- Complete main floor concrete slab topping placement.
- Complete utility piping rough-in.
- Complete basement level ductwork installation.
- Initiate installation of roof structural installation.

January:

- Complete main floor walls construction.
- Complete steam and condensate piping.
- Initiate roof installation.
- Continue roof installation.
- Install HVAC units.
- Install ductwork.

February:

- Complete roof installation.
- Install main floor ductwork.
- Initiate elevator installation.
- Complete utility piping.
- Complete electrical distribution.
- Install ceiling.
- Install lighting.

Issues:

Cause: None.

Impact: None.

Corrective Action: None.

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MFC Radiochemistry Laboratory GPP (C.R.20.20.11/C.R.30.20.11)

DECEMBER 2008

The Radiochemistry Laboratory will house laboratory equipment and personnel for basic and applied research in aqueous separations, fuel development and associated activities. The lab spaces include actinide labs, glove box lab, instrument technologies lab, chemical and source storage, counting lab, and mechanical, electrical, and communication system support areas.

Type of Project: General Plant Project (GPP) **Scheduled Start Date:** April 2008 **Scheduled Completion Date:** April 2009

TEC = $4,985K (including identified MR of $91K)

OPC = $ 465K (including identified MR of $172K) (OPC = $782K with C.R.20.20.11)

TPC = $5,450K (TPC = $5,767K with C.R.20.20.11)

Project to Date									Project At Completion			
Budgeted Cost			Variance									
BCWS	BCWP	ACWP	Schedule	%	Cost	%	SPI	CPI	BAC	EAC Proposed	EAC Approved	VAC
2,814,231	2,452,463	2,172,736	-361,768	-12.85	279,727	11.41	0.87	1.13	5,186,786	5,347,315		-160,529

Project to Date

Schedule Variance (SV): $-361,768 **SV%:** -12.85%

The schedule variance is due to the construction subcontractor's inability to provide an adequate number of workers in the field. When those workers could have been accomplishing excavation and concrete wall placement during favorable summer weather conditions, they were diverted from the project to work another project in the vicinity. Consequently, the subcontractor is still placing masonry walls in winter weather, thus delaying the completion of the roof and follow-on mechanical and electrical main floor rough-in. Further delays have been due to the subcontractor's having insufficient coordination of the design and construction resources to keep the workforce effectively engaged. Since the basement level has become "weathered ", the construction progress improved during December due to accomplishment of concurrent mechanical and electrical work in the basement of the RCL structure, resulting in a reduction in the negative schedule variance from -25.43% to -12.85%. PM, CM and other project support progress is apportioned to the construction progress, thus when performance improves in the construction activities, a proportionate improvement is achieved in the PM, CM, and other project support performance. The construction continues to be approximately four weeks late.

Impact: The project will finish behind schedule.

Corrective Action: The general subcontractor must finish the critical path masonry and roof work and enable the subtier mechanical and electrical subcontractors to work concurrently to regain schedule. The subcontractor has replaced one field superintendent and provided additional administrative resources to mitigate delays. To date, more concurrent work is being accomplished; while some improvement is noted, performance needs to further improve. The project team will continue to focus on completing critical path work in a timelier manner.

Cost Variance (CV): $279,727 **CV%:** 11.41%

Cause: The cost variance is trending positive from 4.92% to 11.41% due to several factors.

Since the mechanical subcontractor has been delayed in installing some of the materials, pre-fabrication of assemblies to speed eventual installation has resulted in an improved approach to executing the work. Pre-fabrication has allowed concurrent work to occur while not resulting in congestion in the building area.

Also, recent performance has improved. Since CM, PM, and other support activity costs are relatively constant, improved construction performance has produced an apparent increase in efficiency for CM, PM, and other support activity. The apparent increased efficiency may be the product of the improved construction performance, more than a real increase in efficiency.

Construction performance may be overstated and/or the accruals may be understated.

Impact: With the project-to-date trend, the project will complete at less cost than planned.

Corrective Action: Project costs will be closely monitored to ensure the project completes with the construction budget. Accruals will be adjusted as required in the next reporting period.

Baseline Change Control Actions:

None.

Accomplishments:

- Completed structural steel installation, on schedule.
- Completed basement wall framing, behind schedule.
- Completed basement electrical rough-in, behind schedule.
- Completed main floor concrete slab topping placement, behind schedule.
- Completed basement utility piping rough-in, behind schedule.
- Completed basement level ductwork installation rough-in, behind schedule.
- Constructed 40% main floor concrete masonry wall, behind schedule.
- Relocated MFC-752 roof drain, on schedule.

Milestone Status:

None.

90-Day Look Ahead:

January:

- Complete main floor walls construction.
- Complete steam and condensate piping.
- Initiate installation of roof structural members.
- Initiate roof installation.
- Install HVAC units.
- Install ductwork.

February:

- Complete roof installation.
- Install main floor ductwork.
- Initiate elevator installation.
- Complete utility piping.
- Complete electrical distribution.

March:

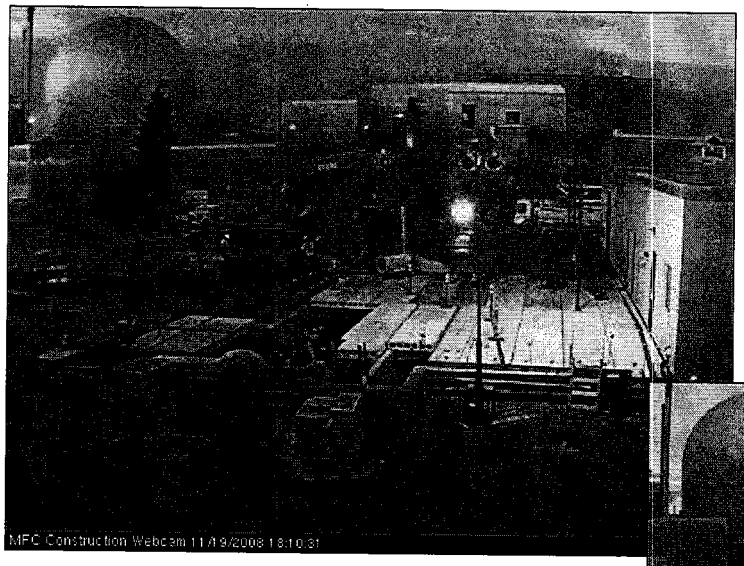
- Install ceiling.
- Install lighting.
- Install mechanical trim.
- Install electrical trim.

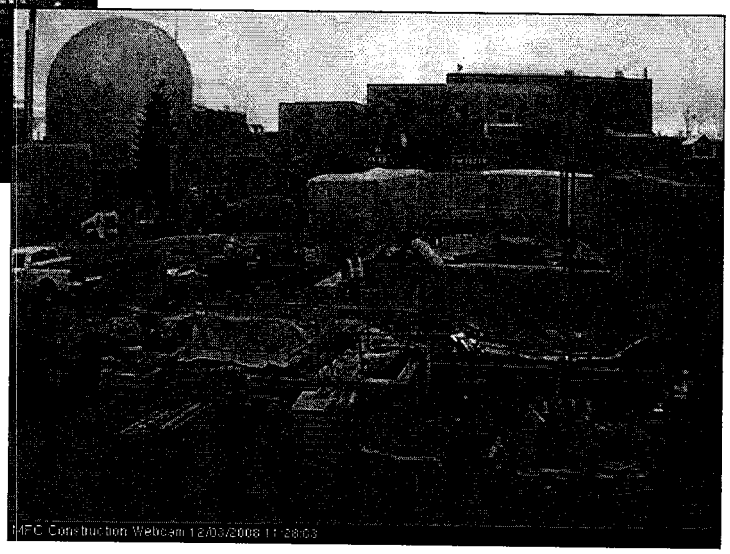
Issues:

Cause: The Radiochemistry Laboratory project requires utility tie-ins in MFC-752 and it requires limited structural interfaces with the MFC-752 structure. The subcontract requirements stipulate that no significant loads can be placed on MFC-752. The Analytical Laboratory facility personnel are engaged to review and evaluate detailed review packages as Engineering Job modifications to MFC-752, to ensure no significant loads are imposed. The effort to prepare those detailed review packages is more extensive than planned.

Impact: Operating costs are projected to be higher than planned, resulting in a cost overrun.

Corrective Action: The project is planning to add scope in February for the more extensive effort required to prepare the detailed packages.





MFC Radiochemistry Laboratory GPP
(C.R.20.20.11/C.R.30.20.11)

JANUARY 2009

Project Scope

The Radiochemistry Laboratory will house laboratory equipment and personnel for basic and applied research in aqueous separations, fuel development and associated activities. The lab spaces include actinide labs, glove box lab, instrument technologies lab, chemical and source storage, counting lab, and mechanical, electrical, and communication system support areas.

Type of Project: General Plant Project (GPP) **Scheduled Start Date:** April 2008 **Scheduled Completion Date:** April 2009

TEC = $4,985K (including identified MR of $91K)

OPC = $ 465K (including identified MR of $172K) (OPC = $782K with C.R.20.20.11)

TPC = $5,450K (TPC = $5,767K with C.R.20.20.11)

Project to Date									Project At Completion			
Budgeted Cost			Variance									
BCWS	BCWP	ACWP	Schedule	%	Cost	%	SPI	CPI	BAC	EAC Proposed	EAC Approved	VAC
3,562,849	2,752,641	2,856,600	-810,208	-22.74	-103,959	-3.78	0.77	0.96	5,186,786	5,359,949		-173,163

Project to Date

Schedule Variance (SV): -$810,208 **SV%:** -22.74%

Cause: The schedule variance is due to the construction subcontractor's inability to provide an adequate number of workers in the field. When those workers could have been accomplishing excavation and concrete wall placement during favorable summer weather conditions, they were diverted from the project to work another project in the vicinity. Consequently, the subcontractor was late in placing masonry walls in winter weather, thus delaying the completion of the roof and follow-on mechanical and electrical main floor rough-in. Further delays have been due to the subcontractor's having insufficient coordination of the design and construction resources to keep the workforce effectively engaged. Once the basement level became "weathered-in", the construction progress improved during December due to accomplishment of concurrent mechanical and electrical work in the basement of the RCL structure. However, during January, work proceeded slowly in severe winter weather, resulting in an increase in the negative schedule variance from -12.85% -22.74%. Project Management (PM), Construction Management (CM), and other project support progress is apportioned to the construction progress, thus when performance declines in construction activities, a proportionate decline occurs in PM, CM, and other project support performance. The construction continues to be approximately four weeks late.

Impact: The project will finish behind schedule.

Corrective Action: The general subcontractor must complete the critical path roof work and enable the subtier mechanical and electrical subcontractors to work on the main floor concurrently to regain schedule. The subcontractor has replaced one field superintendent and provided additional administrative resources to mitigate delays; the new field superintendent has been able to achieve progress despite severe weather. A positive trend is expected. While some improvement is noted,

performance needs to further improve. The project team will continue to focus on completing critical path work as quickly as possible.

Cost Variance (CV): -$103,959 **CV%:** -3.78%

Cause: The variance is within the reporting threshold.

Impact: None.

Corrective Action: None.

Baseline Change Control Actions:

- None.

Accomplishments:

- Completed structural steel installation, on schedule.
- Completed basement wall framing.
- Completed basement electrical rough-in.
- Completed main floor concrete slab topping placement.
- Completed basement utility piping rough-in.
- Completed basement level ductwork installation rough-in.
- Constructed 95% main floor concrete masonry wall.
- Relocated MFC-752 roof drain, on schedule.
- Constructed 90% HVAC ductwork installation in the basement level.

Milestone Status:

- None.

90-Day Look Ahead:

February:

- Complete roof installation.
- Install main floor wall framing and sheetrock.
- Install main floor ductwork.
- Initiate main floor utility piping.
- Initiate electrical distribution.

March:

- Initiate elevator installation.
- Complete electrical distribution.
- Complete utility piping.
- Install ceiling.
- Install lighting.

April:

- Install mechanical trim.
- Install electrical trim.
- Install exhaust stack.
- Test and Balance.
- Partial transfer.

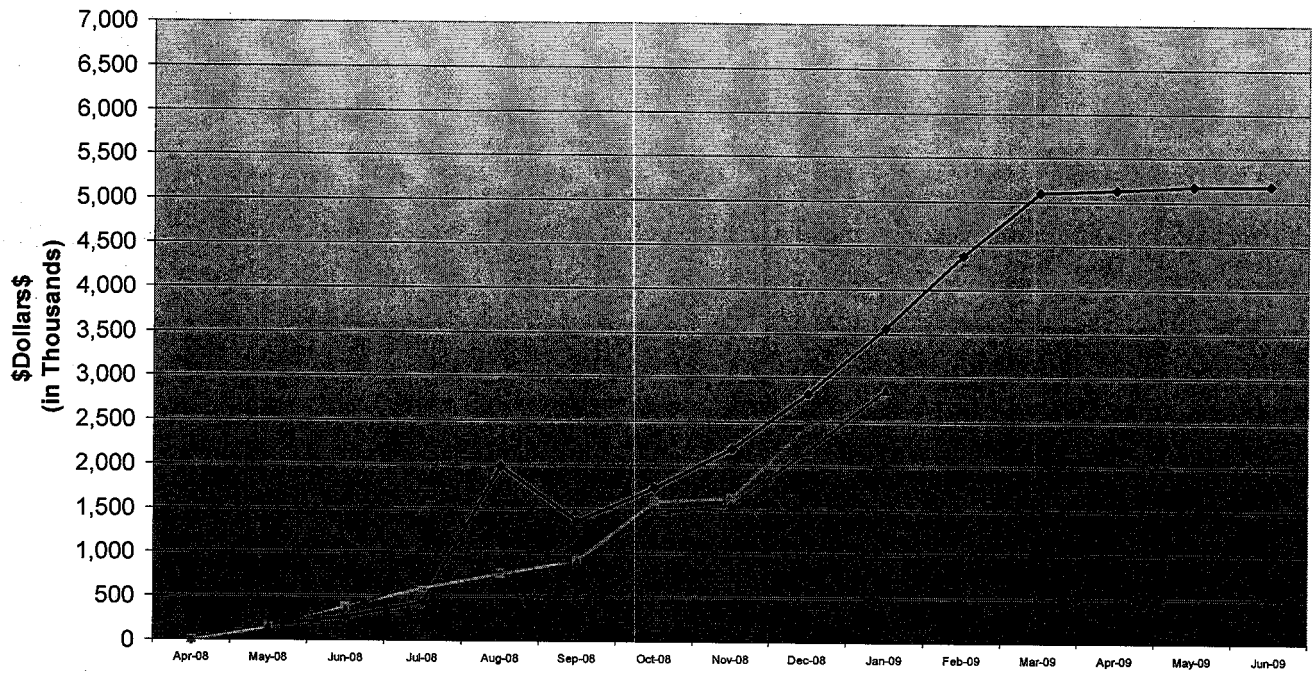
Issues:

Cause: The Radiochemistry Laboratory project requires utility tie-ins in MFC-752 and it requires limited structural interfaces with the MFC-752 structure. The subcontract requirements stipulate that no significant loads can be placed on MFC-752. The Analytical Laboratory facility personnel are engaged to review and evaluate detailed packages as Engineering Job modifications to MFC-752, to ensure no significant loads are imposed. The effort to prepare and review those detailed packages is more extensive than planned.

Impact: Operating costs are projected to be higher than planned, resulting in a cost overrun.

Corrective Action: The project is planning to add scope in March for the more extensive effort required to prepare the detailed packages.

January 2009
C.R.30.20.11 MFC Radiochemistry Laboratory
Lifecycle



	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
BCWS	0	155	270	432	1,979	1,362	1,742	2,192	2,814	3,563	4,380	5,102	5,134	5,175	5,187
BCWP	0	138	380	592	757	912	1,592	1,635	2,452	2,753					
ACWP	245	150	348	671	891	900	1,448	1,554	2,173	2,857					

Heated enclosure for west wall construction prior to completion of masonry gable end.

MFC Radiochemistry Laboratory GPP (C.R.20.20.11/C.R.30.20.11)

FEBRUARY 2009

Project Scope

The Radiochemistry Laboratory will house laboratory equipment and personnel for basic and applied research in aqueous separations, fuel development and associated activities. The lab spaces include actinide labs, glove box lab, instrument technologies lab, chemical and source storage, counting lab, and mechanical, electrical, and communication system support areas.

Type of Project: General Plant Project (GPP) **Scheduled Start Date:** April 2008 **Scheduled Completion Date:** April 2009

TEC = $4,985K (including identified MR of $91K)

OPC = $ 465K (including identified MR of $172K) (OPC = $782K with C.R.20.20.11)

TPC = $5,450K (TPC = $5,767K with C.R.20.20.11)

Project to Date									Project At Completion			
Budgeted Cost			Variance									
BCWS	BCWP	ACWP	Schedule	%	Cost	%	SPI	CPI	BAC	EAC Proposed	EAC Approved	VAC
4,379,673	3,186,444	3,575,369	-1,193,229	-27.24	-388,925	-12.21	0.73	0.89	5,186,786	5,359,949		-173,163

Project to Date:

Schedule Variance (SV): -$1,193,229 **SV%:** -27.24%

Cause: The primary contributor to the schedule variance is due to the construction subcontractor's inability to provide an adequate number of workers in the field ($1.046M). When those workers could have been accomplishing excavation and concrete wall placement during favorable summer weather conditions, they were diverted from the project to work another project at MFC. Consequently, the subcontractor was late in placing masonry walls in winter weather, thus delaying the completion of the roof and follow-on mechanical and electrical main floor rough-in. Further delays have been due to the subcontractor's having insufficient coordination of the design and construction resources to keep the workforce effectively engaged. Once the basement level became "weathered-in", the construction progress improved during December due to accomplishment of concurrent mechanical and electrical work in the basement of the RCL structure. However, during January, work proceeded slowly in severe winter weather, resulting in an increase in the negative schedule variance. In February, work focused on getting the main floor roof "weathered-in" while completing many activities in the basement level. Once the roof was weathered-in, main floor work was able to begin. The schedule variance has slipped from −22.74% to −27.24% due to late completion of the roof installation.

Impact: The project will finish behind schedule.

Corrective Action: The general subcontractor has completed the critical path roof work, thus enabling the subtier mechanical and electrical subcontractors to work on the main floor concurrently to regain schedule. The subcontractor has replaced one field superintendent and provided additional administrative resources to mitigate delays; the new field superintendent has been able to achieve progress despite severe weather. A positive trend is expected. While there is a general trend of slower completion of most activities to date, some improvement is expected, particularly from mechanical and electrical sub-tier contractors. The project team will continue to focus on completing critical path work as quickly as possible.

Cost Variance (CV): -$388,925 CV%: -12.21%

Cause: While construction performance continues to be slower in achieving progress, full-time CM costs continue to drive the TEC variance of -$86,218.

Meanwhile EJ/USQ design evaluation activities have increased far beyond planned levels. The EJ/USQ process engages engineers and Analytical Laboratory facility personnel who review and evaluate detailed packages as Engineering Job modifications to MFC-752, to ensure no adverse impact or loads are imposed on MFC-752. The effort to prepare and review those detailed packages is far more extensive than planned.

The EJ/USQ effort is the primary driver of the operating variance of -$274,850. Consequently, costs are increasingly higher with respect to construction progress.

Impact: The project will overspend.

Corrective Action: The project support costs (non-construction activities) are expected to reduce in the coming month, leading to an improvement in project efficiency. Also, installation of pre-fabricated items will resume as a result of "weathering-in" and a resultant increase in efficiency will be realized. Construction progress is monitored closely and accruals will be adjusted as required to reflect actual progress.

Baseline Change Control Actions:

None.

Accomplishments:

Completed structural steel installation.

Completed basement wall framing.

Completed basement electrical rough-in.

Completed main floor concrete slab topping placement.

Completed basement utility piping rough-in.

Completed basement level ductwork installation rough-in.

Completed main floor concrete masonry wall.

Relocated MFC-752 roof drain.

Constructed 90% HVAC ductwork installation in the basement level.

Completed roof substrate and weather shield installation.

Installed main floor wall framing and approximately 70% sheetrock.

Began main floor ductwork installation.

Initiated main floor utility piping.

Initiated electrical distribution.

Completed roof insulation.

Milestone Status:

None.

90-Day Look Ahead:

March:

- Initiate elevator installation.
- Complete electrical distribution rough-in.
- Complete utility piping.
- Install ceiling.
- Install lighting.
- Install exhaust stack.

April:

- Install mechanical trim.
- Complete fire suppression trim.
- Install electrical trim.
- Complete voice, evacuation announcement and paging system.
- Complete security and access control.
- Complete HVAC control.
- Test and Balance.
- Partial transfer.

May:

- Complete punch list items.
- Final transfer.
- Demobilization.

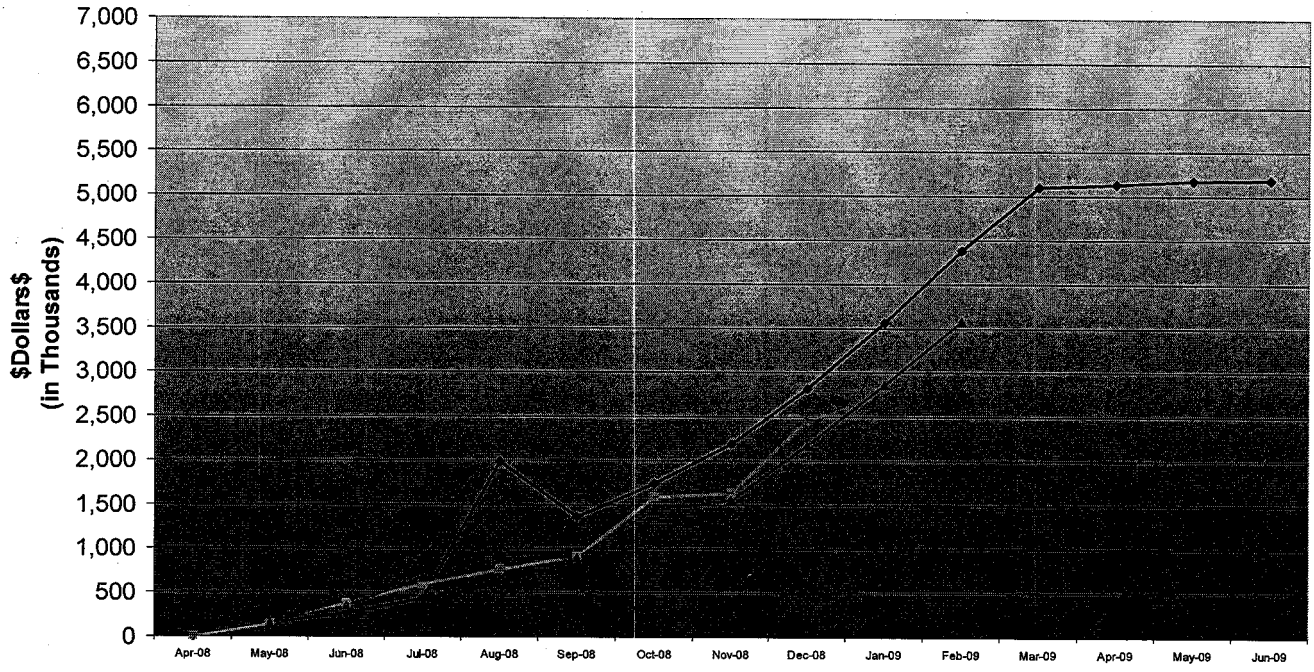
Issues:

Cause: The Radiochemistry Laboratory project requires utility tie-ins in MFC-752 and it requires limited structural interfaces with the MFC-752 structure. The subcontract requirements stipulate that no significant loads can be placed on MFC-752. The BEA engineers and Analytical Laboratory facility personnel are engaged to review and evaluate detailed packages as Engineering Job modifications to MFC-752, to ensure no significant loads are imposed. The effort to prepare and review those detailed packages is far more extensive than planned.

Impact: Operating costs are higher than planned, resulting in a cost overrun.

Corrective Action: The project is planning to submit a funds change notice (FCN) in March requesting funds to cover the more extensive effort required to prepare the detailed packages.

February 2009
C.R.30.20.11 MFC Radiochemistry Laboratory
Lifecycle



	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
BCWS	0	155	270	432	1,979	1,362	1,742	2,192	2,814	3,563	4,380	5,102	5,134	5,175	5,187
BCWP	0	138	380	592	757	912	1,592	1,635	2,452	2,753	3,186				
ACWP	245	150	348	671	891	900	1,448	1,554	2,173	2,857	3,575				

MFC Radiochemistry Laboratory GPP (C.R.20.20.11/C.R.30.20.11)

MARCH 2009

Project Scope

The Radiochemistry Laboratory will house laboratory equipment and personnel for basic and applied research in aqueous separations, fuel development and associated activities. The lab spaces include actinide labs, glove box lab, instrument technologies lab, chemical and source storage, counting lab, and mechanical, electrical, and communication system support areas.

Type of Project: General Plant Project (GPP) **Scheduled Start Date:** April 2008 **Scheduled Completion Date:** April 2009

TEC = $4,985K (including identified MR of $91K)

OPC = $ 465K (including identified MR of $172K) (OPC = $782K with C.R.20.20.11)

TPC = $5,450K (TPC = $5,767K with C.R.20.20.11)

Project to Date									Project At Completion			
Budgeted Cost			Variance									
BCWS	BCWP	ACWP	Schedule	%	Cost	%	SPI	CPI	BAC	EAC Proposed	EAC Approved	VAC
5,101,788	3,783,316	4,270,366	-1,318,472	-25.84	-487,050	-12.87	0.74	0.89	5,186,786	5,359,949		-173,163

Project to Date:

Schedule Variance (SV): -$1,318,472 SV%: -25.84%

Cause: The schedule variance is due to the construction subcontractor's inability to provide an adequate number of workers in the field. When those workers could have been accomplishing excavation and concrete wall placement during favorable summer weather conditions, they were diverted from the project to work another project in the vicinity. Consequently, the subcontractor was late in placing masonry walls in winter weather, thus delaying the completion of the roof and follow-on mechanical and electrical main floor rough-in. Further delays have been due to the subcontractor's having insufficient coordination of the design and construction resources to keep the workforce effectively utilized. Once the basement level became "weathered-in", the construction progress improved during December due to accomplishment of concurrent mechanical and electrical work in the basement of the RCL structure. However, during January, work proceeded slowly in severe winter weather, resulting in an increase in the negative schedule variance. In February, work focused on getting the main floor roof "weathered-in" while completing many activities in the basement level. Once the roof was weathered-in, main floor work was able to begin. The schedule variance slipped due to late completion of the roof installation. Project Management (PM), Construction Management (CM), and other project support progress is apportioned to the construction progress, thus when performance declines in construction activities, a proportionate decline occurs in PM, CM, and other project support performance. Recent improvement in construction progress due to aggressive jobsite coordination of the workforce has resulted in a positive trend toward recovering schedule.

Impact: The project will continue to be behind schedule.

Corrective Action: The general subcontractor has completed the critical path roof work, thus enabling the subtier mechanical and electrical subcontractors to work on the main floor concurrently to regain schedule. The subcontractor has replaced one field superintendent and provided additional administrative resources to mitigate delays; the new field superintendent has been able to achieve progress despite severe weather and a positive trend has been evident. The project team will continue to focus on completing critical path work as quickly as possible.

Cost Variance (CV): -$487,050 CV%: -12.87%

Cause: The primary contributor to the cost variance is ($366K) caused by an increase in non-dedicated support for MFC-752 utility tie-ins in the form of safety engineering, radcon tech, and nuclear facility escorts to facilitate tie-ins of utilities in MFC-752. Due to the nature of a design-build contract, the project was unable to anticipate utility designs and associated non-dedicated support.

An additional contributor is the CM ($90K) costs which are increasing as a result of the slip in schedule.

Meanwhile EJ/USQ design evaluation activities have increased far beyond planned levels. The EJ/USQ process engages engineers and Analytical Laboratory facility personnel who review and evaluate detailed packages as Engineering Job modifications to MFC-752, to ensure no adverse impact or loads are imposed on MFC-752. The effort to prepare and review those detailed packages is far more extensive than planned.

Impact: The project-to-date cost variance has become increasingly negative from (-) 12.21% in February to (-) 12.87% in March.

Corrective Action: An FCN will be developed in April/May to request additional funds to cover the operating expenses associated with the utility tie-ins. Capital costs will be monitored closely to ensure the $5M capital limit is not exceeded. Elective scope will be reduced as necessary to minimize the capital expenditure.

Baseline Change Control Actions:

None.

Accomplishments:

Constructed 95% HVAC ductwork installation in the basement level.

Completed main floor wall framing and sheetrock.

Completed roof insulation.

Initiated elevator installation.

Completed electrical distribution rough-in.

Installed approximately 65% utility piping.

Initiated ceiling installation.

Completed 90% electrical lighting rough-in.

Initiated stack installation.

90-Day Look Ahead:

April:

- Complete stack installation.

- Initiate metal roofing installation.
- Initiate mechanical trim installation.
- Install electrical trim.
- Initiate security and access control.
- Complete HVAC control.
- Test and Balance.
- Partial transfer.

May:

- Complete metal roofing installation.
- Complete fire suppression trim.
- Complete mechanical, plumbing, and electrical trim.
- Complete voice, evacuation announcement and paging system.
- Complete exterior painting.
- Complete data and phone network installation.
- Complete security and access control.
- Complete test and balance.
- Partial transfer.

June:

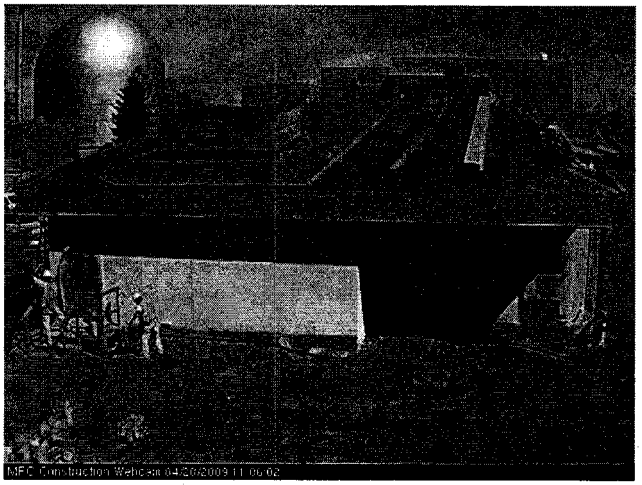
- Complete punchlist items.
- Final transfer.
- Demobilization.

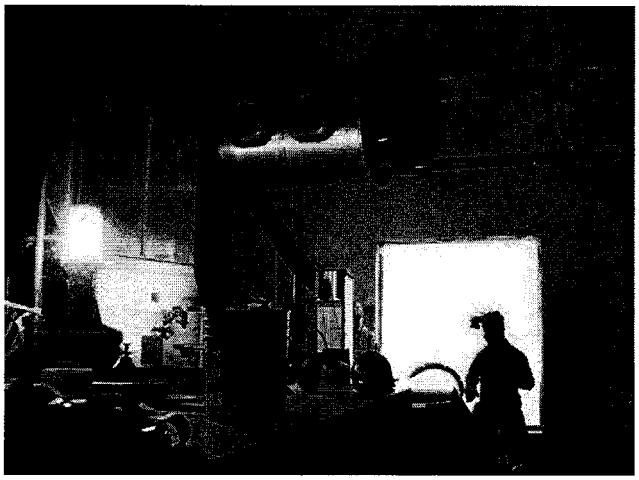
Issues:

Cause: The Radiochemistry Laboratory project requires utility tie-ins in MFC-752 and it requires limited structural interfaces with the MFC-752 structure. The subcontract requirements stipulate that no significant loads can be placed on MFC-752. The BEA engineers and Analytical Laboratory facility personnel are engaged to review and evaluate detailed packages as Engineering Job modifications to MFC-752, to ensure no significant loads are imposed. The effort to prepare and review those detailed packages is far more extensive than planned.

Impact: Operating costs are higher than planned, resulting in a cost overrun.

Corrective Action: The project issued a Funds Change Notice in March to provide sufficient funding for the more extensive effort required to prepare the detailed packages.

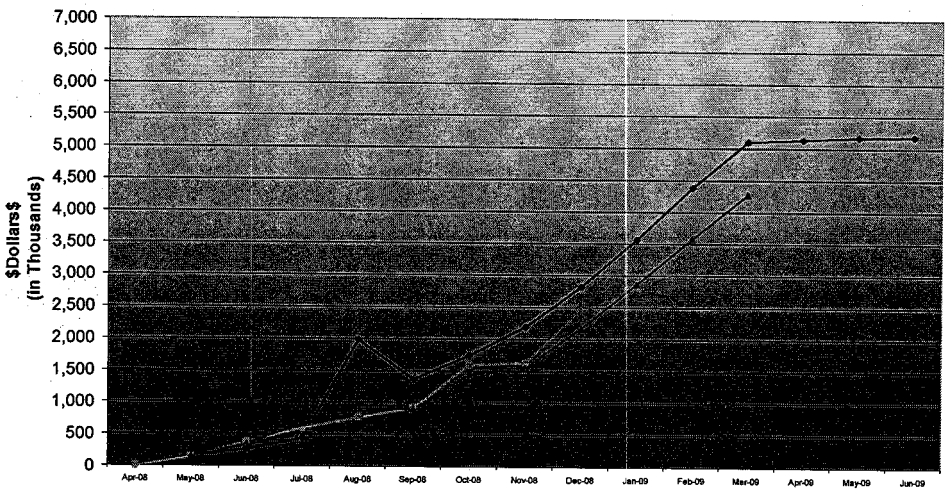




MFC Construction
supported above the mechanical room

Stainless Steel Duct

March 2009
C.R.30.20.11 MFC Radiochemistry Laboratory
Lifecycle



	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
BOWS	0	155	276	432	1,979	1,362	1,742	2,192	2,814	3,583	4,380	5,102	5,134	5,175	5,187
BOWP	0	138	380	592	757	912	1,582	1,635	2,452	2,733	3,186	3,783			
ACWP	245	150	348	671	891	909	1,448	1,564	2,173	2,857	3,575	4,270			