U.S. Department of Energy
Waste Treatment & Immobilization Plant
Mr. W. F. Hamel
Assistant Manager, Federal Project Director
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

CCN: 270724

JAN 0 9 2015

Dear Mr. Hamel:

CONTRACT NO. DE-AC27-01RV14136 – PRETREATMENT FACILITY SUSPENDED PURCHASE ORDERS

Since 2012, fifty-six active purchase orders (PO) for equipment and material have been placed on suspension due to funding limitations. Ongoing suspension and escalation costs of almost $5.3 million per year have resulted in a scenario that, if left unchecked, could result in costs of over $276 million in as little as seven years.

BNI anticipated the need for a robust evaluation of the current situation tempered by reasoned case-by-case evaluation in order to provide the necessary insight to support an immediate decision by ORP-WTP. In BNI's evaluation, it has systematically collected commercial, technical, and financial data on all 56 POs, and it has produced a model for evaluating optimal decisions on a PO-by-PO basis.

BNI's recommendations for the POs are:

1. Six POs should be immediately terminated due to costs associated with keeping the original PO open, with qualitative vendor data, or with the vendor going out of business.
2. Nine POs should be terminated immediately, because the items in the PO are no longer in the current design.
3. Thirteen POs should be terminated if the continued suspension period is expected to be at least seven years, at which point new POs will be issued with the same or different vendors. Also, included in this group of POs are items that become obsolete after five years.
4. Six POs should be finished immediately under the original PO terms rather than continuing the suspension due to level of completeness and high storage costs for mostly-finished goods.
5. The remaining 22 POs should remain in suspension and be finished as planned according to the PO when the suspension period ends.

By enacting the above recommendations, ORP-WTP will save **$66 million** over seven years. It is also estimated that enacting these changes will result in immediate termination costs of $8.87 million and PO finishing costs of $4.65 million for a total of **$13.52 million**. Additionally,

if these recommendations are enacted, annual suspension costs will be approximately $1.6 million, a reduction of **$3.7 million** per year.

Understanding the need for ORP-WTP to have well-substantiated decisions based on sound reasoning, systematic estimation, and well-documented conclusions, BNI has provided a model that, when coupled with the supporting worksheets, not only provides a dynamic tool for sensitivity analysis but also provides a rigorous package of data-based decision documentation. Detailed information on each of the above recommendations can be found in the attached report.

Contact Felice Presti at (509) 371-8681 for further information related to this matter.

Sincerely,

J. M. St. Julian
Project Manager

JPS/lbc

Attachment: Pretreatment Purchase Orders on Suspension Final Report

cc:

Baker, L. W. w/o	WTP	
Champlain, G. F. w/a	ORP-WTP	
Costas, M. W. w/o	WTP	
Crawford, S. S. w/a	WTP	
Dawson, R. L. w/a	ORP-WTP	
Dowell, J. A. w/o	ORP	
Dunkirk, J. H. w/o	WTP	
Hajner, R. S. w/o	WTP	
Kacich, R. M. w/o	WTP	
Mair, K. A. w/a	ORP-WTP	
McCullough, M. G. w/o (hard copy)	WTP	MS14-3C
Norwood, J. D. w/o	WTP	
Noyes, D. L. w/o	ORP-WTP	
Oxenford, W. S. w/o	WTP	
Schuller, S. N. w/a	ORP	
Smith, K. W. w/o	ORP	
Sproat, E. F., III w/o	WTP	
St. Julian, J. M. w/o	WTP	
^ORP DNFSB OIG GAO (orpdnfsboiggao@rl.gov) w/a	ORP	
DOE Correspondence Control w/a	ORP	H6-60
PADC w/a	WTP	MS-19A

Pretreatment Purchase Orders on Suspension Final Report

Consisting of 36 pages, including coversheet

PRETREATMENT PURCHASE ORDERS ON SUSPENSION

Prepared by: John Skadorwa
1/8/2015

LEVEL 3: BECHTEL INTERNAL

PIP Tracking No.: BNI-PRC-14-000014

WTP PIP No.: N/A, **Rev** 0

ABSTRACT

Since December 2011, 56 active purchase orders for equipment and material have been placed on suspension with the existing vendors due to funding limitations. Currently, BNI is spending approximately $5.3 million per year on annual suspension costs. It was forecasted that funding may not be available for several additional years. In addition to funding limitations, there are also unresolved technical issues and a high likelihood that design changes will be required for some of the associated equipment. A process was established to evaluate the costs associated with a variety of possible decisions that could mitigate the growing costs associated with keeping this much work in suspension. Information was systematically collected, reviewed, and categorized, and this objective data was then combined with an algorithmic decision model. The model allowed for the raw data collected to be distilled into optimal recommended decisions which, if adopted as a whole, would reduce the estimated cost to complete all 56 POs from an escalated value of $277 million in seven years to $211 million during the same period. Regardless of the parameters selected, all results of the model and analysis consistently point to one fundamental truth, delaying a decision is the most costly decision that can possibly be made.

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PROJECT ACRONYM LIST

BNI	Bechtel National, Inc.
DOE	US Department of Energy
HLW	High-Level Waste (Facility)
NA	Not Applicable
PIER	Project Issue Evaluation Reporting
PO	Purchase Order
PTF	Pretreatment Facility
ORP	Office of River Protection
REA	Request for Equitable Adjustment
WTP	Hanford Tank Waste Treatment and Immobilization Plant

TEAM LISTING

The success of this PIP is a direct result of the team's individual and group efforts with their contribution of time, knowledge, and expertise.

Name	Expertise	Title
Kevin Asselin	LSS	Black Belt
Chris Binns	LSS	Master Black Belt
Brian Bowers	Procurement	Purchasing Supervisor
Kristin Harris	Procurement	PT Area Project Procurement Manager
Felice Presti	PTF	Deputy Technical Director & Design Authority
John Skadorwa	LSS, Modeling	Master Yellow Belt/Black Belt
Sean Smith	Engineering	Deputy Project Engineering Manager
Joe St. Julian	Project Management	Project Manager
Mack Stanley	Procurement	PT Area Deputy Project Procurement Manager

BACKGROUND AND SUMMARY

BACKGROUND

Since December 2011, there have been 56 procurements that have had their PTF scope suspended due to funding limitations. To date,$181 million has been spent on these orders, and, if the decision was made today to turn them all on and complete them immediately, the cost would be an additional $197 million. Suspensions of the POs have resulted in avoidance of the costs of completion; however, it has created new escalating costs which could potentially result in tremendous future costs.

Ongoing suspension and escalation costs, both internal and external, of almost $5.3 million per year has resulted in a scenario that, if left unchecked, could result in new completion costs of over $276 million in as little as seven years. The $79 million in additional costs provide no added value to the Project; and, coupled with escalation, are responsible for potential exponential cost growth of the estimate at completion of the PTF at the WTP. Considering the Project's ongoing commitment to cost efficiency to the taxpayer along with safety and quality, BNI anticipated the need for a robust evaluation of the current situation tempered by reasoned case-by-case evaluation in order to provide the necessary insight to support an immediate decision by ORP-WTP.

SUMMARY OF DATA

Prior to offering any recommendations to ORP-WTP, there was a need to collect high-quality data, both qualitative and quantitative, on the targeted POs. The assessment of the PTF scope for the 56 POs began with development of workbooks. Within each workbook, worksheets were further developed to condense all relevant information for decision making into a consistent and concise structure. The data collected were organized by the type of decision they supported and the kind of data it represented.

Each of the prepared workbooks consisted of three worksheets. Worksheet A, Release Now and Finish Current PO, focused on the costs and information necessary to accurately categorize the completion of a PO immediately with no further suspension. Worksheet B, Terminate and Re-Purchase, focused on the immediate costs of terminating a PO and the estimated costs and information necessary for restarting the PO sometime in the future. The final worksheet, Worksheet C, Annual Hotel Load for Suspension, enumerated the costs and consequences of keeping an item in a suspended status on a yearly basis. Both Worksheets A and B were designed as the primary decisions to be made with Worksheet C acting as a variable value that would change the final costs of a Worksheet A decision with regards to the number of years for which suspension was anticipated.

The types of data on each of the three worksheets collected for each PO were commercial, technical, and financial. Commercial questions focused primarily on vendor capability, financial strength, percent of work complete, and work in process. Technical questions were handled by Engineering, and they covered areas such as material type, design complexity, design changes, and impact to schedule. The financial data collected were amassed from PO current values, pending request for equitable adjustments, estimations of projected engineering need, estimates of procurement support and estimated support costs from other areas.

All of the worksheets completed contain the assumptions on which the estimations are based. This was provided not only for clarity but also to demonstrate the supporting logic for each value included. In addition to this, many of the qualitative questions were utilized as focusing questions for ensuring that no costs or risks were overlooked in the financial details.

SUMMARY OF MODEL

Once the data were collected and vetted for accuracy through several rounds of peer checking, along with cross validation, BNI began development of a predictive model that would be able to take the raw data and extrapolate the most optimal decisions. This unique service among Engineering, Procurement, and Construction providers sets BNI apart among its competitors. The model, coupled with the supporting worksheets, not only provides a dynamic tool for sensitivity analysis, but it also provides a rigorous package of data from which a decision could be documented.

The model is built on several key assumptions; however, it includes options to override those assumptions as appropriate. The assumptions and override options are discussed below:

1. Escalation costs were conservatively set at 3% per year. This is a typical estimation used by procurement organizations on government jobs.
2. There is consideration of replacement costs when evaluating termination of a PO unless replacement costs are specifically overridden. In most cases, the terminated equipment will need to be purchased at a later date to complete the Pre-Treat Facility. However, in some cases, replacements costs are not appropriate, because they may never come to fruition or are unknown, because they will be based on future design decisions. When it is known that the equipment in the current PO is obsolete or will not exist in a future design, replacement costs for that equipment should not be included in the model.
3. The model is designed to strictly optimize solutions sets to reduce costs of the plant. It does not take into account any political goals or limitations.
4. For decision making purposes, the model plans for the best case negotiation results. Specifically, the starting point for negotiations is that the vendors will accept the proposed suspension or termination decisions. Once decisions are made, negotiations can commence, and estimates will need to be revised based on the outcomes of those negotiations.

The model contains several sheets of data, supporting lists, algorithmic decision matrices, charts, and consolidated data; however, the dashboard tab provides the interface for scenario building. The dashboard tab consists of graphs and three main parts: costs, POs recommended for termination, and model overrides.

The costs section is split into two areas, the total assumed costs and the total actual costs. The total assumed costs are the costs as they are planned. It includes a breakdown of the escalated costs for the time period provided. This is also the section that contains the buttons to control the number of years of suspension for which to plan. The last part is the estimated assumed cost avoidance which only counts cost avoidance from avoided suspension when following planned termination and any situation in which a new PO could be issued for less than the costs of finishing the current one. All of the above factors are the same in the total actual costs section; however, this area represents the potential reality of the decision made. If actual years and number of years planned are identical, then there is no difference at all in the figures on both sides of the page. If, however planned number of years and actual number of years in suspension differs, then the actual number of years will show the costs and cost avoidance associated with the planned decisions in the terms of the actual year's costs. The difference between the two categories of costs can be seen as the cost of assumption error, and it represents the cost associated with not hitting the targeted year.

The second section identifies POs that should be terminated. This list is based on the years set in the assumed years of suspension. The list is dynamic, and it changes according to the years selected and the overrides that are included. The list contains a PO number. Next to the PO number, the vendor is listed along with the month and year of the initial award date. This list is the planned

terminations that are considered the recommendations of the model based on the estimations, calculations, and qualitative input.

The last area of the Dashboard tab is the override section. The need for the ability to override the model when an assumption is not being met was anticipated and built into the model. Overrides can be by vendor or by specific PO. In addition to this, the time that a specific PO will stay in suspension can be manipulated outside of the global setting for a case in which an alternate suspension timeline or the immediate finishing of the PO is desired.

Once completed, the model was run with various scenarios. Evaluations were made on scenarios of 0 years, 3 years, 5 years, 7 years, and 9 years of suspension. These evaluations were completed both individually and against each other as hypothetical actual completion dates. Optimal results were defined as lowest possible cost for the number of years selected.

The best case scenarios were always represented by targeting a planned number of years and then hitting that number. If it is possible to plan for a set number of years and to ensure that you will release the suspended PO scopes on that future date, this is the optimal solution. The down side to this strategy is that the future is always uncertain regardless of how many variables are considered. This means that realistically this is a low probability outcome; the more likely scenario is that a target number of suspended years would be planned, and the POs will be released prior to or after that set date.

The next most optimal scenario for costs would be to plan for long suspensions but to have the suspensions be shorter than anticipated. Unlike trying to hit the target exactly, targeting a date further in the future and finishing sooner was a much more probable real life scenario. In this case, more POs would be terminated than is required; but, if the difference between the target years and actual years is relatively small, the avoided cost of sub optimization tended to be relatively low.

The next most optimal planned scenario is to plan for a short suspension which actually becomes much longer. In this case, not enough POs are terminated and unnecessary suspension costs are incurred. Much like the previous scenario, if the difference between the target years and the actual years is relatively small, the avoided cost of sub optimization was low when compared to no decision, but higher than over-estimating.

The absolute worst scenario modeled was the current state, indefinite suspension with all POs remaining in place. The results of the model for this scenario were clear and unambiguous - no decision is absolutely the most costly decision that can possibly be made.

The analysis on this provided the key insight that being wrong can still gain significant benefits; and, when trying to choose a targeted suspension time, estimate suspension length on the high side, because it is the most likely outcome and the relative cost is the lowest non optimal plan.

SUMMARY OF RECOMMENDATIONS

The recommendations being submitted to ORP-WTP for consideration are based on a strategy of seven years of targeted suspension followed by immediate fulfillment. There are five categories of recommendations, each of which has detailed justifications for the recommendation being offered. The brief summaries below provide overview data; however, detailed information on all 56 decisions can be found under the recommendations section of this report.

1. Six POs should be immediately terminated due to costs associated with keeping the original PO open, with qualitative vendor data, or with the vendor going out of business. The estimated immediate termination costs of these POs are $798,677.
2. Thirteen POs should be terminated if the continued suspension period is expected to be around seven years, at which time a new PO will be issued with the same or a different

vendor. Also included in this group of POs are items that become obsolete after five years (e.g.; electrical instrumentation). The estimated immediate termination costs of these POs are $2,168,310.

3. Nine POs should be terminated immediately because the items in the PO are no longer in the current design and any further costs should be considered a loss for ORP-WTP. The estimated immediate termination costs of these POs are $5,906,869.
4. Six POs should be finished under the original PO terms immediately, as opposed to following the given seven years of suspension, due to level of completeness and high storage costs for mostly finished goods. The estimated cost to immediately finish these POs is $4,650,714.
5. The remaining 22 POs should remain in suspension and be finished as planned according to the PO when the suspension period ends. The annual remaining estimated suspension costs associated with the continued suspension of the remaining POs is about $1.6 million per year.

The implementation of the above recommendations will result in immediate termination costs of $8.87 million and immediate PO finishing costs of $4.65 million for a total immediate cost of $13.52 million. In addition to this the suspension costs will be reduced by $3.7 million per year.

MARKET INTELLIGENCE

The ambiguity inherent in the unintended extended period of suspension is unprecedented for many of BNI's vendors and their ability to support BNI's mission has been hampered because of it. Although BNI's commercial agreements contain considerations for short-term suspensions (typically less than six months), suspending orders for an indefinite period was never contemplated and has taken a toll on maintaining supplier relationships. Suppliers have voiced the desire to have the work completed and shipped to free up much needed shop space for their current active work.

Indefinite suspensions can also affect the supplier's financial viability, because the anticipated profit for the work was not able to be earned as originally planned and a payment date cannot be forecasted. The supplier's ability to take on new work is impacted in some cases due to storage of finished and unfinished work. Additionally, planned earnings and expenditures are limited by having indefinite suspensions in their facilities. It is important to note that many of the suppliers are small businesses, for which the suspensions are especially detrimental. Unlike larger businesses, they do not have excess cash flow readily available to buffer this risk. Being able to terminate, re-start, or even just articulate the anticipated suspension length of these orders will assist the suppliers in their financial planning processes and their ability to book new work.

Another factor that could greatly impact the Project is that many of these suppliers represent a large contingent of BNI's qualified suppliers with NQA-1 capability. Their valuable experience in the nuclear industry and with the WTP Project, in particular, is invaluable especially in the declining nuclear supplier market. The future of the WTP Project will require that BNI consider the vendor's future financial viability and maintain solid relationships with as many of these key suppliers as possible.

Beyond pure cost optimization considerations, these less tangible aspects of the PTF suspended POs could represent significant risks to the Project as a whole if the current situation is not acted upon soon.

DECISIONS

Development of a plan of action is necessary, and one has been provided with optimized strategy that serves not only ORP-WTP but the vendor community as well. Detailed information on each of the above decision groups can be found in the Recommendations section of this report and are presented on a PO-by-PO basis. On all termination recommendations, the work in process, to include materials and engineering work, were evaluated for reuse or transferability. It should also be noted that percent complete played a large role in the calculated financial portion of the recommended action and the strategic evaluation of the recommendation.

This set of recommendations is provided as a path forward for ORP-WTP that is based on sound reasoning, systematic estimation and well-documented conclusions. A decision will be made regardless of whether these recommendations are adopted, because no decision is a decision is to continue on the escalated costs path.

RECOMMENDATIONS

The following recommendations are grouped into three main categories: Finish Now, Terminate Always, and Terminate by Plan. The recommendations in the following sections are composed of a combination of the following information:

Vendor: *The name and location of the vendor for this PO*

Description: *Brief description of the item covered by this PO for PTF*

Spent to Date: *How much money has been spent to date on the PO*

Estimated Cost to Finish: *Includes PO Costs, Restart Costs, Pending Vendor REAs, Storage Costs, Maintenance Costs, Engineering Support Hours, Supplier Quality Hours, Procurement Hours, Receipt Inspection Hours, and Quality Assurance Hours*

Estimated Cost to Keep Suspended then Finish: *Includes PO Costs, Restart Costs, Pending Vendor REAs, Storage Costs, Maintenance Costs, Engineering Support Hours, Supplier Quality Hours, Procurement Hours, Receipt Inspection Hours, Quality Assurance Hours and all aggregated suspension costs for the current PO*

Estimated Termination Cost: *Includes PO cost, Pending Vendor REAs, Termination Costs, Project Closeout Costs, Transfer of Material Costs, Transfer of Information Costs, Shipment Costs, Engineering Support Hours, Supplier Quality Hours, Procurement Hours, Receipt Inspection Hours, Recuperated Scrap Values and Quality Assurance Hours for terminating the current PO and for completing the new PO*

Estimated Immediate Termination Cost: *Includes Termination Costs, Project Closeout Costs, Transfer of Material Costs, Transfer of Information Costs, Shipment Costs, Engineering Support Hours, Supplier Quality Hours, Procurement Hours, Receipt Inspection Hours, and Quality Assurance Hours to terminate current PO only*

Recommendation: *Brief summary of recommended action*

Basis: *Description of the basis for the recommendation to include results from model, buyer input, vendor relationship, vendor financial health, current status of vendor, and strategic considerations.*

FINISH PO NOW

POs that were determined to be ideal to finish with the current PO immediately due to the level of completeness coupled with the high annual hotel load for continued suspension.

QL-POB-MVA0-00013

Vendor: Joseph Oat Corporation – Camden, NJ

Description: Pulse Jet Ventilation Demisters

Spent to Date: $2,510,651 **Estimated Cost to Finish:** $647,919

Recommendation: It is recommended that this PO be completed immediately.

Basis: Fabrication on the demisters are 99% complete. The majority of the costs of finishing are engineering hours required for completing the PO. The annual hotel load for keeping this purchase open is estimated to be $165,012, which is comprised mostly of storage costs for finished goods charged by the vendor. Due to the completeness of the engineering, material procurement and fabrication, this PO should be immediately completed with the finished good being shipped and stored at WTP. Additionally, BNI's relationship with the vendor has been strained, and they have expressed reluctance to continue suspension further. Extending the time to completion will not save costs and may jeopardize BNI's future relationship with this key vendor. By completing this order, it will avoid over $1.1 million in suspension costs over 7 years.

QL-POB-MVA0-00019

Vendor: Joseph Oat Corporation – Camden, NJ

Description: Ultrafiltration Pulse Pots

Spent to Date: $357,681 **Estimated Cost to Finish:** $315,682

Recommendation: It is recommended that this PO be completed immediately.

Basis: Fabrication on the power manipulators are complete with 25% of the engineering work remaining. The majority of the costs of finishing are the engineering hours required for completing the PO. The annual hotel load for keeping this purchase open is estimated to be $97,632, which is comprised of storage costs for finished goods charged by the vendor, procurement support, supplier quality, and annual engineering support. Due to the completeness of the engineering, material procurement and fabrication, this PO should be immediately completed with the finished good being shipped and stored at WTP. Additionally, BNI's relationship with the vendor has been strained and they have expressed reluctance to continue suspension further. Extending the time to completion will not save costs and may jeopardize BNI's future relationship with this key vendor. By completing this order it will avoid over $683 thousand in suspension costs over 7 years.

QL-POA-MJW0-00004

Vendor: PaR Systems, Inc – Shoreview, MN

Description: Crane Mounted Power Manipulators

Spent to Date: $ 17,136,212 **Estimated Cost to Finish:** $ 1,052,609

Recommendation: It is recommended that this PO be completed immediately.

Basis: Fabrication on the power manipulators are complete with only marginal engineering work remaining. The majority of the costs of finishing are the 2014 storage costs, the pending request for equitable adjustments, and the engineering hours required for completing the PO. The annual hotel load for keeping this purchase open is estimated to be $119,472, which is comprised mostly of storage costs for finished goods charged by the vendor and annual engineering support. Due to the

completeness of the engineering, material procurement, and fabrication, this PO should be immediately completed with the finished good being shipped and stored at WTP. The current relationship with the vendor is amicable due to active work being performed on other portions of the Project. Extending the time to completion will not save costs; it will incur over $836 thousand over 7 years in suspension costs that are avoidable.

CM-POA-MJKG-00005

Vendor: American Crane & Equipment Corporation – Douglassville, PA

Description: 5 Ton Bridge Crane

Spent to Date: $1,281,157 **Estimated Cost to Finish:** $1,506,322

Recommendation: It is recommended that this PO be completed immediately.

Basis: Fabrication of the machining is 95% complete and 75% of the electrical junction boxes/enclosures are complete. The PO is 53% paid out and that is the source for the majority of the costs of finishing. The annual hotel load for keeping this purchase open is estimated to be $102,064, which is comprised of storage costs for finished goods and annual engineering support. Due to this PO being close to completion with only BNI's committed payment pending, this PO should be immediately completed with the finished good being shipped and stored at WTP. Additional consideration for completing this PO immediately was given due to the current hostile relationship between the Project and this vendor. The vendor is extremely sensitive to commercial and technical changes that impact them. Extending the time to completion will not save costs and could further damage BNI's relationship with the supplier; it will incur over $714 thousand over 7 years in suspension costs that are avoidable.

QL-POA-MKAS-00002

Vendor: Premier Technology, Inc. – Blackfoot, ID

Description: Vessel Vent Caustic Scrubber

Spent to Date: $ 1,897,949 **Estimated Cost to Finish:** $ 648,912

Recommendation: It is recommended that this PO be completed immediately.

Basis: Fabrication is 85% complete with 77% of the engineering work completed as well. The majority of the costs of finishing are the engineering hours required for completing the PO and the PO balance to pay. The annual hotel load for keeping this purchase open is estimated to be $75,842, which is comprised mostly of annual engineering support. Due to the completeness of the engineering, material procurement, and fabrication, this PO should be immediately completed with the finished good being shipped and stored at WTP. Additionally, the current vendor relationship is amicable with their only concern being negotiation and incorporation of additional storage costs into the PO. This vendor may not be exhibiting hardship over storing the almost completed work in process; however, completion of the PO would not hurt the relationship either. Extending the time to completion will not save costs; it will incur over $530 thousand over 7 years in suspension costs that are avoidable.

QL-POA-FH00-00001

Vendor: American Crane & Equipment Corporation – Douglassville, PA

Description: Grapples

Spent to Date: $ 1,309,450 **Estimated Cost to Finish:** $ 479,270

Recommendation: It is recommended that this PO be completed immediately.

Basis: The current percentage complete for the entire PO is engineering at 78%, materials at 46%, and fabrication at 31% with the total paid on PO at 51%. The PTF only portions of this are engineering at 62%, materials at 3%, and fabrication at 5% with the total paid on PO at 13%. The annual hotel load for keeping this purchase open is estimated to be $52,800, which is comprised entirely of annual engineering support. Although the completeness of the suspended PTF portion of this PO is not high and would not normally warrant immediate completion, HLW Castings are used for PTF; therefore, this PO is recommended to finish now to complete the entire PO (HLW and PTF portions). Additional consideration for completing this PO immediate was given due to the current hostile relationship between the Project and this vendor. The vendor is extremely sensitive to commercial and technical changes that impact them. Extending the time to completion will not save costs and could further damage BNI's relationship with the supplier; it will incur over $369 thousand over 7 years in suspension costs that are avoidable.

TERMINATE ALWAYS

POs that were determined to be always ideal to terminate and insensitive to the number of years they were left in suspension due to cost, status, vendor, or need.

QL-POB-MVA0-00015

Vendor: Petersen Incorporated – Ogden, UT

Description: Pressure Vessels (Breakpots)

Spent to Date: $ 504,499

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: $327,356

Estimated Immediate Termination Cost: $ 87,220

Recommendation: It is recommended that this PO is terminated without future repurchasing.

Basis: The estimated annual hotel load for suspension on this PO amount to $68,743. Not only are the breakpots no longer in the design, but the model demonstrates that in every scenario the Estimated Cost to Finish exceeds the cost to terminate. The relationship with the vendor is amicable and termination of the PO should not damage BNI's future relationship with them. This gap is only expanded by 7 years of continued of suspension costs.

CD-POA-MPE0-00001

Vendor: Tyco Valves & Controls L.P. – Corona, CA

Description: Steam Ejectors

Spent to Date: $7,630

Estimated Cost to Keep Suspended then Finish: NA (*Vendor's facility shut down*)

Estimated Termination Cost: $657,939

Estimated Immediate Termination Cost: $10,560

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from another vendor in the future on a new PO.

Basis: This PO is currently in closeout already due to the fact that the facility this PO is with closed down in 2010. The company still exists, but has suggested much of the talent (technical) that was involved in the original Purchase Order was disbanded when the facility shut down. The valves simply cannot be made due to the fact that the supplier does not have a suitable facility to produce these valves now. There is no opportunity to continue work under this PO.

CM-POB-JV09-00001

Vendor: Tyco Valves & Controls L.P. – Corona, CA

Description: Instrument Valves

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $1,704,888

Estimated Termination Cost: $871,038

Estimated Immediate Termination Cost: $ 158,615

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $58,251. Valves received to date meet data sheets, but do not meet technical requirements and are all being dispositioned. Staying with current vendor would require payment of 35% re-stocking and also a PO revision for payment for correct valves. The vendor has not voiced any objections regarding this PO; however, they have already shut down one facility that provided items for another PTF PO and it is possible that it could happen again. Regardless of vendor capability, the model confirms that that in every scenario the estimated cost to finish exceeds the cost to terminate. This gap is only expanded by 7 years of continued of suspension costs.

QL-POA-MEVV-00002

Vendor: AREVA Federal Services LLC – Charlotte, NC

Description: Evaporator System (Effluent Recovery)

Spent to Date: $18,707,966

Estimated Cost to Keep Suspended then Finish: $10,325,283

Estimated Termination Cost: $6,846,309

Estimated Immediate Termination Cost: $381,711

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $84,558. There is a potential for significant design modifications and engineering work required to complete this PO. Recoverable materials that can be used on another PO for the evaporator system also reduce the termination and repurchase costs. The model demonstrates that, in every scenario, the estimated cost to finish exceeds the cost to terminate. Additionally, the current relationship with the vendor is strained and it is believed that they may not be capable of completion within the already high estimated PO completion costs.

QL-POA-MEPS-00003

Vendor: Special Applications Technology, Inc. – Loveland, CO

Description: Heat Exchangers

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*Vendor is out of business*)

Estimated Termination Cost: $5,233,111

Estimated Immediate Termination Cost: $28,000

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from another vendor in the future on a new PO.

Basis: The vendor is out of business. All immediate termination costs reflect the projects costs only.

QL-POA-PF00-00061

Vendor: Mid-Columbia Engineering, Inc. – Richland, WA

Description: Rigid Process Jumpers & Frames – PTF Hot Cell Areas

Spent to Date: $999,204

Estimated Cost to Keep Suspended then Finish: $2,179,700

Estimated Termination Cost: $2,374,306

Estimated Immediate Termination Cost: $132,571

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $92,475. The current relationship with the vendor is strained and they are in a high risk class with regards to financial stress and credit score. There is no current activity on the PO and the vendor has been storing material produced on this PO. An estimated 75% of the paid to date contract value is expected to be useable by the new vendor. The vendor requests to be released from suspension through termination of the PO.

QL-POA-MVA0-00010

Vendor: Harris Thermal Transfer Products – Newberg, OR

Description: Pressure Vessels, High Allow or Clad

Spent to Date: $5,546,047

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current vessel design not being reordered)*

Estimated Immediate Termination Cost: $1,257,552

Recommendation: It is recommended that this PO is terminated and not repurchased. The paid for work in process should be offered to other DOE facilities for their use if they are willing to absorb remaining costs.

Basis: The estimated annual hotel load for suspension on this PO amount to $229,063. The justification for the termination with no repurchase is due to the fact that the use of this vessel type is contingent on the Project decision to pursue standard vessel design. The vessel is currently being stored at the Port Facility leased by the vendor. The relationship with the vendor is amicable and no adverse response was received from them regarding continued suspension; however, any extension of the time this PO is suspended is an unrecoverable loss for the Project due to the fact that these vessels will not be used in the PTF. If the PO is left in suspension, it will incur over $1.6 million in suspension costs over the next 7 years.

QL-POC-MVA0-00001

Vendor: Harris Thermal Transfer Products – Newberg, OR

Description: Pressure Vessels, High Allow, Shop Fabricated, Large

Spent to Date: $31,116,959

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current vessel design not being reordered)*

Estimated Immediate Termination Cost: $ 2,723,478

Recommendation: It is recommended that this PO is terminated and not repurchased. The paid for work in process should be offered to other DOE facilities for their use if they are willing to absorb remaining costs.

Basis: The estimated annual hotel load for suspension on this PO amount to $746,807. The justification for the termination with no repurchase is due to the fact that the use of this vessel type is contingent on the Project decision to pursue standard vessel design. The vessel is currently being stored at the Port Facility leased by the vendor. The relationship with the vendor is amicable and no adverse response was received from them regarding continued suspension; however, any extension of the time this PO is suspended is an unrecoverable loss for the Project due to the fact that these vessels will not be used in the PTF. If the PO is left in suspension, it will incur over $5.2 million in suspension costs over the next 7 years.

QL-POD-MVA0-00001

Vendor: Northwest Copper Works, Inc. – Portland, OR

Description: Pressure Vessels, High Allow or Clad

Spent to Date: $29,012,056

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current vessel design not being reordered)*

Estimated Immediate Termination Cost: $1,671,483

Recommendation: It is recommended that this PO is terminated and not repurchased. The paid for work in process should be offered to other DOE facilities for their use if they are willing to absorb remaining costs.

Basis: The estimated annual hotel load for suspension on this PO amount to $197,325. The justification for the termination with no repurchase is due to the fact that the use of this vessel type is contingent on the Project decision to pursue standard vessel design. The vessel is currently being stored at the Port Facility leased by the vendor. The relationship with the vendor is amicable and no adverse response was received from them regarding continued suspension; however, any extension of the time this PO is suspended is an unrecoverable loss for the Project due to the fact that these vessels will not be used in the PTF. If the PO is left in suspension, it will incur over $1.3 million in suspension costs over the next 7 years.

QL-POB-MVA0-00012

Vendor: ABW Technologies, Inc. – Arlington, WA

Description: Pressure Vessels, High Allow or Clad, Large

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current vessel design not being reordered)*

Estimated Immediate Termination Cost: $52,120

Recommendation: It is recommended that this PO is terminated and not repurchased.

BASIS: The estimated annual hotel load for suspension on this PO amount to $62,205. The justification for the termination with no repurchase is due to the fact that the use of this vessel type is contingent on the Project decision to pursue standard vessel design. Additionally, no equipment or materials have been procured. The relationship with the vendor is amicable and no adverse response was received from them regarding continued suspension; however, any extension of the time this PO is suspended is an unrecoverable loss for the Project due to the fact that these vessels

will not be used in the PTF. If the PO is left in suspension, it will incur over $435 thousand in suspension costs over the next 7 years.

QL-POA-PH02-00011

Vendor: Mid-Columbia Engineering, Inc. – Richland, WA

Description: Racks, PTF Plant Wash and Fluidics

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current rack design not being reordered)*

Estimated Immediate Termination Cost: $30,844

Recommendation: It is recommended that this PO is terminated and not repurchased.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. The justification for the termination with no repurchase is due to the vendor requesting termination for convenience due to length of time in suspension and practical convenience. In addition to this, the design is being updated and has not been issued to vendor. The current relationship with the vendor is strained and they are in a high-risk class with regards to financial stress and credit score. If the PO is left in suspension, it will incur over $369 thousand in suspension costs over the next 7 years.

QL-POA-PH02-00012

Vendor: Mid-Columbia Engineering, Inc. – Richland, WA

Description: Racks, PTF Plant Wash and Fluidics

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*No longer in the design*)

Estimated Termination Cost: NA (*Current rack design not being reordered)*

Estimated Immediate Termination Cost: $21,712

Recommendation: It is recommended that this PO is terminated and not repurchased.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. The justification for the termination with no repurchase is due to the vendor requesting termination for convenience due to length of time in suspension and practical convenience. In addition to this, the design is being updated and has not been issued to vendor. The current relationship with the vendor is strained and they are in a high-risk class with regards to financial stress and credit score. If the PO is left in suspension, it will incur over $369 thousand in suspension costs over the next 7 years.

QL-POA-PH02-00003

Vendor: Special Applications Technology Inc. – Loveland, CO

Description: Racks, PTF Plant Wash and Fluidics

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*Vendor is out of business*)

Estimated Termination Cost: $14,414

Estimated Immediate Termination Cost: $11,720

Recommendation: It is recommended that this PO is terminated and not repurchased.

Basis: The vendor is out of business. All termination costs represent Project costs only.

QL-POA-PH02-00004

Vendor: Special Applications Technology Inc. – Loveland, CO

Description: Racks, PTF Plant Wash and Fluidics

Spent to Date: $84,210

Estimated Cost to Keep Suspended then Finish: NA (*Vendor is out of business*)

Estimated Termination Cost: $14,955

Estimated Immediate Termination Cost: $12,160

Recommendation: It is recommended that this PO is terminated and not repurchased.

Basis: The vendor is out of business. All termination costs represent Project costs only.

QL-POA-PH02-00008

Vendor: Special Applications Technology Inc. – Loveland, CO

Description: Racks, PTF Utility, Sparger, and Plant Wash

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: NA (*Vendor is out of business*)

Estimated Termination Cost: $154,718

Estimated Immediate Termination Cost: $125,800

Recommendation: It is recommended that this PO is terminated and not repurchased.

Basis: The vendor is out of business. All termination costs represent Project costs only.

TERMINATE PER PLAN

POs that were determined to be ideal to terminate dependent on the number of years they were left in suspension.

CM-POA-EC00-00001

Vendor: Eaton Corporation – Kennewick, WA

Description: 480V Motor Control Centers/ Switchboard Bus Repair

Spent to Date: $544,311

Estimated Cost to Keep Suspended then Finish: $269,719

Estimated Termination Cost: $175,528

Estimated Immediate Termination Cost: $142,720

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $35,200. This PO is subject to obsolescence and, per assumptions of the model, a 7 year suspension period would result in the elimination of repurchase costs from the decision. Taking these factors in consideration, the model demonstrates that after 5 years the estimated cost to finish exceeds the cost to terminate and start a new PO later. Additionally, there are no storage and no ongoing technical discussions. The vendor is indifferent until such time the PO is terminated or released. BNI's current relationship with the vendor is amicable and termination would not damage it.

CM-POA-EV00-00001

Vendor: Wholesale Electric Supply Company – Houston, TX

Description: Variable Speed Drives

Spent to Date: $197,540

Estimated Cost to Keep Suspended then Finish: $280,406

Estimated Termination Cost: $51,064

Estimated Immediate Termination Cost: $41,520

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO and start a new PO later.

Basis: The estimated annual hotel load for suspension on this PO amount to $35,200. The vendor is indifferent until such time the PO is terminated or released. BNI's current relationship with the vendor is amicable and termination would not damage it. This PO is subject to obsolescence and, per assumptions of the model, a 7 year suspension period would result in the elimination of repurchase costs from the decision. Taking these factors in consideration, the model demonstrates that after 5 years the estimated cost to finish exceeds the cost to terminate and start a new PO later.

QL-POA-EV00-00001

Vendor: Nutherm International, Inc – Mount Vernon, IL

Description: Variable Speed Drives

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $404,578

Estimated Termination Cost: $108,426

Estimated Immediate Termination Cost: $88,160

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. The vendor is currently in the highest risk category for financial stress and credit score. The relationship with the vendor is currently amicable; however, this is due to other POs being worked on by them for the Project. Once those POs are completed, the suspension may strain the relationship. This PO is subject to obsolescence and, per assumptions of the model, a 7 year suspension period would result in the elimination of repurchase costs from the decision. Taking these factors into consideration, the model demonstrates that after 5 years the estimated cost to finish exceeds the cost to terminate and start a new PO later.

QL-POA-MWD0-00001

Vendor: Wright Industries, Inc – Nashville, TN

Description: Ion Exchange Columns

Spent to Date: $934,349

Estimated Cost to Keep Suspended then Finish: $9,806,211

Estimated Termination Cost: $9,355,079

Estimated Immediate Termination Cost: $186,026

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $67,525. The vendor is currently in the highest risk category for financial stress and credit score. The relationship with the vendor is amicable and no response has been received regarding the continued suspension. Material was procured for the original equipment design; however, the design changed and the material was scrapped. The model demonstrates that at 1 year of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later.

QL-POA-MEVV-00001

Vendor: AREVA Federal Services LLC – Charlotte, NC

Description: Forced Recirculation Evaporators

Spent to Date: $43,950,952

Estimated Cost to Keep Suspended then Finish: $22,541,813

Estimated Termination Cost: $19,547,771

Estimated Immediate Termination Cost: $1,104,895

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $471,279. There is a potential for significant design overhaul and the engineering work required to complete this PO as it is currently written with the current vendor places the terminations far below the current costs estimated for completion of the original PO. There is a lot of recoverable raw material that can be used on a new PO. The model demonstrates that at 2 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later. Additionally the current relationship

with the vendor is strained and it is believed that they may not be capable of completion within the already high estimated PO completion costs.

QL-POA-EAA0-00002

Vendor: Nuclear Logistics Inc – Fort Worth, TX

Description: Lighting, power distribution and fused panels, transformers and terminal boxes

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $637,135

Estimated Termination Cost: $49,441

Estimated Immediate Termination Cost: $40,200

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. The model demonstrates that, at 3 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later. Additionally, the vendor has been maintaining equipment/materials in their shop and, although they have not expressed reluctance to do so, they are anxious to continue working. It is also important to note that this supplier provides support both directly to the Project under purchase orders and as a sub-tier to multiple purchase orders.

CD-POA-JF16-00001

Vendor: ABB Inc. – Warminster, PA

Description: Flowmeter

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $917,365

Estimated Termination Cost: $636,982

Estimated Immediate Termination Cost: $12,600

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $70,400. Since no fabrication activities have been started, there is no material/equipment taking up shop space. The model demonstrates that, at 4 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later. The vendor is a large business and they are not dependent on this order; however, their financial stress scores and credit score have higher than average risk.

QL-POA-JF14-00002

Vendor: Fluid Components International LLC – San Marcos, CA

Description: Thermal Flowmeter/Switch

Spent to Date: $38,885

Estimated Cost to Keep Suspended then Finish: $4,671,488

Estimated Termination Cost: $4,458,004

Estimated Immediate Termination Cost: $ 159,976

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $70,400. The vendor is currently working other items on the "Q" Order [24590-QL-POA-JF14-00002] and would be open to the balance remaining on suspension until the Q order items are complete. Expected delivery is 1 year. The model demonstrates that, at 4 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later.

CD-POA-JP02-00001

Vendor: AMETEK, Inc. – Rochester, NY

Description: Pressure Transmitters

Spent to Date: $121,012

Estimated Cost to Keep Suspended then Finish: $5,607,999

Estimated Termination Cost: $5,517,017

Estimated Immediate Termination Cost: $ 84,840

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $73,820. The PO is only 20% complete - all in engineering; therefore, BNI is not paying to hold equipment/materials. The relationship is amicable and the vendor has not inquired into the status of the suspension. The model demonstrates that, at 6 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later.

QL-POA-JV09-00003

Vendor: Nuclear Logistics Inc. – Fort Worth, TX

Description: Drive and Suction Valves

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $7,018,768

Estimated Termination Cost: $7,113,073

Estimated Immediate Termination Cost: $9,520

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. The model demonstrates that, at 6 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later. Additionally, the vendor has been maintaining equipment/materials in their shop and, although they have not expressed reluctance to do so, they are anxious to continue working. It is also important to note that this supplier provides support both directly to the Project under purchase orders and as a sub-tier to multiple purchase orders.

CM-POA-JA38-00003

Vendor: APANTEC, LLC – Lansdale, PA

Description: Cesium Monitors

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $673,643

Estimated Termination Cost: $664,514

Estimated Immediate Termination Cost: $31,973

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $35,200. The model demonstrates that, at 7 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later. The relationship with the vendor is currently strained and they have expressed reluctance to continue suspension further.

QL-POB-MVA0-00014

Vendor: Paul Mueller Company – Springfield, MO

Description: Pressure Vessels, High Allow or Clad, Medium Diameter

Spent to Date: $60,000

Estimated Cost to Keep Suspended then Finish: $1,247,687

Estimated Termination Cost: $1,221,863

Estimated Immediate Termination Cost: $24,920

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $52,800. ,Though the relationship is amicable, the vendor would like the termination of this PO as they are currently only storing Engineering documents and have expressed that they do not want to store the documents for multiple years. ,The model demonstrates that, at 7 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later.

CM-POA-JT08-00001

Vendor: Conax Technologies, LLC – Buffalo, NY

Description: Thermowell

Spent to Date: $0

Estimated Cost to Keep Suspended then Finish: $535,667

Estimated Termination Cost: $522,358

Estimated Immediate Termination Cost: $240,960

Recommendation: It is recommended that this PO is terminated with repurchasing of PO items from the current or another vendor in the future on a new PO.

Basis: The estimated annual hotel load for suspension on this PO amount to $35,200. The relationship with the vendor is amicable and they have not expressed concerns regarding the continued suspension of this PO. ,The model demonstrates that, at 7 years of suspension, the estimated cost to finish exceeds the cost to terminate and start a new PO later.

KEEP SUSPENDED THEN FINISH PO

POs that were determined to be ideal to keep suspended for the planned 7 year period then finish with the original PO scope.

CM-POA-JV01-00001	CM-POA-JR00-00001
CM-POA-JF14-00003	CM-POB-JR00-00001
CM-POA-JA02-00004	QL-POA-JL10-00001
QL-POA-JV09-00004	QL-POA-JA03-00001
QL-POA-MACS-00005	QL-POA-HAHH-00003
QL-POA-JC00-00005	QL-POA-JD03-00001
CD-POA-JV09-00002	CM-POA-PF00-00005
QL-POA-M000-00002	QL-POA-MV00-00006
CD-POA-MVEF-00003	QL-POA-PF00-00060
CM-POA-MERK-00002	QL-POA-PF00-00062
CM-POA-JP02-00001	QL-POA-JV09-00005

Basis: The above 22 POs should be kept in suspension with the current PO scope for the planned 7 year suspension period and completed as written. The model did not select for termination for any of the POs for the planned period. Additionally, no overrides were selected when the model was run to force a suboptimal modeled cost decision.

PO	Vendor	Equipment	Award Date	Reason	Immediate Vendor Cost	Immediate Project Cost	Immediate Term or Finish Cost	Annual Suspension Cost	7 year Suspension Cost
QL-POC-MVA0-00001	HTTP	BC Vessels	Nov 2002	*Term - PO not Needed*	*$1,644,170*	*$1,079,308*	$2,723,478	$746,807	$5,722,380
QL-POA-MEVV-00001	Areva	Evaporators	Jun 2003	*Term - Suspension Cost*	*$50,000*	*$1,054,895*	$1,104,895	$471,279	$3,611,158
QL-POA-MVA0-00010	HTTP	BC Vessels	Aug 2003	*Term - PO not Needed*	*$656,048*	*$601,504*	$1,257,552	$229,063	$1,755,187
QL-POD-MVA0-00001	NWC	BC Vessels	Dec 2002	*Term - PO not Needed*	*$598,123*	*$1,073,360*	$1,671,483	$197,325	$1,511,995
QL-POB-MVA0-00013	Joseph Oat	PJV Demisters	Sep 2008	*Finish Now*	*$390,909*	*$257,010*	$647,919	$165,012	$1,264,398
QL-POA-PH02-00008	SAT	Racks	Dec 2010	*Term - Out of Business*	*$0*	*$125,800*	$125,800	$157,200	$1,204,539
QL-POA-MJW0-00004	PaR	Power Manipulators	May 2003	*Finish Now*	*$850,739*	*$201,870*	$1,052,609	$119,472	$915,450
CM-POA-MJKG-00005	ACECO	5 Ton Bridge Crane	Sep 2010	*Finish Now*	*$1,301,057*	*$205,265*	$1,506,322	$102,064	$782,062
QL-POB-MVA0-00019	Joseph Oat	Pulse Pots	Oct 2010	*Finish Now*	*$120,402*	*$195,280*	$315,682	$97,632	$748,102
QL-POA-PF00-00061	MCE	Jmpr Frms HC Area 1,2,3,24,26	Aug 2011	*Term - PO not Needed*	*$50,000*	*$82,571*	$132,571	$92,475	$708,586
QL-POA-MEVV-00002	Areva	Evaporators	Oct 2003	*Term - Suspension Cost*	*$50,000*	*$331,711*	$381,711	$84,558	$647,926
QL-POA-MKAS-00002	Premier	PVP Scrubber	Dec 2003	*Finish Now*	*$353,851*	*$295,061*	$648,912	$75,842	$581,136
CD-POA-JP02-00001	AMETEK	Press Trnsmtrs	Dec 2010	*Term - Suspension Cost*	*$68,720*	*$16,120*	$84,840	$73,820	$565,643
CD-POA-MPE0-00001	Tyco	Steam Ejectors	Oct 2003	*Term - Out of Business*	*$0*	*$10,560*	$10,560	$70,400	$539,437
CD-POA-JF16-00001	ABB	Variable Area Flowmtrs	Sep 2011	*Term - Suspension Cost*	*$0*	*$12,600*	$12,600	$70,400	$539,437
QL-POB-MVA0-00015	Petersen	Breakpots	May 2006	*Term - PO not Needed*	*$50,000*	*$37,220*	$87,220	$68,743	$526,741
QL-POA-MWD0-00001	Wright	IX Columns	May 2004	*Term - Suspension Cost*	*$77,836*	*$108,190*	$186,026	$67,525	$517,408
QL-POB-MVA0-00012	ABW	NAR/DIW/SHR Vsls	Oct 2010	*Term - PO not Needed*	*$25,000*	*$27,120*	$52,120	$62,205	$476,643
CM-POB-JV09-00001	Tyco	On/Off Act'd Vlvs	Sep 2011	*Term - Suspension Cost*	*$106,557*	*$52,058*	$158,615	$58,251	$446,346
QL-POA-JF14-00002	FCI	Thermal Flowmtr	Dec 2010	*Term - Suspension Cost*	*$143,896*	*$16,080*	$159,976	$56,600	$433,695
QL-POA-PH02-00003	SAT	Racks	Sep 2011	*Term - Out of Business*	*$0*	*$11,720*	$11,720	$52,800	$404,578
QL-POA-MEPS-00003	SAT	Heat Exchangers	Dec 2010	*Term - Out of Business*	*$0*	*$28,000*	$28,000	$52,800	$404,578
QL-POA-JV09-00003	NLI	On/Off Act'd Vlvs	Dec 2010	*Term - Suspension Cost*	*$0*	*$9,520*	$9,520	$52,800	$404,578
QL-POA-PH02-00012	MCE	Racks	Aug 2011	*Term - PO not Needed*	*$17,472*	*$4,240*	$21,712	$52,800	$404,578
QL-POB-MVA0-00014	Muller	PSA Vessels	Apr 2011	*Term - Suspension Cost*	*$5,000*	*$19,920*	$24,920	$52,800	$404,578
QL-POA-PH02-00011	MCE	Racks	Jun 2011	*Term - PO not Needed*	*$23,964*	*$6,880*	$30,844	$52,800	$404,578
QL-POA-EAA0-00002	NLI	Panels & Xfmrs	Sep 2011	*Term - Obsolescence*	*$10,000*	*$30,200*	$40,200	$52,800	$404,578
QL-POA-EV00-00001	Nutherm	Variable Speed Drives	Aug 2008	*Term - Obsolescence*	*$10,000*	*$78,160*	$88,160	$52,800	$404,578
QL-POA-FH00-00001	ACECO	Grapples	Jul 2004	*Finish Now*	*$129,495*	*$349,775*	$479,270	$52,800	$404,578
CM-POA-JA38-00003	Apantec	Cs Monitors	Sep 2011	*Term - Suspension Cost*	*$19,813*	*$12,160*	$31,973	$35,200	$269,719
CM-POA-EV00-00001	Wholesale	VSDs	May 2008	*Term - Obsolescence*	*$10,000*	*$31,520*	$41,520	$35,200	$269,719
CM-POA-EC00-00001	Eaton	MCCs	Mar 2010	*Term - Obsolescence*	*$10,000*	*$132,720*	$142,720	$35,200	$269,719
CM-POA-JT08-00001	Conax Tech	RTD Thermowell	Mar 2004	*Term - Suspension Cost*	*$0*	*$240,960*	$240,960	$35,200	$269,719
QL-POA-PH02-00004	SAT	Racks	Sep 2011	*Term - Out of Business*	*$0*	*$12,160*	$12,160	$0	$0

APPENDIX

DATA COLLECTION

WORKBOOK

The workbook distributed to the buyers for collection of data was comprised of three worksheets.

- Worksheet A: Release Now and Finish Current Po
  - This workbook was intended to capture the costs and risks associated with finishing a PO assuming it was immediately released from suspension.
- Worksheet B: Terminate and Re-Purchase
  - This workbook captured the costs and risks associated with terminating the current PO and re-purchasing the PO from the same or another vendor.
- Worksheet C: Annual Hotel Load For Suspension
  - This workbook captured the costs and risks associated with keeping POs suspended. Most of the financial data represents the annualized hotel load; however, some POs were estimated to incur one time suspension costs, which were captured in a fixed cost field and considered separate from the total annualized suspension costs.

For each workbook there were three categories of questions: commercial questions, technical questions and financial questions. Each buyer began with evaluation of the commercial questions and then, working with an engineer, developed answers for the technical questions. The financial questions were informed by both of the previous groups of questions and up-to-date PO data from our purchasing system. The financial questions also included a section for the buyers to include their assumptions on any estimations made.

COMMERCIAL QUESTIONS

Commercial Questions	Worksheet A	Worksheet B	Worksheet C
Is another vendor able to accomplish the work?	X	X	
What is the financial strength of the current company contracted to complete the order?	X	X	X
What is the current percent of work complete?	X	X	X
Will other suppliers use work in progress material?		X	
Will the vendor have termination costs?		X	
Is the supplier willing to leave the material in suspension?			X

TECHNICAL QUESTIONS

Technical Questions	Worksheet A	Worksheet B	Worksheet C
Are there design changes that will negate previous work?	X	X	X
Is a system design description (SDD) required and currently not complete?	X	X	X
Is the material/equipment susceptible to obsolescence?	X	X	X
What is the complexity of the material/equipment?	X	X	
Is the material exotic?	X	X	X
Are there outstanding PIERS that need to be addressed with the order?	X	X	
Is it subject to second barrier review?	X	X	
Is the PO also required for LBL or HLW?	X	X	X
Does the equipment integrate with other equipment being purchased?	X	X	X
Are significant schedule impacts likely if equipment is not finished with the current vendor?	X	X	X
Is vendor information required to support near term engineering design efforts?	X	X	X
Are there on project storage or maintenance costs associated with completing the order?	X	X	X
Is release of equipment in the current HPT two year plan?	X	X	X
Will the vendor have re-start costs?	X	X	
Will the vendor have termination costs?		X	
Is this procurement affected by HPT process gates?	X		
Will leaving the material in suspension lead to project storage or maintenance costs?			X

FINANCIAL QUESTIONS

Technical Questions	Worksheet A	Worksheet B	Worksheet C
Current Purchase Order Costs	X		
Current Purchase Order Re-Start Costs	X		
Pending Vendor REAs	X		
Project Storage and Maintenance Costs	X	X	X
Engineering Support Costs	X		
Supplier Quality Costs	X		X
Procurement Support	X		X
Receipt Inspection Support	X		
Quality Assurance Support	X		X
Estimated New Purchase Order Costs		X	
Pending Vendor REAs, Storage and Maintenance Costs, Other Charges		X	
Termination Costs		X	
Project Closeout Costs		X	
Transfer of Material, Information and Shipment Costs		X	
Engineering Support Costs *(old and new contract)*		X	
Supplier Quality Costs *(old and new contract)*		X	
Procurement Support *(old and new contract)*		X	
Receipt Inspection Support *(old and new contract)*		X	
Quality Assurance Support *(old and new contract)*		X	
Scrap and Recuperated Costs		X	
Vendor Storage and Maintenance Costs			X
Supplier Quality Costs			X
Engineering Support *[Annual Cost]*			X
Engineering Support *[Fixed Cost - Regardless of Years]*			X

WORKSHEET A: RELEASE NOW AND FINISH CURRENT PO

Worksheet A: Release Now and Finish Current P.O.

PO # 24590-QL-POA-PF00-00061 | **VENDOR: MID COLUMBIA ENGINEERING**

Commercial questions to consider in estimating total cost to finish as is:

1	Is another vendor able to accomplish the work? (summarize our ability to switch vendors for this PO)	YES
2	What is the financial strength of the current company contracted to complete the order?	THE D&B REPORT WHICH WAS RUN ON JANUARY 27, 2014, SHOWS THAT MCE HAS A FINANCIAL STRESS CLASS OF 4 AND A CREDIT SCORE CLASS OF 2. THE FINANCIAL STRESS CLASS SHOWS MCE TO HAVE A HIGHER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION, HOWEVER THE CREDIT SCORE CLASS SHOWS MCE TO HAVE A LOWER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION.
3	What is the current percent of work complete? (percent of total work, not just budgeted - as of 10/1/14)	ENGINEERING - 95%; MATERIAL - 100%; FABRICATION - 10%
4	Are there design changes that will negate previous work? (if yes, explain)	YES
5	Is a system design description (SDD) required and currently not complete? (if yes, explain)	YES
6	Is the material/equipment susceptible to obsolescence? (i.e. C&I equipment) If yes, explain.	NO
7	What is the complexity of the material/equipment?	MEDIUM
8	Is the material exotic (i.e. ALLOY, etc.?) if yes, explain.	YES
9	Are there outstanding PIERS that need to be addressed with the order (if yes, explain).	YES - EVERY PURCHASE ORDER WILL HAVE AN OUTSTANDING PIER. THESE WILL BE RESOLVED AS PART OF THE FORWARD PASS PROCESS WITHIN THE HPT PROCESS GATES
10	Is it subject to second barrier review?	YES- SECOND BARRIER REVIEW IS ASSUMED FOR ALL PROCUREMENTS THAT ARE CD OR QL. IT IS NOT ASSUMED FOR CM PROCUREMENTS.
11	Is the PO also required for LBL or HLW?	YES
12	Does the equipment integrate with other equipment being purchased (i.e. jumpers with jumper frames, C&I valves with racks, etc.). If yes, explain.	YES
13	Are significant schedule impacts likely if equipment is not finished with the current vendor? If so, explain.	YES
14	Is vendor information required to support near term engineering design efforts (i.e. plant layout, etc.)?	N - THERE IS NO PTF PRODUCTION DESIGN OCCURRING WITHIN FY15-16, THEREFORE THERE IS NO "NEEDED" DATA FOR 3 YEARS.
15	Are there on project storage or maintenance costs associated with completing the order?	YES
16	Is release of equipment in the current HPT two year plan?	NO - THERE ARE NO PTF PROCUREMENT ACTIVITIES IN THE 2 YEAR PLAN. NO SHIPMENTS OR SUPPORT FOR THOSE ACTIVITIES. BCP WILL BE REQUIRED AT COMPLETION OF THIS EFFORT.
17	Will the vendor have re-start costs?	YES
18	Is this procurement affected by HPT process gates?	YES

Detailed financial questions to estimate total cost to finish as is:

	Input Values As they Relate to The Scope of Work That is Currently Suspended (Due to Funding Constraints)	Original PO Value Plus Approved Changes	Potential Change & Future Costs (+/-)	Total Estimate At Complete (EAC)	Balance To Pay as of 10/1/14 + Future Cost	Assumptions
19	Current Purchase Order Costs	$ 1,862,668.90	$ -	$ 1,862,668.90	$ 863,465.01	APPROX. $999K PAID TO DATE.
20	Current Purchase Order Re-Start Costs	$ -	$ 55,880.07	$ 55,880.07	$ 55,880.07	DUE TO THE MEDIUM COMPLEXITY LEVEL OF THIS CONTRACT, THE RE-START COST HAS BEEN ESTIMATED AT 3% OF THE CURRENT CONTRACT VALUE.
21	Pending Vendor REAs	$ -	$ -	$ -	$ -	
22	Project Storage and Maintenance Costs	$ -	$ 31,000.00	$ 31,000.00	$ 31,000.00	8 LEG ASSEMBLIES HAVE BEEN SHIPPED. (SQ FOOTAGE ESTIMATED AT 1000 SQUARE FEET AT $1/SQUARE FOOT PER MONTH FOR 31 MONTHS).
23	Engineering Support Costs	$ -	$ 211,640.00	$ 211,640.00	$ 211,640.00	ASSUMED 1924 HOURS @ $110/HR
24	Supplier Quality Costs	$ -	$ 3,515.00	$ 3,515.00	$ 3,515.00	ASSUMED 50% OF THE STANDARD PO HOURS IN CONSIDERATION OF WORK ALREADY COMPLETED (74 HOURS X 50% AT $95/HR)
25	Procurement Support	$ -	$ 17,575.00	$ 17,575.00	$ 17,575.00	ASSUMED 185 HOURS AT $95/HR
26	Receipt Inspection Support	$ -	$ 4,132.50	$ 4,132.50	$ 4,132.50	ASSUMED 50% OF THE STANDARD PO HOURS IN CONSIDERATION OF WORK ALREADY COMPLETED (87 HOURS X 50% AT $95/HR)
27	Quality Assurance Support	$ -	$ 6,412.50	$ 6,412.50	$ 6,412.50	ASSUMED 50% OF THE STANDARD PO HOURS IN CONSIDERATION OF WORK ALREADY COMPLETED (135 HOURS X 50% AT $95/HR)

Summary of Costs:

	Original PO Value Plus Approved Changes	Potential Change & Future Costs (+/-)	Total Estimate At Complete (EAC)	Balance To Pay as of 10/1/14 + Future Cost
Vendor Costs	$ 1,862,669	$ 55,880	$ 1,918,549	$ 919,345
Project Costs	$ -	$ 274,275	$ 274,275	$ 274,275
TOTAL(S)	$ 1,862,669	$ 330,155	$ 2,192,824	$ 1,193,620

Additional Comments:

WORKSHEET B: TERMINATE AND RE-PURCHASE

Worksheet B: Terminate and Re-Purchase

PO # 24590-QL-POA-PF00-00061	VENDOR: MID COLUMBIA ENGINEERING

Commercial questions to consider in estimating total cost to terminate and re-purchase:

1	Is another vendor able to accomplish the work? (summarize our ability to switch vendors for this PO)`	YES
2	What is the financial strength of the current company contracted to complete the order?	THE D&B REPORT WHICH WAS RUN ON JANUARY 27, 2014, SHOWS THAT MCE HAS A FINANCIAL STRESS CLASS OF 4 AND A CREDIT SCORE CLASS OF 2. THE FINANCIAL STRESS CLASS SHOWS MCE TO HAVE A HIGHER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION, HOWEVER THE CREDIT SCORE CLASS SHOWS MCE TO HAVE A LOWER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION.
3	What is the current percent of work complete? (percent of total work, not just budgeted - as of 10/1/14)	ENGINEERING - 95%; MATERIAL - 100%; FABRICATION - 10%
4	Will other suppliers use work in progress material?	YES
5	Will the vendor have termination costs?	YES
6	Are design changes required? (if yes, explain)	YES
7	Is a system design description (SDD) required and currently not complete? (if yes, explain)	YES
8	Is the material/equipment susceptible to obsolescence? (i.e. C&I equipment) If yes, explain.	NO
9	What is the complexity of the material/equipment?	MEDIUM
10	Is the material exotic (i.e. AL6XN, etc.?) If yes, explain.	YES
11	Are there outstanding PIERS that need to be addressed with the order (if yes, explain).	YES - EVERY PURCHASE ORDER WILL HAVE AN OUTSTANDING PIER. THESE WILL BE RESOLVED AS PART OF THE FORWARD PASS PROCESS WITHIN THE HPT PROCESS GATES
12	Is it subject to second barrier review?	YES- SECOND BARRIER REVIEW IS ASSUMED FOR ALL PROCUREMENTS THAT ARE CD OR QL. IT IS NOT ASSUMED FOR CM
13	Is the PO also required for LBL or HLW?	YES
14	Does the equipment integrate with other equipment being purchased (i.e. jumpers with jumper frames, C&I valves with racks, etc.). If yes, explain.	YES
15	Are significant schedule impacts likely if equipment is not finished with the current vendor? If so, explain.	YES
16	Is vendor information required to support near term engineering design efforts (i.e. plant layout, etc.)?	N - THERE IS NO PTF PRODUCTION DESIGN OCCURRING WITHIN FY15-16, THEREFORE THERE IS NO "NEEDED" DATA FOR 3 YEARS.
17	Are there storage or maintenance costs associated with termination and re purchasing the equipment?	Y
18	Is release of equipment in the current HPT two year plan?	NO - THERE ARE NO PTF PROCUREMENT ACTIVITIES IN THE 2 YEAR PLAN. NO SHIPMENTS OR SUPPORT FOR THOSE ACTIVITIES. BCP WILL BE REQUIRED AT COMPLETION OF THIS EFFORT.
19	Will the vendor have termination costs?	Y
20	Is this procurement affected by HPT process gates?	YES

Detailed financial questions to estimate total cost to terminate and re-purchase:

	Input Values As they Relate to The Scope of Work That is Currently Suspended (Due to Funding Constraints)	Estimated Value	Exemptions
21	Estimated New Purchase Order Costs	$ 2,023,970	THE ORIGINAL PO WAS AWARDED IN 2011 SO A 9% ESCALATION WAS APPLIED TO THE VALUE OF THE PO THAT IS NOT ASSOCIATED WITH SUSPENSION COSTS. AN ESTIMATED 75% OF THE PAID TO DATE CONTRACT VALUE IS EXPECTED TO BE USEABLE BY THE NEW VENDOR. (RE WAS UNAVAILABLE, THEREFORE THIS % HAS NOT BEEN CONFIRMED WITH ENGINEERING).
22	Pending Vendor REAs, Storage and Maintenance Costs, Other Charges	$ -	
23	Termination Costs	$ 50,000	ROUGH ESTIMATE PROVIDED BY AREA PROJECT PROCUREMENT MANAGER
24	Project Closeout Costs	$ 3,800	STANDARD PO COMPLEXITY, THEREFORE 40 HOURS ARE APPROPRIATE FOR CLOSEOUT ACTIVITIES
25	Project Storage and Maintenance Costs	$ 55,000	8 LEG ASSEMBLIES HAVE BEEN SHIPPED. SQUARE FOOTAGE WAS ESTIMATED BY BUYER. (1000 SQUARE FEET AT $1/SQUARE FOOT PER MONTH FOR 31 MONTHS- RECEIVED FEB 2012 PLUS A FUTURE STORAGE OF 2 YEARS UNTIL FY17 WHEN SDD IS EXPECTED TO BE COMPLETED).
26	Transfer of Material, Information and Shipment Costs	$ 1,200	NUMBER OF TRUCKLOADS IS ASSUMED AT 2 (2 TRUCKLOADS FROM RICHLAND, WA) ($600 PER TRUCKLOAD FOR TRANSPORT WITHIN RICHLAND, WA
27	Engineering Support Costs (old and new contract)	$ 447,370	ASSUMED 4067 HOURS @ $110/HR
28	Supplier Quality Costs (old and new contract)	$ 8,436	TYPICAL SQ HOURS ARE NEEDED IN ADDITION ON ONE EXTRA VISIT TO THE ORIGINAL VENDOR TO ALLOW FOR SHIPMENT OF WIP WHICH RESULTS IN A 20% ADDER. (74 HOURS + 20% AT $95/HR).
29	Procurement Support (old and new contract)	$ 60,800	MINIMAL NUMBER OF HOURS (20) NEEDED TO RESOLVE THE CURRENT CONTRACT'S ISSUES. (620 NEW AWARD HOURS + 20 CURRENT CONTRACT RESOLUTION AT $95/HR).
30	Receipt Inspection Support (old and new contract)	$ 16,530	RECEIPT OF MATERIAL WILL NEED TO HAPPEN TWICE, WIP FROM ORIGINAL CONTRACT AND COMPLETED ITEMS FROM NEW CONTRACT. (174 HOURS AT $95/HR).
31	Quality Assurance Support (old and new contract)	$ 12,825	NO QA SUPPORTED NEEDED TO CLOSE ORDER. HOURS ARE FOR THE NEW CONTRACT ONLY. (135 HOURS AT $95/HR).
32	Scrap and Recuperated Costs (positive number = value recouped)	$ 749,403	ASSUMED THAT THE 25% OF ORDER VALUE PAID TO DATE IS UNUSABLE BY THE NEW VENDOR AND WILL BE ABLE TO BE SCRAPPED.

Summary of Costs:

	Current Value	
Vendor Termination and Re-Purchase Costs	$ 2,073,970	
Project Termination and Re-Purchase Costs	$ 605,961	
Recuperated Costs	$ 749,403	
TOTAL TERMINATION AND RE-PURCHASE COSTS	$ 1,930,528	

Additional Comments:

Worksheet C: Annual Hotel Load for Suspension

PO # 24590-QL-POA-PF00-00061	VENDOR: MID COLUMBIA ENGINEERING

Commercial questions to consider in estimating total cost to leave in suspension:

1	What is the financial strength of the current company contracted to complete the order?	THE D&B REPORT WHICH WAS RUN ON JANUARY 27, 2014, SHOWS THAT MCE HAS A FINANCIAL STRESS CLASS OF 4 AND A CREDIT SCORE CLASS OF 2. THE FINANCIAL STRESS CLASS SHOWS MCE TO HAVE A HIGHER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION, HOWEVER THE CREDIT SCORE CLASS SHOWS MCE TO HAVE A LOWER RISK THAN AVERAGE WITHIN THEIR INDUSTRY AND REGION.	
2	What is the current percent of work complete? (percent of total work, not just budgeted - as of 10/1/14)		ENGINEERING - 95%; MATERIAL - 100%; FABRICATION - 10%
3	Is the supplier willing to leave the material in suspension?	YES	

Technical questions to consider in estimating total cost to leave in suspension:

4	Are there design changes that will negate previous work? (if yes, explain)	YES	
5	Is a system design description (SDD) required and currently not complete? (if yes, explain)	YES	
6	Is the material/equipment susceptible to obsolescence? (i.e. C&I equipment) If yes, explain.	NO	
7	Is the material exotic (i.e. AL6XN, etc.?) if yes, explain.	YES	
8	Is the PO also required for LBL or HLW?	YES	
9	Does the equipment integrate with other equipment being purchased (i.e. jumpers with jumper frames, C&I valves with racks, etc.). If yes, explain.	YES	
10	Are significant schedule impacts likely if equipment stays in suspension? If so, explain.	YES	
11	Is vendor information required to support near term engineering design efforts (i.e. plant layout, etc.)?	N - THERE IS NO PTF PRODUCTION DESIGN OCCURRING WITHIN FY15-16, THEREFORE THERE IS NO "NEEDED" DATA FOR 3 YEARS.	
12	Are there storage or maintenance costs associated with leaving the equipment in suspension?	YES	
13	Is release of equipment in the current HPT two year plan?	NO - THERE ARE NO PTF PROCUREMENT ACTIVITIES IN THE 2 YEAR PLAN. NO SHIPMENTS OR SUPPORT FOR THOSE ACTIVITIES. BCP WILL BE REQUIRED AT COMPLETION OF THIS EFFORT.	
14	Will leaving the material in suspension lead to project storage or maintenance costs?	YES	

Detailed financial questions to estimate total cost to leave in suspension:

			Annual Suspension Cost	Assumptions
15	Vendor Storage and Maintenance Costs		$ 12,000	CURRENT CONTRACT STORAGE COST ($1000 PER MONTH).
16	Project Storage and Maintenance Costs		$ 12,000	8 LEG ASSEMBLIES HAVE BEEN SHIPPED AND ARE LOCATED ON-SITE. (1000 SQUARE FEET AT $1/SQUARE FOOT PER MONTH).
17	Supplier Quality Costs		$ -	NO HABITUAL SQ VISITS ARE IN THE SUSPENSION PLAN FOR THIS ORDER.
18	Procurement Support		$ 2,850	MINIMAL HOURS WILL BE NEEDED TO ADMINISTER THIS PO WHILE IN SUSPENSION (30 HOURS ANNUALLY AT $95/HR)
19	Quality Assurance Support		$ 12,825	INCLUDED TO REFLECT ON TRIP PER YEAR TO KEEP VENDOR ON THE ESL (135 HOURS AT $95/HR).
20	Engineering Support [Annual Cost]		$ 52,800	ASSUMED 480 HOURS @ $110/HR
21	Engineering Support [Fixed Cost - Regardless of Years]		$ 2,530	ASSUMED 23 HOURS @ $110/HR

Summary of Costs:

	Annual Suspension Cost	
Vendor Suspension Costs	$ 12,000	
Project Suspension Costs	$ 80,475	
TOTAL ANNUAL SUSPENSION COSTS	**$ 92,475**	

Additional Comments:

DESCRIPTION

At its core modeling is the process of creating a simplified representation of reality and working with this representation in order to understand or control some aspect of the world. In addition to this models also can be utilized as a decision support system. In the case of the model developed to evaluate the 56 POs, this was the primary driver.

There was tremendous planning and rigor involved in development of the model's assumptions, formulas, and features. The model is based in excel and contains no background macros or embedded visual basic code. All methods and formulas are transparent for evaluation.

There are 7 tabs in the model as listed below:

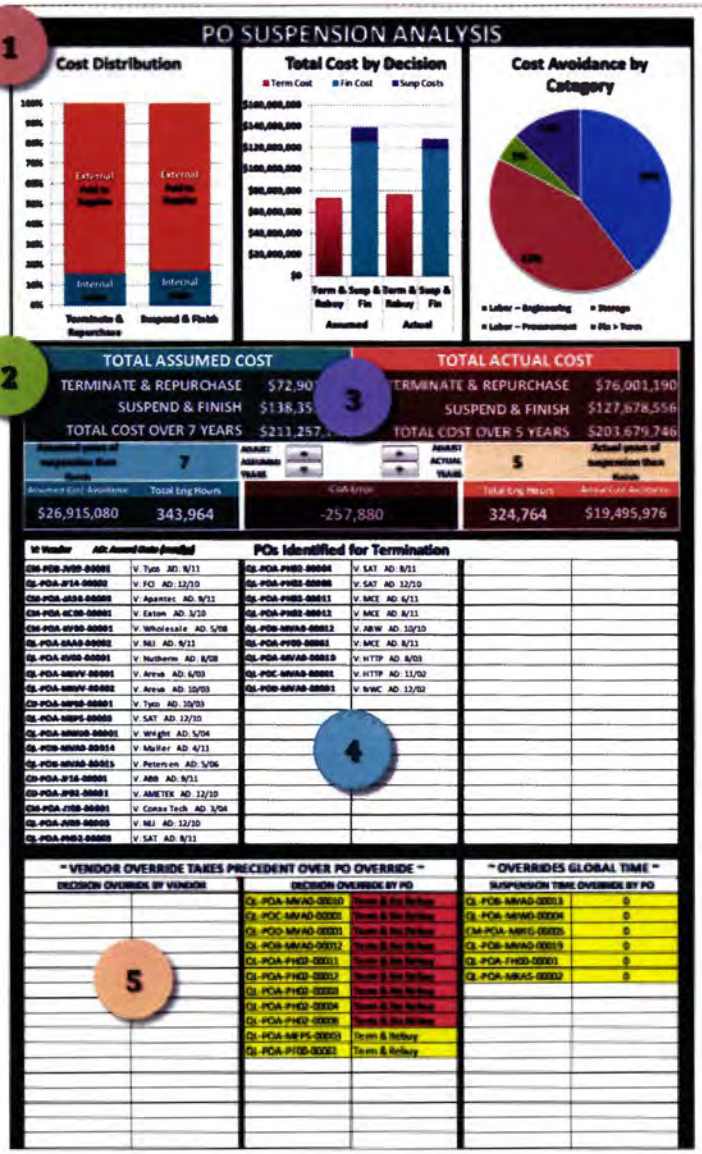
1. Dashboard – The interface for all user inputs into the model (years assumed, years actual, and overrides) and the outputs in the form of recommended PO terminations.
2. Termination Data – Accumulated data on the termination recommendations found in the Dashboard tab.
3. CoA Chart – Graphical representation of the cost of assumption error listed in the middle of the Dashboard tab.
4. Assumed – Modeled results based on the assumed number of years and the manual overrides entered. Decisions are evaluated financially for optimal outcome and assume all options are possible unless overridden.
5. Actuals – Modeled results based on the actual number of years. This tab establishes the sensitivity capabilities of the model by takin the decisions recommended for the assumed years and forecasting the consequences of remaining in suspension more or less time with the same decisions.
6. Data –Includes raw data from the buyers workbooks along with aggregated information and qualitative overrides
7. Lists & Chart Data – Contains lists for validation of dropdowns and aggregated chart data from Assumed and Actuals tabs.

SELECTED FIELD DESCRIPTIONS

THE FOLLOWING FIELDS ARE LOCATED IN THE ASSUMED TAB AND THE ACTUALS TAB.

FIELD HEADER NAME	DESCRIPTION	ASSUMED TAB	ACTUALS TAB
Rank	Identifies Terminations for Dashboard tab list	X	
PO Number	Static list of POs	X	X
E?	Identifies items subject to obsolescence	X	X
Awd D	Looks up award date of PO	X	X
No RB	Enters 0 if the PO is subject to no repurchasing costs	X	
V OR	Vendor override from Dashboard tab list	X	X
PO OR	PO override from Dashboard tab list	X	X
Vendor	Override from Data tab (Vendor Still Operating)	X	X
PO Need	Override from Data tab (PO Still Needed?)	X	X
Finish	Escalated finish costs from Data Tab	X	X
Var Susp	Escalated variable suspension costs from Data Tab	X	X
Fixed Susp	Escalated fixed suspension costs from Data Tab	X	X
Term Dec	Escalated termination & repurchase decision costs	X	X
Susp + Fin Dec	Combined Suspension and Finished decision costs	X	X
Decision	Optimal or Overridden decision (1 = Term, 2 = Finish)	X	
Dec Cost	Cost of Decision	X	
Internal	Internal only Finished costs	X	
External	External only Finished costs	X	
F Eng Hours	Finish engineering hours estimation	X	X
Internal	Internal only Suspension costs	X	
External	External only Suspension costs	X	
S Eng Hours	Suspension engineering hours estimation	X	X
External	Internal only Terminate costs	X	
Internal	External only Terminate costs	X	
T Eng Hours	Terminate engineering hours	X	X
Storage	Storage related cost avoidance	X	
Labor – Engineering	Engineering labor related cost avoidance	X	
Labor – Procurement	Procurement labor related cost avoidance	X	
Fin < Term	Finish costs exceeding termination cost avoidance	X	
AcDecision	Actual years based decision		X
AsDecision	Assumed years based decision		X
Ac Dec Cost	Actual years based decision costs		X
As Dec Cost	Assumed years based decision costs		X
Cost avoidance	Finish – Terminate + Variable Suspension costs	X	X
CoA?	Indicates a Cost of Assumption in Actuals tab	X	
CoA Error	Cost of the assumed decisions when put in the actual years		X

MODEL FEATURES



1 GRAPHS

- Cost Distribution: Internal vs External Costs
- Cost by Decision: Assumed vs Actual
- Categories: Sources of Cost Avoidance

2 COSTS

- Terminate & Repurchase: Total Costs
- Suspend & Finish: Total Costs
- Total: Sum of Terminate & Finish

3 TIMEFRAME

- Assumed: The assumed years are the planned years for suspension.
- Actual: The what-if years for seeing cost effects of plan deviation

4 TERMINATIONS

- As the timeframe of the assumed years is adjusted the list of POs identified for termination is updated.

5 OVERRIDES

- Allows for overriding time or status to finish, terminate with re-purchase or terminate without re-purchase.