chlorine gas are RUR [] and RUR [] per metric ton, respectively (Attachment 2). We calculated the costs of the pure magnesium and magnesium metal (*i.e.*, the subject merchandise) by adding the post-split-off costs incurred by AVISMA to convert raw magnesium into magnesium metal to the raw magnesium value of RUR [] (Attachment 3).

Comments from Interested Parties

Comment 1: Cost Database

AVISMA argues that in an attempt to correct an “alleged error” the Department has used the wrong cost database in its draft remand results. Specifically, AVISMA contends, the database upon which the Department relied in its draft remand results contained an error and that a database without this error is on the record. While agreeing with the Department that the NRV worksheet included in the Foster Affidavit contained an error, AVISMA believes that the cost database it submitted on April 17, 2008, identified as “COP-1.1” corrects this error and the Department should use this database in completing the remand results. AVISMA claims that database COP-1.1 is essentially the same as the one on which Dr. Foster commented, except that it accounts for the sales values of finished goods not produced in 2002 based on a ratio of period of review (POR) sales values. In its comments, AVISMA refers to the second of two cost databases submitted on April 17, 2008, identified as “COP-1.2,” in which AVISMA corrected the calculation of the pre-split-off costs, and acknowledges that “{o}ne of the unintended

consequences of that correction was the significant difference identified by the Department in its First and Draft Second Redeterminations, i.e., the difference between the total direct costs of raw magnesium and chlorine gas in finished products per AVISMA's books (i.e., column D of the {NRV} worksheet), and the total amount of joint direct costs being allocated back to the products (i.e., column J)." See October 25, 2010, comments from AVISMA at 5. AVISMA also acknowledges that the error is present in the NRV worksheets in both the Foster Affidavit and in its April 17, 2008, submission to the Department. Although AVISMA agrees with the Department's premise that these amounts should be the same, (i.e., columns D and J), it contends that, rather than determining which of the two values was correct, in its draft remand results the Department simply assumed that the larger of the two amounts (i.e., RUR []) represents the correct amount of joint costs. AVISMA argues instead that it was the larger amount that was in error on its NRV worksheets.

AVISMA states that, prior to the April 17, 2008, corrections, the difference between the total joint direct costs from AVISMA's books and the total joint direct costs it was allocating back to the products, i.e., the column D and the column J amounts on the NRV worksheet, were negligible and were the result of inventory timing differences. Consequently, AVISMA states, it has submitted a version of the NRV worksheet where, it contends, the problem the Department identified is negligible and supports the costs AVISMA reported in the COP-1.1 cost database. Additionally, AVISMA states, in order to comply with the Department's expressed preference for calculating a single per-unit joint cost for all magnesium products, AVISMA has modified cost database COP-1.1 to reflect a single joint-cost allocation rather than the previously reported product-specific cost allocations. AVISMA refers to this new database as COP-1.1R in its comments.

Department's Position

We find that our use of the COP-1.2 database in our calculations for the draft remand results was correct. Central to AVISMA's argument is that in the calculations for the draft remand results we unnecessarily corrected the total pre-split-off costs AVISMA reported in the NRV worksheet attached to the Foster Affidavit. First, the parties are in agreement that there is an error in the NRV worksheet attached to the Foster Affidavit.² Specifically, the NRV worksheet identifies RUR [] (column D) in pre-split-off direct costs but only allocates RUR [] (column J) in pre-split-off direct costs back to all products. Because all of the pre-split-off direct costs must be allocated, the issue before the Department is which of the two pre-split-off direct cost values is the correct figure.

For clarity, we provide an overview of the relevant cost databases that AVISMA submitted over the course of the review. In its April 7, 2008, second supplemental cost response (April 7 cost SQR), AVISMA submitted three separate cost databases:

- 1) "COP-1" reflects a company-wide co-product methodology whereby the titanium and magnesium NRVs are based on 2002 sales values;
- 2) "COP-2" reflects an OPU-2 split-off point co-product methodology whereby the NRVs for the magnesium and chlorine gas products that emerge from OPU-2 are based on 2002 sales values and the joint costs assigned to magnesium are allocated to raw magnesium production over production quantities (*i.e.*, single joint cost);
- 3) "COP-3" also reflects an OPU-2 co-product methodology whereby the magnesium and chlorine gas NRVs are based on 2002 sales values, but the total joint costs assigned to magnesium are allocated to the different magnesium finished products based on each

² The same error appears in the revised NRV worksheet that AVISMA submitted in the April 17, 2008, submission at Exhibit 3.

finished product's respective NRV.

See April 7 section D response at Exhibit 2SD-3.

On April 17, 2008, AVISMA voluntarily submitted two corrections to its April 7 cost SQR. According to AVISMA at the time, “[t]he first error relates to the calculation of pre-split-off costs (and, hence, post-split-off costs, as well) for titanium products. Specifically, when calculating pre-split-off value in the cost of semi-finished titanium sponge, . . . the company mistakenly treated the MgCl₂ by-product offset as part of the pre-split-off values.” See AVISMA’s April 17, 2008, submission at 2. “The second error relates to the determination of the appropriate sales values to assign to the magnesium metal products that were produced during the period of review (POR) but were not sold in 2002.” *Id.* AVISMA changed the valuation of these products from an average of 2002 prices to reflect each product’s 2002 value based on the product’s POR value relative to the POR value of the main magnesium product, Mg-90.

As a result, AVISMA submitted the following databases on April 17, 2008:

- 1) “COP-1” reflects no changes, *i.e.*, the database as originally filed on April 7, 2008;
- 2) “COP-1.1” reflects only the second change, *i.e.*, the database reflects revised NRVs for products not produced in 2002;
- 3) “COP-1.2” reflects both the correction of pre-split-off costs and the revised NRVs for products not produced in 2002;
- 4) “COP-2” reflects no changes in costs but it corrects for a presentation error by eliminating two unnecessary columns;
- 5) “COP-3” reflects only the second change, *i.e.*, the database reflects revised NRVs for products not produced in 2002.

See April 17 submission at Exhibit 1. See, also, October 25, 2010, comments from AVISMA at 3 (confirming that “COP-1.1 included only corrections of the second error (*i.e.*, valuation of the magnesium products not produced in 2002)” and that “COP-1.2 included both corrections”).

In the *Final Results*, we relied on COP-2 (magnesium and chlorine co-product allocation), which we had adjusted to reflect AVISMA’s April 17, 2008, revisions to the NRVs for products not sold in 2002. Because the April 17, 2008, pre-split-off cost correction AVISMA submitted was related to titanium and the company-wide allocation methodology only, it did not affect the Department’s calculations in the *Final Results*. Finally, the company-wide allocation methodology AVISMA employed in the NRV worksheet it submitted with the Foster Affidavit is the methodology that it reported in the COP-1, COP-1.1, and COP-1.2 cost databases. Consequently, these are the databases, *i.e.*, COP-1, COP-1.1, and COP-1.2, that are currently at issue.

As discussed above, on April 17, 2008, AVISMA voluntarily submitted two corrections to its reported cost databases. The first correction revised the pre- and post-split-off costs for titanium and was addressed in database COP-1.2; the second correction revised the valuation of products not produced in 2002 and was addressed in both database COP-1.1 and database COP-1.2 (*see* April 17 submission at 2-3 and Exhibit 1).

To support its contention that RUR [] is the “correct” pre-split-off cost figure to be allocated to products and that we should use the COP-1.1 database in our remand recalculations, AVISMA submitted a new version of the NRV worksheet. After a review of the record, we find that AVISMA’s new version of the NRV worksheet reflects the total pre-split-off direct costs it reported for titanium products in the April 7, 2008, submission, *i.e.*, prior to its April 17, 2008, revisions (*see* April 7 cost SQR at Exhibit 2SD-6 (in which the sum of the POR

pre-split-off direct costs for titanium products is RUR [] and October 25, 2010 comments from AVISMA at Attachment 2 (which is the new version of the NRV worksheet AVISMA submitted in the remand proceeding in which the sum of the POR pre-split-off direct costs for titanium products is also RUR [] and the total for all products is RUR []). In its April 17, 2008, submission, however, AVISMA informed the Department that the RUR [] pre-split-off direct costs for titanium products and the RUR [] total for all products which it reported in the April 7 cost SQR were *wrong*. See April 17 submission at 2 (stating that the “first error relates to the calculation of pre-split-off costs (and, hence, post-split-off costs, as well) for titanium products” and then stating that the error “understated the pre-split-off values and overstated the post-split-off costs in the net realizable value calculations” that were submitted in the April 7 cost SQR) and October 25, 2010, comments from AVISMA at 3. Therefore, in the April 17, 2008, submission, AVISMA presented cost-accounting reports and revised calculation worksheets showing the correct pre-split-off figure to be RUR [] for titanium products and RUR [] for all products. See April 17 submission at Exhibits 2 and 3.

As confirmed by AVISMA, the COP-1.1 database only reflects the change in the valuation of products not produced in 2002. As a result, by promoting the use of database COP-1.1 and providing a new version of the NRV worksheet to support this database, AVISMA now advocates using the pre-split-off titanium figure which it stated in its April 17, 2008, submission was incorrect. Essentially, AVISMA seeks to disown the first of its April 17, 2008, corrections (*i.e.*, the correction to its pre- and post-split-off costs for titanium products) in the context of this remand proceeding. AVISMA’s only attempt to justify its change of position in the remand proceeding is to state that the error we identified does not appear in the COP-1.1 database and to

claim that it is not unusual to have “always some inventory difference between production and consumption of intermediary products.” As acknowledged by AVISMA, however, the COP-1.1 database did not reflect its April 17, 2008, correction to the pre-split-off direct costs. Thus, while AVISMA now advocates abandoning the April 17, 2008, correction to the pre-split-off direct costs, AVISMA provides no support for this course of action other than indicating a preference for the lower figure.

Therefore, based upon the record evidence, we continue to find that the appropriate total of pre-split-off direct costs for use in the remand recalculations is the RUR [] as AVISMA reported in COP-1.2 as part of its April 17 submission. This figure of RUR [] matches the total pre-split-off direct costs column (column D) AVISMA reported in the NRV worksheet it submitted with the Foster Affidavit and with the total adjusted pre-split-off amount that we allocated to all co-products in the draft remand results.

Comment 2: Value for Chlorine Gas

US Magnesium agrees that the Department’s recalculation of AVISMA’s dumping margin is in accordance with the Court’s instructions in the Remand Order. US Magnesium agrees with the Department’s correction of the error, necessary to allocate the total enterprise-wide costs incurred at the AVISMA’s facility across all products produced at the facility, relative to their respective NRVs.

US Magnesium argues, however, that it continues to have certain concerns regarding the Department’s calculation of the NRV for chlorine in the *Final Results*. Referring to arguments in its brief to the Court in support of its motion for judgment on the agency record, dated March 19, 2009, US Magnesium argues that 1) the Department’s replacement-cost methodology to value chlorine in the *Final Results* was contrary to law and unsupported by record evidence, 2)

the Department's use of two different methods to allocate common production costs (the NRV method to value raw magnesium and the replacement-cost method to value chlorine) is improper, 3) the Department improperly refused to rely upon the chlorine gas value obtained from AVISMA's books and records or the 2002 gas value used in the original investigation while implementing erroneously certain adjustments for evaporation, transportation, and the loss-conversion factor to the starting value of liquid chlorine.

Department's Position

US Magnesium's critique of certain aspects of our calculations in the *Final Results* is not responsive to the methodology we proposed in our draft remand results. As such, we do not find that it is appropriate to consider US Magnesium's comments in the context of these final results of redetermination. Notwithstanding that finding, we contend that our calculation of the cost of production of the subject merchandise in the *Final Results* is supported by substantial evidence and in accordance with law. Upon finding it necessary to conduct a cost-of-production analysis for AVISMA pursuant to section 773(f)(1)(A) of the Act, we determined, based on record evidence, that it was reasonable to treat market-quality magnesium and chlorine as co-products and to allocate joint costs incurred up to the point at which both become separately identifiable products using the NRV methodology to value raw magnesium and the replacement-cost methodology to value chlorine gas. *See Final Results* and accompanying I&D Memo at 2-16. Moreover, our valuation of chlorine, which focused on the benefit AVISMA derived from chlorine production, is also supported by substantial evidence and in accordance with law as explained in the *Final Results*. *See* I&D Memo at 18-22. Contrary to US Magnesium's contentions otherwise, the cost-allocation methodology upon which the Department relied in the *Final Results* is supported by substantial record evidence, is consistent with accounting

principles, and comports with the Department's statutory discretion and past practice.

Comment 3: Conflict of Court's Statements with the Record

US Magnesium argues that the Court's depiction of the AVISMA facility's industrial process, used by the Court to demonstrate the integrated nature of AVISMA's operations, is not consistent with, and results in a significant oversimplification of, the record evidence.

US Magnesium challenges the Court's conclusion that magnesium is "subservient" to titanium production based on the Court's emphasis on the decline in AVISMA's production of magnesium metal. US Magnesium argues that record evidence indicates that magnesium is one of AVISMA's "priority activity areas" and that the decline in magnesium output was attributed to external market conditions and difficulties associated with the supply of the primary input of production.

US Magnesium argues that AVISMA employed different methodologies in the normal course of business during the POR to value raw magnesium and chlorine. Given the absence of a single, consistent "ordinary course of business" by AVISMA during the POR, US Magnesium contends that the Department's calculation methodology cannot be rejected for not taking into account AVISMA's "ordinary course of business."

US Magnesium challenges the Court's contention that the record evidence does not support the Department's finding that taking AVISMA's entire operation into account would result in an overstatement of the value of chlorine gas. US Magnesium asserts that record evidence shows that, when taking into account AVISMA's entire operation, the profit made on titanium products becomes part of the residual value assigned to chlorine gas.

Department's Position

US Magnesium's comments are directed more toward the Remand Order rather than our draft remand results. We have already stated that we respectfully disagree with the Remand Order. As such, it would be inappropriate for us to respond to US Magnesium's specific critiques of the Remand Order.

Results of Redetermination

In accordance with the Remand Order, we have reexamined our calculation methodology to take AVISMA's entire production process into account, including the stages of production encompassing and following ilmenite catalyzation, and, based on that examination, we have recalculated the weighted-average dumping margin for AVISMA. As a result of our recalculations, the weighted-average dumping margin for the period April 1, 2006, through March 31, 2007, for magnesium metal from the Russian Federation is 8.51 percent for AVISMA.

These results of redetermination are pursuant to the order of the CIT in *PSC VSMPO - Avisma Corp. v. United States*, Consol. Court No. 08-00321, Slip Op. 10-93 (CIT August 17, 2010).

/Ronald K. Lorentzen/

Ronald K. Lorentzen
Deputy Assistant Secretary
for Import Administration

November 22, 2010

Date

Step One:
 Below is the SUMMARY OF "END-VALUE" AND "NET REALIZABLE VALUE ANALYSIS, AND JOINT COST ALLOCATION"
 submitted in ATTACHMENT 1B OF DR. FOSER's AFFIDAVIT of June 9, 2008

Наименование продукции Product Description	POR Production								M	N
	Qty.	Direct costs per company records	Less value of Raw Magnesium and Chlorine in Finished Products per AVISMA's books	Factory overhead per AVISMA's books	Less Overhead of Raw Magnesium and Chlorine in Overhead of Finished Products per AVISMA's books	Post-split-off costs	Production at 2002 sales prices (End Value)	Net Realizable Value (€0)		
A	B	C	D	E	F	G=C-D+E-F	H	I=H-G	J=M/O*1	K=N/O*1
Total Titanium Products										
Total Magnesium Products										
Total Other Products										
Gross Total										

Step Two:
 Identifying and quantifying the error in the above "SUMMARY OF "END-VALUE" AND "NET REALIZABLE VALUE ANALYSIS, AND JOINT COST ALLOCATION"

Item	Column	Total Amount	Titanium	Magnesium	Other Products	Formula	Reference
Direct costs per company records	C					a	
Factory overhead per AVISMA's books	E					b	
Total Cost Per Normal Books						c = a + b	
Post-split-off costs	G					d	
Allocation of joint direct costs	J					e	
Allocation of joint OH costs	K					f	
Total Cost Allocated						g = d + e + f	
Unallocated Costs (i.e., the error amount)						h = c - g	
Step Three: Distributing the unallocated costs to the products in proportion to the relative net realizable values							
Net Realizable Value	I					i	
Net Realizable Value ("NRV") Percentages						j	NRV of the respective products divided by the total NRV h multiplied by the NRV of the respective products
Distribute the Unallocated Costs						k	
Total Cost After Correcting for the Error						l = g + k	
Step Four: Calculating the joint costs of magnesium at the OPU-2 split-off point							
Total Cost After Correcting for the Error						m = g + k	
Post-split-off costs						n	From above (i.e., d) To Attachment 2
Allocated Joint Costs						o = m - n	
Allocation of joint direct costs						Column J + k	To Attachment 2
Allocation of joint OH costs						Column K	To Attachment 2
Total Joint Costs							

Formula RuR Reference

Raw Magbesium and Chlorine Gas Valuation per Dr. Foster's Method

Step 1: Costs Allocated to Market Quality Raw Magnesium Produced at OPU-2

Allocation of Joint Direct Costs	a		Attachment 1
Allocation of Joint Overhead Costs	b		Attachment 1
Total Allocation of Joint Costs	$c = a + b$		
Market Quality Raw Magnesium Input in Magnesium Metal in Metric Tons	d		Exhibit 1.A of the June 9, 2008 Affidavit
Cost of Market Quality Raw Magnesium per Metric Ton	$e = c / d$		To Attachment 3
Total Production of Market Quality Raw Magnesium Produced at OPU-2 in Metric Tons	f		Exhibit 1.A of the June 9, 2008 Affidavit
Total Joint Cost Allocated to Market Quality Raw Magnesium Produced at OPU-2	g		

Step 2: Costs Allocated to Chlorine Gas Produced at OPU-2

OPU-2 Direct Joint Costs	h		Attachment 1 of the April 29, 2008 Preliminary Cost Calculation Memo
OPU-2 Overhead Joint Costs	i		Attachment 1 of the April 29, 2008 Preliminary Cost Calculation Memo
OPU-2 Total Joint Cost	$j = h + i$		Attachment 2 of the September 2, 2008 Final Cost Calculation Memo
Total Joint Cost Allocated to Market Quality Raw Magnesium Produced at OPU-2	k		From Above
Total Joint Cost Allocated to Chlorine Gas Produced at OPU-2	$l = j - k$		

Step 3: Calculating Cost per Metric Ton of Chlorine Gas Produced at OPU-2

OPU-2 Chlorine Gas used in Titanium Production in Metric Tons	m		Exhibit 1.A of the June 9, 2008 Affidavit
OPU-2 Chlorine Gas used in Calcium Chloride Production in Metric Tons	n		Exhibit 1.A of the June 9, 2008 Affidavit
OPU-2 Chlorine Gas used in Dehydrated Carnalite Production for Resale in Metric Tons	o		Attachment 2 of the September 2, 2008 Final Cost Calculation Memo
Total OPU-2 Chlorine Gas Production net of Recycled Quantity in Metric Tons	$p = m + n + o$		
Total Joint Cost Allocated to Chlorine Gas Produced at OPU-2	q		From Above
Cost of OPU-2 Chlorine Gas per Metric Ton	$r = q / p$		

"CO-PRODUCT" COST CALCULATIONS BASED ON 2002 SALES VALUES (with POR ratio for non-produced 2002 values) FOR
 RAW MG AND 2002 REPLACEMENT VALUE FOR CHLORINE - SINGLE JOINT COSTS RATE VERSION
 COP-2
 Based on Exhibit ZSD-3, page 2; see Attachment 2 for OPU-2 Joint costs; figures that have changed are bolded.

CONNUM	Descr.	PRODQTY	DIRMAT	DIRLAB	VOH	PELE	GAS	GROSVCOM
0101050301	Refined magnesium (Mg-95)							
0103060301	Magnesium cylinders							
0213030601	T-bars							
0213050301	Refined magnesium (Mg-90)							
0213060101	Magnesium chocolate bars							
0350050301	Magnesium alloys MA8ЛЧ and MA8Ц6Ч							
0352050201	Sacrificial anodes for gas industry, packed							
0353060304	Marine protectors							
0354060301	Magnesium protectors PRM-20							
0355060301	Protectors PM-15-80, 2,7 of MP - 1							
0422050301	Magnesium alloy AM50A							
0427050301	Magnesium Alloy AZ-91D							
0457050301	Magnesium alloy AS 31 HP							
0559050102	Magnesium briquettes (Compressed shavings)							
0460050301	Magnesium alloy AMZ30Hp							
0424050301	Magnesium alloy AM60B							
0213050201	Refined magnesium (Mg-90) - 17Lb							

CONNUM	Descr.	PRODQTY	GROSVCOM	Less pre-split-off value in post-split-off costs	Less pre-split-off OH (i.e., OPU-1,2,3) in total OH	Post-split-off VCOM	FOH	Post-split-off TCOM
0101050301	Refined magnesium (Mg-95)							
0103060301	Magnesium cylinders							
0213030601	T-bars							
0213050301	Refined magnesium (Mg-90)							
0213060101	Magnesium chocolate bars							
0350050301	Magnesium alloys MA8ЛЧ and MA8Ц6Ч							
0352050201	Sacrificial anodes for gas industry, packed							
0353060304	Marine protectors							
0354060301	Magnesium protectors PRM-20							
0355060301	Protectors PM-15-80, 2,7 of MP - 1							
0422050301	Magnesium alloy AM50A							
0427050301	Magnesium Alloy AZ-91D							
0457050301	Magnesium alloy AS 31 HP							
0559050102	Magnesium briquettes (Compressed shavings)							
0460050301	Magnesium alloy AMZ30Hp							
0424050301	Magnesium alloy AM60B							
0213050201	Refined magnesium (Mg-90) - 17Lb							

CONNUM	Descr.	PRODQTY	Post-split-off VCOM	OPU-2 Joint Costs from Attachment 2	FOH	TCOM
0101050301	Refined magnesium (Mg-95)					
0103060301	Magnesium cylinders					
0213030601	T-bars					
0213050301	Refined magnesium (Mg-90)					
0213060101	Magnesium chocolate bars					
0350050301	Magnesium alloys MA8ЛЧ and MA8Ц6Ч					
0352050201	Sacrificial anodes for gas industry, packed					
0353060304	Marine protectors					
0354060301	Magnesium protectors PRM-20					
0355060301	Protectors PM-15-80, 2,7 of MP - 1					
0422050301	Magnesium alloy AM50A					
0427050301	Magnesium Alloy AZ-91D					
0457050301	Magnesium alloy AS 31 HP					
0559050102	Magnesium briquettes (Compressed shavings)					
0460050301	Magnesium alloy AMZ30Hp					
0424050301	Magnesium alloy AM60B					
0213050201	Refined magnesium (Mg-90) - 17Lb					