TO: J. C. Clarke, Contract Coordinator

FROM: Texan Hunter, Production Division

SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO MARSHALL CONTRACT NO. M-7405-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

DATE: October 6, 1949

A meeting was held in NHC between representatives of Marshall and the AEC to negotiate the prices for producing F3-13 (brown oxide), ML-7 (green salt and RT-13 (hexafluoride) for the second quarter of fiscal 1950, (October, November, December 1949). The following attended the meeting:

Marshall

W. D. Stillwell
G. W. Pernecius

AEC

J. P. Morgan
E. M. Velten
S. H. Sullivan (part time)
Z. B. Sargent
C. Helberg
DeK Hunter

The negotiations were held in order to set the unit prices for the ensuing quarter. Production rates upon which these prices were to be based are as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Production Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3-13</td>
<td>100,000 Pounds Per Month</td>
</tr>
<tr>
<td>ML-7</td>
<td>5,500 &quot; &quot; Day</td>
</tr>
<tr>
<td>RT-12</td>
<td>6,500 &quot; &quot; &quot;</td>
</tr>
</tbody>
</table>

The unit prices as finally agreed upon are as follows:

FB-13 (Brown Oxide) .55 per pound
ML-7 (Green Salt) .25 " " "
RT-12 (Hexafluoride) .45 " " "

It is requested that a supplemental agreement to the contract be prepared covering the above stated unit prices and approximate production rates for the period of October, November and December 1949.

The first item discussed was the distributed overhead. Since this distributed overhead is apportioned between the three products on a standard proration system, the total for the plant was discussed as a whole. This avoided a separate discussion on the same items for each of the three products.
Office Memorandum • UNITED STATES GOVERNMENT

TO: J. C. Clarke
FROM: Deloven Hunter
SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSHAW CONTRACT NO. W-7405-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

DATE: October 6, 1949

REFER TO SYMBOL: FU:DeKH

1. Administrative General and Operating General

Since there is still some transferring of accounts between these two categories, these were discussed together. The only charge not considered allowable was a charge of $1500 for a loss incurred in separately reimbursed construction items. Since this construction job was done on a lump sum basis and Harshaw had failed to estimate properly, the loss was directly chargeable to Harshaw and not to costs under the Government operation. The final amount was therefore reduced $1500. Otherwise the projected costs were reasonable.

The charge for engineering was increased because of the addition of one new man in July and two in September. The projected cost was accepted based on past experience cost plus the addition of new men. The projected cost for maintenance showed a slight increase which was accounted for by the addition of a new man to the force. Laboratory costs showed an increase accounted for by the addition of six men which were required due to our requests for additional analytical control of their products. The cost was considered reasonable in light of past experience. Health charges were slightly increased due to the fact that a medical doctor has been retained by Harshaw on a monthly fee basis for consultant service. Housekeeping and safety charges covered the addition of one man and included the cost of gas for laundry and hot water for showers. Security and stores and records were O.K. as they followed past experience very closely.

Thus the final result on the total distributed overhead was a reduction of $1500 taken from the operating general charges. Based on accepted distribution, the charge to RT-12 was $250 per month less than projected, $165 per month less on PB-13 and $35 per month less on green.
2. Green Salt was the next product considered.

a. The direct overhead charges applied to green salt were the next item discussed. The greatest portion of repair, labor and materials is due to the reactor furnace repairs. Based on past experience as shown on actual cost records and knowledge of the general repairs that will be required, the projected cost was satisfactory. The charges to factory supplies consists for the greater part of nitrogen costs. The projected cost agreed well with average experience costs and was the best estimate that could be made of continuing purchases. However, Harshaw will determine whether they can reasonably substitute CO\textsubscript{2} for nitrogen since the cost of CO\textsubscript{2} would be much less. Gas, electricity and water is based on metered flows. There is a slight increase over the past quarter to allow for operation of the unit heaters, winter lights and so forth. The rest of the charges under direct overhead were very nearly averages of past experience costs and were considered reasonable.

b. The projected labor charges on green salt compared favorably with past experience costs and showed negligible change.

c. Material charges on green salt were discussed at length. As a result of a number of circumstances, it has been found that the AHF consumption must be increased in order to obtain consistently satisfactory green salt without the necessity of rerunning a substantial percent of the material. The experienced costs for July and August were much higher than normal due to this increased flow which in turn sent more material to the HF recovery system. Because of the hot weather, the water used in this system was not cool enough to give good recovery, thus lowering the credit received for returned aqueous HF. With the arrival of cooler weather with the accompanying cooler water, recovery should show improvement and the experienced costs of July and August would not be used as a criterion. Therefore, the projected costs were
recalculated based on an increased AHF feed of 10% but with a greater portion of the excess HF being recovered. These calculations indicated an average cost of $11,000 per month and this figure was agreed upon and substituted for the projected cost of $13,000 per month. Based on above changes in projected costs which were agreed upon between AE8 representatives and the contractors an actual cost of $.1335 per pound of HX-7 produced was obtained.

3. Projected costs for RT-12 (hexafluoride) were then discussed at length.

a. The repair, labor and projected was not questioned since it compared favorably with average past experience.

b. Repair materials were finally approved after a discussion of the component parts making up these charges. Harshaw feels that it will be necessary to take down and repair at least one fluorine cell per week in order to keep them in efficient operating condition. This will result in each cell being completely overhauled approximately once a year. When a cell is overhauled, a new charge of electrolyte is usually necessary since certain components of the electrolyte precipitate out of solution as the material cools, and heating will not bring them back into solution again. Such an electrolyte charge costs approximately $460 to renew. A total of approximately $600 per month is spent for Teflon gaskets and the labor involved in each change and repair is considerable as there are 100 gaskets used per cell. Considering the extremely corrosive properties of fluorine gas, these charges are not unreasonable.

c. Gas, electricity and water are metered, and allowances were made for increases in the winter weather and also include recent rate increases in electrical charges by the utility company.
TO: J. C. Clarke
FROM: Dukovac Hunter
SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSHAW CONTRACT NO. W-7A05-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

DATE: October 6, 1949

The remainder of the items under direct overhead were merely projections based on average experienced costs in the past and were reasonable.

The projected labor costs were based on the staff in the plant as of the month of August which will be their standard operating crew. The projected costs were therefore satisfactory.

The projected material costs were much higher than past experience and were immediately questioned. As a result of this questioning the Harshaw representatives called their chief auditor in Cleveland and found that one of their past actual cost figures used in their projection was in error. Thus a correct figure of \$0.065 per pound of FT-12 was used for the projection. This figure was in agreement with that calculated by the AEC representatives. Multiplying this unit cost by an estimated production rate of 195,000 pounds per month, a monthly material cost of \$12,600 was obtained. This figure was then used in place of the projected figure of \$14,050.

The adjustment agreed upon were taken into consideration and the unit cost recalculated to \$0.0491 per pound.

The estimated costs for FT-13 (brown oxide) were based entirely on the average costs as experienced. The only increase of consequence was one of about 10% in steam and heating to take care of the colder weather anticipated. As a result of the slight change in distributed overhead as discussed previously, the actual cost for brown was calculated to be \$1.2960 per pound.

Based on the Harshaw mark-up of 27\%, the actual costs as stated previously resulted in selling prices of \$0.545 per pound, \$0.253 per pound and \$0.231 per pound for brown, green and hexafluoride respectively. The final prices agreed upon rounded off these.
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Office Memorandum • UNITED STATES GOVERNMENT

TO: J. C. Clarke

FROM: Dekoven Hunter

DATE: October 6, 1949

SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSCHAW CONTRACT NO. 1-7405-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

ATTACHMENT:

figures to the following:

1. FS-13 (Brown Oxide) $0.55 per pound
2. XL-7 (Green Salt) $0.25 per pound
3. RT-12 (hexafluoride) $0.13 per pound

Attached is a letter from the Harshaw Chemical Company setting forth their projected costs for the period under discussion. This letter is to be considered a part of this record of negotiations.

Attachment:

Ltr from Harshaw Chemical Co.
TO: J. C. Clarke, Contract Coordinator
FROM: McKeen Hunter, Production Division
DATE: October 6, 1949

SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO BARSHAW CONTRACT NO. D-7605-ENG-276 FOR PRODUCTION OF MATERAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

TO: DOE/DPQ

A meeting was held in NYCO between representatives of Barshaw and the ACS to negotiate the prices for producing FE-12 (green oxide), HL-7 (green salt) and NT-12 (hexafluoride) for the second quarter of fiscal 1950 (October, November, December 1949). The following attended the meeting:

Barshaw

S. D. Stillwell
S. H. Ferneley

ACS

J. R. Morgan
E. H. Vallen
E. G. Carpent
R. Hiltby
D. J. Hunter

The negotiations were held in order to set the unit prices for the ensuing quarter. Production rates upon which these prices were to be based were as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE-12</td>
<td>100,000 Pounds Per Month</td>
</tr>
<tr>
<td>HL-7</td>
<td>$5,500</td>
</tr>
<tr>
<td>NT-12</td>
<td>$6,000</td>
</tr>
</tbody>
</table>

The unit prices as finally agreed upon are as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>FE-12 (Green Oxide)</td>
<td>.55 per pound</td>
</tr>
<tr>
<td>HL-7 (Green Salt)</td>
<td>.55</td>
</tr>
<tr>
<td>NT-12 (Hexafluoride)</td>
<td>.45</td>
</tr>
</tbody>
</table>

It is requested that a supplemental agreement to the contract be prepared covering the above stated unit prices and approximate production rates for the period of October, November and December 1949.

The first item discussed was the distributed overhead. Since this distributed overhead is apportioned between the three products on a standard proration system, the total for the plant was discussed as a whole. This avoided a separate discussion on the same items for each of the three products.

CAUTION

This document contains information affecting the national security of the United States. Its transmission or disclosure of its contents to any person other than an authorized person is prohibited and may result in severe criminal penalties under applicable Federal laws.
Office Memorandum

TO: J. C. Clarke
FROM: DeKoven Hunter
SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSHAW CONTRACT NO. U-7405-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

DATE: October 6, 1949

REFER TO: FD:DeHI

SYMBOL: FD:DeHI

1. Administrative General and Operating General

Since there is still some transferring of accounts between these two categories, these were discussed together. The only charge not considered allowable was a charge of $1500 for a loss incurred in separately reimbursed construction items. Since this construction job was done on a lump sum basis and Harshaw had failed to estimate properly, the loss was directly chargeable to Harshaw and not to costs under the Government operation. The final amount was therefore reduced $1500. Otherwise the projected costs were reasonable.

The charge for engineering was increased because of the addition of one new man in July and two in September. The projected cost was accepted based on past experience cost plus the addition of new men. The projected cost for maintenance showed a slight increase which was accounted for by the addition of a new man to the force. Laboratory costs showed an increase accounted for by the addition of six men which were required due to our requests for additional analytical control of their products. The cost was considered reasonable in light of past experience. Health charges were slightly increased due to the fact that a medical doctor has been retained by Harshaw on a monthly fee basis for consultant service. Housekeeping and safety charges covered the addition of one man and included the cost of gas for laundry and hot water for showers. Security and stores and records were O.K. as they followed past experience very closely.

Thus the final result on the total distributed overhead was a reduction of $1500 taken from the operating general charges. Based on accepted distribution, the charge to HT-12 was $250 per month less than projected, $165 per month less on PB-13 and $35 per month less on green.
2. Green Salt was the next product considered.
   a. The direct overhead charges applied to green salt were the
      next items discussed. The greatest portion of repair,
      labor and materials is due to the reactor furnace repairs.
      Based on past experience as shown on actual cost records
      and knowledge of the general repairs that will be required,
      the projected cost was satisfactory. The charges to
      factory supplies consists for the greater part of nitrogen
      costs. The projected cost agreed well with average ex-
      perience costs and was the best estimate that could be made
      of continuing purchases. However, Harshaw will determine
      whether they can reasonably substitute CO₃ for nitrogen since
      the cost of CO₃ would be much less. Gas, electricity and
      water is based on metered flows. There is a slight increase
      over the past quarter to allow for operation of the unit
      heaters, winter lights and so forth. The rest of the charges
      under direct overhead were very nearly averages of past
      experience costs and were considered reasonable.

   b. The projected labor charges on green salt compared favorably
      with past experience costs and showed negligible change.

   c. Material charges on green salt were discussed at length. As
      a result of a number of circumstances, it has been found that
      the AHT consumption must be increased in order to obtain
      consistently satisfactory green salt without the necessity of
      rerunning a substantial percent of the material. The
      experienced costs for July and August were much higher than
      normal due to this increased flow which in turn sent more
      material to the HF recovery system. Because of the hot
      weather, the water used in this sytem was not cool enough to
      give good recovery, thus lowering the credit received for
      returned aqueous HF. With the arrival of cooler weather with
      the accompanying cooler water, recovery should show improve-
      ment and the experienced costs of July and August could not
      be used as a criterion. Therefore, the projected costs were
recalculated based on an increased AHF feed of 105 but with a greater portion of the excess IF being recovered. These calculations indicated an average cost of $11,000 per month and this figure was agreed upon and substituted for the projected cost of $13,000 per month. Based on above changes in projected costs which were agreed upon between AEC representatives and the contractors an actual cost of $11,835 per pound of IL-7 produced was obtained.

3. Projected costs for RT-12 (hexafluoride) were then discussed at length.

a. The repair, labor and projected was not questioned since it compared favorably with average past experience.

b. Repair materials were finally approved after a discussion of the component parts making up these charges. Harshaw feels that it will be necessary to take down and repair at least one fluorine cell per week in order to keep them in efficient operating condition. This will result in each cell being completely overhauled approximately once a year. When a cell is overhauled, a new charge of electrolyte is usually necessary since certain components of the electrolyte precipitate out of solution as the material cools, and heating will not bring them back into solution again. Such an electrolyte charge costs approximately $600 to renew. A total of approximately $600 per month is spent for Teflon gaskets and the labor involved in each change and repair is considerable as there are 100 gaskets used per cell. Considering the extremely corrosive properties of fluorine gas, these charges are not unreasonable.

c. Gas, electricity and water are metered, and allowances were made for increases in the winter weather and also include recent rate increases in electrical charges by the utility company.
TO: J. C. Clarke
FROM: DeKoven Hunter
SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSCHAW CONTRACT NO. V-7/05-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

4. The estimated costs for F5-13 (brown oxide) were based entirely on the average costs as experienced. The only increase of consequence was one of about 10% in steam and heating to take care of the colder weather anticipated. As a result of the slight change in distributed overhead as discussed previously, the actual cost for brown was calculated to be $.7960 per pound.

Based on the Harshaw work-up of 2745 the actual costs as stated previously resulted in selling prices of $.545 per pound, $.352 per pound and $.431 per pound for brown, green and hexafluoride respectively. The final prices agreed upon rounded off these
TO: J. C. Clarke  
FROM: DeKoven Hunter  
DATE: October 6, 1949

SUBJECT: REQUEST FOR SUPPLEMENTAL AGREEMENT TO HARSHAW CONTRACT NO. W-7405-ENG-276 FOR PRODUCTION OF MATERIAL IN OCTOBER, NOVEMBER AND DECEMBER 1949

REFER TO:
SYMBOL: PV-DonIII

Figures to the following:

1. FB-13 (Brown Oxide) $3.75 per pound
2. ML-7 (Green Salt) 75 per pound
3. ML-12 (HexaFluoride) .75 per pound

Attached is a letter from the Harshaw Chemical Company setting forth their projected costs for the period under discussion. This letter is to be considered a part of this record of negotiations.

Attachment:
Letter from Harshaw Chemical Co.