

200 AREA ECM #1

Attachment J-6 Basic Elements of Proposal

1. Technical Description: This Part I ECM is proposed to provide a new heating utility service for the 200 Area. This proposal includes the design, construction, and operation and maintenance of a fully distributed fossil fueled heating system consisting of boilers and boiler annexes strategically located to satisfy the heating and process needs of the facilities listed herein as Appendix "A". This ECM, once operational, will replace the existing 50 year old centralized heating system including the coal fired plant and associated steam distribution system. The boiler annexes are to be erected on land leased from DOE-RL. DOE-RL will provide Contractor, for the construction period, with adequate laydown area in the 200 East and 200 West areas, for receiving and storing materials and equipment at no cost to the Contractor.

Appendix A contains the performance requirements to which each heating/process system will operate and the proposed sizes quantities and types of equipment envisioned to be installed. It is agreed and understood by DOE RL and JCI that value engineering, construction opportunities and or limitations may require a change in types, quantities, and sizes of equipment. However such change will not alter the performance requirements of the completed systems. JCI assumes no responsibility for maintenance or operations performed by the Government or its' contractors and the effect of such work by others on the energy performance of the systems provided under this ECM. JCI has sized the boiler systems to the currently observed operating conditions. JCI makes no warranty of current building operations being in compliance with ASHRAE standards or any current health and safety codes or standards. Should DOE or its' contractors choose to add load to the facilities, the heating annexes as designed and installed may require additional capacity to be added at no cost to JCI.

2. Affected Energy Baseline: The affected energy baseline (current operation consumption) is that of the existing coal fired steam plant of the 200 Area. The fiscal year 1996 consumption was 58,398,140 pounds of coal. The energy units are 13,150 btu/# of coal.

3. 1996 energy use for baseline year:	7.6794 E 11 btu
Post Installation annual energy use estimate:	2.6725 E 11 btu
Annual estimated energy savings:	5.0069 E 11 btu

4. Sources of energy cost savings:

- A. Improved efficiencies associated with modern state of the art equipment. Existing systems operate at approximately 33% efficiency. Proposed systems will operate at approximately 82% efficiency.
- B. Elimination of inefficient 200 Area steam distribution system and the associated losses.
- C. Custom sizing of each heating system for the specific application.
- D. Full control of each heating system for scheduling of operation and to modulate energy consumption to the lowest possible level to satisfy the heating needs of each facility. These capabilities not available on the existing system.
- E. Present distribution system for heating does not return condensate. Proposed systems will return 95% of condensate for heating.

5. Guaranteed savings to the government are as stated in the contract, section B, schedule 1, column (c) for each of the 200 and 300 areas.

6. The verification program will be METRIX or approved modeling and verification program. See Appendix "B" for a description of the attributes of the METRIX program.

*7. The annual economic price adjustment for unit cost of fuel shall be as stated in section H.32 of the contract. Specific rate adjustments for fuel oil shall be indexed annually based upon the economic adjustment listed in the U.S. Bureau of Labor Statistics Economic Index for Fuels for Portland/Salem, OR-WA (#CUUSA425SAH21). The September 2010 index value as of November 1, 2010 was 191.497. The delivered rate for fuel oil utilized in Schedule B for the Operations and Maintenance portion of the contract is \$1.626 per gallon (effective October 1, 2010). Total gallons utilized is 247,283 for a cost of \$415,188.

The annual economic price adjustment for all other applicable sections of the operations and maintenance service provisions of this contract shall be as stated in section H.33 of said contract. Cost adjustments shall be made in accordance with the CPI Index listed in the Bureau of Labor Statistics for All Urban Consumers, series ID: CUUR0400SA0, Western Region. Latest index as of November 2010 is 221.384.

8. The potential for adverse affect upon the quality of the human environment could be in the following areas:

- A. Transportation of fossil fuel over the highway and into the 200 Area.
- B. Reduction in labor force.

Categorical Exclusion has been prepared and authorized by the Department of Energy. The proposed activity meets the eligibility criteria of 10 CFR 1021.410(b). The CX and NOC are in final review.

9. The decentralized heating systems proposed will eliminate the need for the existing boiler plants and distribution systems throughout the 200 Area. The associated maintenance, repair, and capital improvements which heretofore were required and provided by the site contractors on a cost reimbursable basis are thus eliminated. The maintenance and repair of the new systems are by the ESPC contractor under a fixed price contractual agreement.

The decentralized heating systems will be fully automated and continuously monitored by state of the art instrumentation which eliminates the need for full time operators at the heating plants. Automatic controls will enhance safety and energy efficiency by providing instantaneous response to off normal and changing load conditions while providing annunciation of the condition to multiple locations.

10. Total annual payments to the contractor are as listed in the contract, section B, schedule 2, column (e) for each of the 200 and 300 areas.

11. See Tables 11.A. and 11.B. In the event an Annex is terminated, savings attributable to the capital portion of the termination will be obtained by utilizing the amounts listed in Table 11.A, under the column heading "termination ceiling," multiplied by the Termination Ceiling Schedule in Section B Schedule 3. Savings attributed to the Operations and Maintenance termination portion can be found in Table 11.B. The "fuel" will be multiplied by the then-current fuel price to determine fuel savings, which is added to the "consumables" savings.

Contract No. DE-AC06-97RL13184
Modification 130

12. Schedule:

See detailed schedule dated March, 1997.

* Item 7 is the only item of the "Basic Elements of Proposal" revised by Modification 130. The wording of the remaining items is unchanged from Modification M001.

242A

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 700hp, 15psi and one- 200hp, 150psi #2 fuel oil fired boilers for process/jetting and heating steam. Approximately 343,898 gallons of fuel will be used on an annual basis to provide process/jetting steam at 30,000 pounds an hour for approximately eight weeks a calendar year and meet a performance standard of 68 degrees for space heating in this 8,360 square foot facility. Approximately 145,573 gallons will be used on an annual basis for heating. The annex will be located on the West side of the complex adjacent to the existing steam distribution line approximately 150ft from the 242A facility. The new system will employ two separate steam supply lines, one for heating steam and the other for process/jetting loads. Process/jetting and heating requirements, #2 fuel will be supplied via an above ground, double walled, fuel storage tank. The peak process and heating load for this facility is 35,793,000 btu/hr.

225B

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 150hp, 150psi, #2 fuel oil fired boiler. Process loads and jetting loads will be 600lb/hr and have a duration of 4 days per year. Normal jetting requirements will occur three times during the normal heating period from September to May and one additional need from April to August. This shall be a recurring requirement in the contract. A double walled, steel, holding tank will be used to hold fuel. Approximately 96,954 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 20,486 square foot facility. The annex will be located on the West end, approximately 60 feet from the facility. The peak-heating load for this facility is 4,457,662 btu/hr.

275E

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 80hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled steel holding tank will be used to hold fuel. Annex and fuel holding tank will be located on the North side of 2715EC, North of the existing main steam distribution line, approximately 40 feet from the building. Approximately 24,577 gallons will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 3,792 square foot facility. The peak-heating load for this facility is 1,130,000 btu/hr. This boiler will be shared with 2707E.

2707E

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 80hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled steel holding tank will be used to hold fuel. Annex and fuel holding tank will be located on the North side of 2715EC, North of the existing main steam distribution line, approximately 40 feet from the building. Approximately 3,915 gallons will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 3,306 square foot

facility. The peak-heating load for this facility is 180,000 btu/hr. This boiler will be shared with 275E.

272W

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one-250hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to hold fuel. Annex and fuel holding tank will be located on the Northeast corner, 20 feet from the 277W facility. Approximately 45,240 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 16,651 square foot facility. The peak-heating load for this facility is 2,080,000 btu/hr. This boiler will be shared with 277W and 2707W.

277W

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one-250hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to hold fuel. Annex and fuel holding tank will be located on the Northeast corner, 20 feet from the 277W facility. Approximately 111,043 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 29,170 square foot facility. The peak-heating load for this facility is 4,970,000 btu/hr. This boiler will be shared with 272W and 2707W.

2707W

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one-250hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to hold fuel. Annex and fuel holding tank will be located on the Northeast corner, 20 feet from the 277W facility. Approximately 3,915 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 2,616 square foot facility. The peak-heating load for this facility is 180,000 btu/hr. This boiler will be shared with 277W and 272W.

234-5Z

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for steam to facilitate jetting in 241Z and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 567,674 gallons of fuel will be used on an annual basis for processing and heating to meet a performance standard of 68 degrees in these 226,157 square foot facilities (234-5Z/291Z) The peak process and heating load for this facility is 26,100,000 btu/hr. This boiler will be shared with 241Z, 241ZA, 2715Z, 2725Z, 291Z and 2736ZB.

241Z

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for process, jetting and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 25,882 gallons of fuel will be used on an annual basis for processing and to meet a performance standard of 68 degrees in this 19,157 square foot facility. The peak process/jetting load is 113btu/hr and heating load for this facility is 1,190,000 btu/hr. This boiler will be shared with 234-5Z, 241ZA, 2715Z, 2725Z, 291Z and 2736ZB.

241ZA

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for process/jetting to 241Z and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 5,198 gallons of fuel will be use on an annual basis for processing and to meet a performance standard of 68 degrees in this 167 square foot facility. The peak process and heating load for this facility is 239,000 btu/hr. This boiler will be shared with 234-5Z, 241Z, 2715Z, 2725Z, 291Z and 2736ZB.

2715Z

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for process/jetting to 241Z and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 5,198 gallons of fuel will be use on an annual basis for processing and to meet a performance standard of 68 degrees in this 192 square foot facility. The peak process and heating load for this facility is 239,000 btu/hr. This boiler will be shared with 234-5Z, 241Z, 241ZA, 2725Z, 291Z and 2736ZB.

2725Z

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for process/jetting to 241Z and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 530 gallons of fuel will be use on an annual basis for processing and to meet a performance standard of 68 degrees in this 400 square foot facility. The peak process and heating load for this facility is 24,300 btu/hr. This boiler will be shared with 234-5Z, 241Z, 241ZA, 2715Z, 291Z and 2736ZB.

2736ZB

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for process/jetting to 241Z and heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 11,027 gallons of fuel will be used on an annual basis for processing and to meet a performance standard of 68 degrees in this 11,980 square foot facility. The peak process and heating load for this facility is 507,000 btu/hr. This boiler will be shared with 234-5Z, 241Z, 241ZA, 2725Z, 291Z and 2715Z.

291Z

REPLACE CENTRAL STEAM

Description: This measure involves the installation of three- 350hp, 150psi, #2 fuel oil fired boilers for steam to facilitate backup exhaust fan operation. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located on the Southwest corner, 40 feet from 231Z. Approximately 41,554 gallons of fuel will be used on an annual basis for fan testing, standby and operation. A standby generator and transfer switch are installed that will provide for steam production in the advent of loss of permanent electrical power to the boilers. Should loss of permanent power require manual restart of the boilers, repair and maintenance personnel shall respond to reinitiate steam production. Personnel will arrive within 30 minutes, during the normal heating season, to reinitiate steam production. Personnel will arrive within 1 hour, during non-heating season (typically from June through September), to reinitiate steam production. These boilers will be shared with 234-5Z, 241Z, 241ZA, 2715Z, 2725Z and 2736ZB.

222S

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 200hp, 150psi, #2 fuel oil fired boilers for heating and process steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located approximately 400 feet Northeast of 222S. Approximately 285,679 gallons of fuel will be used on an annual basis for processing and to meet a performance standard of 72 degrees for space heating in this 60,167 square foot facility. The peak process and heating load for this facility is 11,875,867 btu/hr. This boiler will be shared with 2716S.

2716S

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 200hp, 150psi, #2 fuel oil fired boilers for heating and process steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tanks will be located approximately 400 feet Northeast of 222S. Approximately 5,590 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 1,500 square foot facility. The peak-heating load for this facility is 257,000 btu/hr. This boiler will be shared with 222S.

283E

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one, 200hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tank will be located approximately 40 feet from the Southeast corner of 283E. Steam supply line will be routed through 282EC to the 283EA (Sanitary Water Storage Tank) to a heat exchanger for freeze protection temperature of 42 degrees. Approximately 89,610 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees at 283E for space heating in this 3,250 square foot facility. The peak-heating load for this facility is 4,120,000 btu/hr.

283W

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one, 200hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tank will be located approximately 40 feet from the Southeast corner of 283E. Steam supply line will be routed through 282WC to the 283WA (Sanitary Water Storage Tank) to a heat exchanger for freeze protection temperature of 42 degrees. Approximately 89,610 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees at 283W for space heating in this 3,250 square foot facility. The peak-heating load for this facility is 4,120,000 btu/hr.

HILL CONSTRUCTION COMPLEX- 200 CC REPLACE CENTRAL STEAM

Description: This measure involves the installation of one, 80hp, 15psi, #2 fuel oil fired boiler for heating steam. A double walled, steel, holding tank will be used to store fuel. Annex and fuel holding tank will be located approximately 60 feet away on the South of the complex adjacent to the existing main steam distribution line. Approximately 34,633 gallons of fuel will be used on an annual basis to meet a performance standard of 68 degrees in this 1500 square foot facility. The peak-heating load for this facility is 1,670,000 btu/hr.

PORTABLE BOILER

REPLACE CENTRAL STEAM

Description: This measure involves the supply of a 200hp, 150psi, #2 fuel oil fired, portable boiler for backup. This boiler is on an as-need basis with a 48-hour response time for operations. This boiler and the accompanying fuel oil tank will be located on a trailer. Fuel for this application will be reported based on actual usage as part of the annual energy audit report.

300 AREA ECM #1

Part I Section J-6 Basic Elements of Proposal

1. Technical Description: This Part I ECM is proposed to provide a new heating utility service for the 300 Area. This proposal includes the design, construction, and operation and maintenance of a fully distributed natural gas fueled heating system consisting of boilers and boiler annexes strategically located to satisfy the heating and process needs of the facilities listed herein. This ECM, once operational, will replace the existing 50 year old centralized heating system including the #6 oil fired plant and associated steam distribution system. The boiler annexes are to be erected on land leased from DOE-RL. DOE-RL will provide Contractor, for the construction period, with adequate laydown in the 300 area, for receiving and storing materials and equipment at no cost to the Contractor.

Appendix A contains the performance requirements to which each heating/process system will operate and the proposed sizes quantities and types of equipment envisioned to be installed. It is agreed and understood by DOE RL and JCI that value engineering, construction opportunities and or limitations may require a change in types, quantities, and sizes of equipment. However such change will not alter the performance requirements of the completed systems. JCI assumes no responsibility for maintenance or operations performed by the Government or its contractors and the effect of such work by others on the energy performance of the systems provided under this ECM. JCI has sized the boiler systems to the currently observed operating conditions. JCI makes no warranty of current building operations being in compliance with ASHRAE standards or any current health and safety codes or standards. Should DOE or its' contractors choose to add load to the facilities, the heating annexes as designed and installed may require additional capacity to be added at no cost to JCI.

2. Affected Energy Baseline: The affected energy baseline (current operation consumption) is that of the existing # 6 oil fired steam plant of the 300 Area. The fiscal year 1996 consumption was 1,776,667 gallons of # 6 oil. The energy units are 148,000 btu/gallon of # 6 oil.

3. 1996 energy use for baseline year:	2.6295 E 11 btu
Post Installation annual energy use estimate:	2.1248 E 11 btu
Annual estimated energy savings:	5.0470 E 10 btu

4. Sources of energy cost savings:

A. Improved efficiencies associated with modern state of the art equipment. Existing systems operate at approximately 60% efficiency. Proposed systems will operate at approximately 82% efficiency.

B. Elimination of inefficient 300 Area steam distribution system and the associated losses.

C. Custom sizing of each heating system for the specific application.

D. Full control of each heating system for scheduling of operation and to modulate energy consumption to the lowest possible level to satisfy the heating needs of each facility. These capabilities not available on the existing system.

E. Present distribution system for heating returns less than 25% condensate. Proposed systems will return additional condensate from the heating system.

5. Guaranteed savings to the government are as stated in the contract, section B, schedule 1, column (c) for each of the 200 and 300 areas.

6. The verification program will be METRIX or approved modeling and verification program. See Appendix A for a description of the attributes of the METRIX program.

Contract No. DE-AC06-97RL13184
Modification 130

*7. The annual economic price adjustment for unit cost of fuel shall be as stated in section H.32 of the contract. Specific rate adjustments for Natural Gas shall be indexed annually based upon the Tariff Rate Schedule 511 approved by the Washington Utilities and Transportation Commission, including applicable rate adjustments 595, 596, 598, and 599. The September 2010 composite index/rate as of November 1, 2010 (for a nominal 0.85 million therm usage) is \$0.9582 per therm. The delivered rate utilized in Schedule B for the Operations and Maintenance portion of the contract is \$0.871 per therm. Total therm usage is 846,084 for a total natural gas price of \$736,939.

The annual economic price adjustment for all other applicable sections of the operations and maintenance service provisions of this contract shall be as stated in section H.33 of said contract. Cost adjustments shall be made in accordance with the CPI Index listed in the Bureau of Labor Statistics for All Urban Consumers, series ID: CUUR0400SAO, Western Region. Latest index as of November 2010 is 221.384.

8. The potential for adverse affect upon the quality of human environment could be in the following areas:

A. Reduction in labor force.

Environmental Assessment has been prepared and submitted to the Department of Energy and in the final review process with the finding of no significant impact. See (EA) DOE /EA - 1178.

9. The decentralized heating systems proposed will eliminate the need for the existing boiler plants and distribution systems throughout the 300 area. The associated maintenance, repair, and capital improvements which heretofore were required and provided by the site contractors on a cost reimbursable basis are thus eliminated. The maintenance and repair of the new systems are by the ESPC contractor under a fixed price contractual agreement.

The decentralized heating systems will be fully automated and continuously monitored by state of the art instrumentation which eliminates the need for full time operators at the heating plants. Automatic controls will enhance safety and energy efficiency by providing instantaneous response to off normal and changing load conditions while providing annunciation of the condition to multiple locations.

10. Total annual payments to the contractor are as listed in the contract, Section B, Schedule 2, column (e) for each of the 200 and 300 areas.

11. See Tables 11.A. and 11.B. In the event an Annex is terminated, savings attributable to the capital portion of the termination will be obtained by utilizing the amounts listed in Table 11.A, under the column heading "termination ceiling," multiplied by the Termination Ceiling Schedule in Section B, Schedule 3. Savings attributed to the Operations and Maintenance termination portion can be found in Table 11.B. The "fuel" will be multiplied by the then-current fuel price to determine fuel savings, which is added to the "consumables" savings.

12. Schedule:

See detailed schedule dated 3 March, 1997.

* Item 7 is the only item of the "Basic Elements of Proposal" revised by Modification 130. The wording of the remaining items is unchanged from Modification M001.

305

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 40hp, 15psi, natural gas fired boiler for heating steam. Approximately 14,495 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 15,360 square foot facility. The boiler annex will be located on the Northeast corner, approximately 40 feet from the building. The peak-heating load for this facility is 544,000 btu/hr.

306 EAST

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 150hp, 15psi, natural gas fired boiler for heating steam. Approximately 106,313 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 46,303 square foot facility. The boiler annex will be located on the East side, approximately 15 feet from the building. The peak-heating load for this facility is 3,990,000 btu/hr.

318

REPLACE CENTRAL STEAM & RECONFIGURE AIRSIDE

Description: This measure involves the installation of one- 30hp, 15psi, natural gas fired boiler for heating steam. Reconfiguration of the airside system in this facility was proposed as ECM #7. Upon further engineering, the determination was made to proceed with this scope of work along with the Part 1 ECM, due to the effects on the boiler sizing. This involves the installation of return air capabilities for K1, K2 and K3. Economizer cycles and controls will be installed to allow for a free cooling when ambient air temperature is low enough. Approximately 44,120 therms will be used on an annual basis to meet a performance standard of 70 degrees for space heating in this 25,362 square foot facility. The boiler annex will be located approximately 100 feet West of the building. The peak-heating load for this facility is 1,570,000 btu/hr.

320

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 100hp, 15psi, natural gas fired boilers for heating steam. Approximately 182,382 therms will be used on an annual basis to meet a performance standard of 70 degrees for space heating in this 31,437 square foot facility. The boiler annex will be located on the East side, 20 feet from the facility. The peak-heating load for this facility is 6,490,000 btu/hr.

323

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 50hp, 15psi, natural gas fired boiler for heating steam. Approximately 14,304 therms will be used on an annual basis to meet a performance standard of 70 degrees for space heating in this 4,150 square foot facility. The boiler annex will be

located on the West side of 3760, 60 feet from the facility and the boilers will be shared with 3760. The peak-heating load for this facility is 509,000 btu/hr.

324

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 300hp, 150psi, natural gas fired boilers for process/jetting and heating requirements. Approximately 261,089 therms will be used on an annual basis for processing and to meet a performance standard of 68 degrees for space heating in this 101,709 square foot facility. The high bay has a 4,000 pound per hour process load for approximately 40 hours every six months, and a 400 pound per hour load for approximately 40 hours every two months and 1250 pound per hour load on an intermittent basis for jetting purposes. The boiler annex will be located Southwest, 200 feet from 324 adjacent to the 308 facility. The peak-heating load for this facility is 9,574,000 btu/hr.

325

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two-125hp, 150psi, natural gas fired boilers for steam heating. Approximately 163,555 therms will be used on an annual basis to meet a performance standard of 72 degrees for space heating in this 144,092 square foot facility. The boiler annex will be located on the Northwest corner, fifteen feet from the facility. The peak-heating load for this facility is 5,550,000 btu/hr.

326

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 100hp, 15psi, natural gas fired boilers for hot water heating. Approximately 181,589 therms will be used on an annual basis for this facility to a standard performance of 68 degrees for space heating in this 63,101 square foot facility. The boiler annex will be located in the mid-range on the North side, 20 feet from the facility. The peak-heating load for this facility is 7,951,284 btu/hr.

327

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 200hp, 15psi, natural gas fired boiler for steam heating. Approximately 174,232 therms will be used on an annual basis to meet a performance standard of 70 degrees for space heating in this 26,925 square foot facility. The boiler annex will be located on the Southeast corner, 30 feet from the building. The peak-heating load for this facility is 6,200,000 btu/hr.

328

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 30hp, 15psi, natural gas fired boiler for steam heating. Approximately 24,380 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 38,556 square foot facility. The boiler annex will be

located on the Northwest corner, 30 feet from the building. The peak-heating load for this facility is 915,000 btu/hr.

329

REPLACE CENTRAL STEAM

Description: This measure involves the installation of four- 48.2hp, 160psi, natural gas fired, hot water boilers for heating. Approximately 156,247 therms will be used on an annual basis to meet a performance standard of 70 degrees for space heating in this 39,420 square foot facility. These boilers will be installed in the mechanical room on the second floor of the 329 facility. The peak-heating load for this facility is 5,560,000 btu/hr.

331

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 300hp, 150psi, natural gas fired boilers for process/jetting and steam heating. Approximately 427,843 therms will be used on an annual basis for processing needs and to meet a performance standard of 71 degrees for space heating in this 117,240 square foot facility. 50psi steam is used to facilitate the operation of Autoclaves on an intermitted basis. The annex will be located on the West side, 40 feet from the facility. The peak-heating load 14,488,110 btu/hr.

337/337B

REPLACE CENTRAL STEAM

Description: This measure involves the installation of two- 60hp, 15psi, natural gas fired boilers for steam heating. Approximately 82,865 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in these 109,800 square foot facilities. The annex will be located on the West side of 337B, 40 feet from the facility. The peak heating load for this facility 3,110,000 btu/hr.

3506A

REPLACE CENTRAL STEAM

Description: This measure involves the removal of the existing steam convector, air handling unit, piping and plenum. Existing system is to be replaced with a heat pump unit and associated piping and air handling unit. This equipment will be used to meet a performance standard of 68 degrees in this 1,891 square foot facility. The peak-heating load for this facility is 75,400 btu/hr.

3760

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 50hp, 15psi, natural gas fire boiler for heating steam, to be shared with 323. Approximately 26,592 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 21,700 square foot facility. The annex will be located on the west side, 60 feet from the facility. The peak-heating load for this facility is 998,000 btu/hr.

3705

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 15hp, 15psi, natural gas fired boiler for heating steam. Approximately 31,137 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 6,846 square foot facility. The annex will be located on the Northeast corner, 40 feet from the facility. The peak-heating load for this facility is 486,000 btu/hr.

3709A Fire Station

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 48.2hp, 160psi natural gas fired hot water boiler for heating. Approximately 5,747 therms will be used on an annual basis to meet a performance standard of 72 degrees for space heating in this 6,163 square foot facility. The boiler will be installed in the mechanical room of the facility. The peak-heating load for this facility is 195,000 btu/hr.

3709 Paint Shop

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one natural gas fired furnace for space heating. Approximately 5,747 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 6,017 square foot facility. The furnace will be installed in the existing facility.

The peak-heating load for this facility is 240,000 btu/hr.

3717

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 80hp, 15psi, natural gas fired boiler for heating steam. Approximately 20,730 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 9,232 square foot facility. This boiler will be shared with 3717B and 3706. The annex will be located on the North side of 3706, 20 feet from the facility. The peak-heating load for this facility is 778,000 btu/hr.

3717B

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 80hp, 15psi, natural gas fired boiler for heating steam. Approximately 4,636 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 13,045 square foot facility. This boiler will be shared with 3717 and 3706. The annex will be located North of 3706, 20 feet from the facility. The peak-heating load for this facility is 174,000 btu/hr.

3706

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 80hp, 15psi, natural gas fired boiler for freeze protection. Approximately 9,547 therms will be used on an annual basis to meet freeze protection requirement of 42 degrees in this 21,700 square foot facility. This boiler will be shared with 3717 and 3717B. The annex will be located North of 3706, 20 feet from the facility. The peak-heating load for this facility is 1,060,000 btu/hr.

3722

REPLACE CENTRAL STEAM

Description: This measure involves the installation of natural gas fired unit heaters for space heating. Approximately 6,421 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 5,040 square foot facility. The peak-heating load for this facility is 241,000 btu/hr.

3713

REPLACE CENTRAL STEAM

Description: This measure involves the installation of four ceiling mounted, gas fired unit heaters with thermostats. Approximately 9,430 therms will be used on an annual basis to meet a performance standard of 72 degrees for space heating in this 4,800 square foot facility. The peak-heating load for this facility is 320,000 btu/hr.

382/382B/382C/382D

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 200hp, 15psi, natural gas fired boiler for heating steam. Approximately 37,242 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 1,151 square foot facility. Annex will be located on the Northeast side, 30 feet from the facility. Freeze protection of 42 degrees will be provided to the water tanks and six steam pits at this facility. The peak-heating load for this facility is 4,120,000 btu/hr.

3745

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one- 10hp, 15psi, natural gas fired boiler for heating steam. Approximately 7,087 therms will be used on an annual basis to meet a performance standard of 72 degrees in this 5,152 square foot facility will be located within the facility. The peak-heating load for this facility is 236,000 btu/hr.

3720

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one-125hp, 15psi, natural gas fired boiler for heating steam. Approximately 116,623 therms will be used on an annual basis to meet a performance

standard of 70 degrees in this 29,030 square foot facility. Annex will be located on the West side, 5 feet from the facility. The peak-heating load for this facility is 4,150,000 btu/hr.

3718

REPLACE CENTRAL STEAM

Description: This measure involves the removal of three steam unit heaters and installation of three 15KW ceiling mounted electric unit heaters with thermostats. A performance standard of 68 degrees for space heating is applicable in this 3,816 square foot facility.

3718A/B

REPLACE CENTRAL STEAM

Description: This measure involves the installation of one natural gas fired furnace. Approximately 14,867 therms will be used on an annual basis to meet a performance standard of 68 degrees for space heating in this 9,600 square foot facility. The peak-heating load for this facility is 558,000 btu/hr.

3730

REPLACE CENTRAL STEAM

Description: This measure involves the installation of five 15KW electric unit heaters. A performance standard of 68 degrees for space heating is applicable in this 3,637 square foot facility.

PROVIDE PLANT AIR TO 300 AREA

Two-1000cfm, 200hp rotary, air compressors will be installed approximately 300 feet East of the 384 facility to supply plant air to all facilities. The air compressors will be tied directly to the existing grid that supplies the 300 area.

PROVIDE BACK-UP ELECTRICAL TO 300 AREA

Install new switchgear in building 3621B/C to supply back-up electrical power to 300 area facilities. Underground conduit and electrical line will be routed to the 3621B/C building and the existing switchgear located in the 384 building will be eliminated. The new power supply will be tied into the existing power feed system and will meet existing supply requirements.

Tables 11.A and 11.B for 200 Area ECM #1 and 300 Area ECM #1						
Table 11.A				Table 11.B		
Capital Liability Schedule				O&M Termination Schedule		
Annex	Construction Capital	Capital Cost	Cancellation Ceiling	O&M Consumable	Fuel	Units
222S	\$2,371,773	\$279,783	\$2,651,556	\$11,614	114,898	gallons
225 B	\$1,278,567	\$150,824	\$1,429,391	\$ -	-	gallons
234-5Z/291Z	\$3,603,187	\$426,449	\$4,029,636	\$26,714	130,031	gallons
241Z	\$ -	\$ -	\$ -	\$ -	-	gallons
241ZA	\$ -	\$ -	\$ -	\$ -	-	gallons
2715Z	\$ -	\$ -	\$ -	\$ -	-	gallons
2725Z	\$ -	\$ -	\$ -	\$ -	-	gallons
2736ZB	\$ -	\$ -	\$ -	\$448	2,354	gallons
242 A	\$3,228,556	\$380,851	\$3,609,407	\$13,930	-	gallons
272 W	\$1,295,382	\$152,808	\$1,448,189	\$ -	-	gallons
275 E	\$1,142,713	\$134,798	\$1,277,511	\$ -	-	gallons
277 W	\$19,608	\$2,313	\$21,921	\$ -	-	gallons
283 E	\$1,471,113	\$173,537	\$1,644,650	\$ -	-	gallons
283 W	\$1,238,658	\$146,117	\$1,384,775	\$ -	-	gallons
2707 B	\$34,499	\$4,070	\$38,569	\$ -	-	gallons
2707 W	\$34,462	\$4,066	\$38,528	\$ -	-	gallons
2716 S	\$ -	\$ -	\$ -	\$ -	-	gallons
200 Hill Construction	\$580,901	\$68,525	\$649,426	\$ -	-	gallons
Portable Boiler	\$368,717	\$43,495	\$412,212	\$ -	n/a	gallons
200 Sub-Total	\$16,668,136	\$1,967,634	\$18,635,770	\$52,706	247,283	
305	\$396,088	\$47,343	\$ -	\$ -	-	Therms
306 E	\$640,377	\$76,543	\$716,920	\$ -	-	Therms
318	\$541,632	\$64,516	\$ -	\$1,394	25,114	Therms
320	\$763,832	\$90,982	\$ -	\$5,761	103,814	Therms
323	\$519,751	\$61,909	\$ -	\$ -	-	therms
324	\$1,782,778	\$213,093	\$1,995,871	\$8,248	148,616	therms
325	\$1,147,367	\$137,143	\$ -	\$5,146	93,098	therms
326	\$747,046	\$89,293	\$ -	\$4,711	103,363	therms
327	\$742,123	\$88,705	\$830,828	\$ -	-	therms
328	\$361,008	\$43,151	\$404,159	\$ -	-	therms
329	\$483,064	\$57,539	\$ -	\$4,936	88,938	therms
331	\$1,208,896	\$143,995	\$ -	\$13,513	243,535	therms
337 & 337B	\$745,141	\$89,065	\$417,103	\$ -	-	therms
382 C	\$936,906	\$111,987	\$1,048,893	\$1,176	21,199	therms
3506 A	\$42,257	\$5,051	\$47,308	\$ -	-	-
3705	\$309,784	\$37,028	\$346,812	\$ -	-	therms
3706	\$504,134	\$60,258	\$564,392	\$ -	-	therms
3709	\$134,279	\$16,050	\$150,329	\$ -	-	therms
3709 A	\$243,104	\$29,058	\$272,162	\$182	3,271	therms
3713	\$110,292	\$13,183	\$123,475	\$ -	-	therms
3717	\$7,870	\$940	\$8,810	\$ -	-	therms
3717 B	\$7,870	\$940	\$8,810	\$ -	-	therms
3718	\$51,020	\$6,098	\$57,118	\$ -	-	-
3718 A&B	\$104,099	\$12,443	\$ -	\$ -	-	therms
3720	\$801,211	\$95,435	\$ -	\$ -	-	therms
3722	\$81,708	\$9,767	\$91,475	\$ -	-	therms
3730	\$76,667	\$9,164	\$ -	\$ -	-	-
3745	\$254,327	\$30,294	\$ -	\$ -	-	therms
3760	\$19,929	\$2,374	\$ -	\$840	15,136	therms
LP Air Comp.	\$270,889	\$32,378	\$303,267	\$ -	-	-
Backup Power	\$194,957	\$23,303	\$12,210	\$ -	-	-
300 Sub-Total	\$14,230,406	\$1,699,029	\$7,399,941	\$45,907	846,084	
Grand Total	\$30,898,542	\$3,666,664	\$26,035,711	\$98,613		

300 AREA ECM PART II ENERGY CONSERVATION MODIFICATIONS TO COMPRESSED AIR AND STANDBY POWER SYSTEMS

Attachment J-6 Basic Elements of Proposal

(1) Technical Description:

This Part II ECM is proposed to include design, construction, operation and maintenance of modifications and upgrades to the Compressed Air and Standby Power Systems as described herein and in Appendix A. All work proposed is to be executed using best commercial practices.

The work included in this proposal is based upon abandoning the central compressed air distribution system and the installation of individual compressors located in each facility requiring compressed air. The work also includes installation of engine driven generators sited to buildings that have defined a requirement for backup power.

The systems proposed and operating performance parameters estimated are based upon current operating conditions and analysis of facility operations. It is agreed and understood by DOE RL and JCI that final design, value engineering, construction opportunities, and or other limitations may require a change in types, quantities, and sizes of equipment. However, such changes will not alter the performance requirements, identified herein, of the completed systems.

JCI assumes no responsibility for maintenance or operations performed by the Government or its' Contractors and the effect of such work by others on the energy performance or quality of the product produced by the systems provided by this work. JCI makes no warranty of existing building systems or operations being in compliance with current health and safety standards.

Should DOE or its' contractors choose to change the operating requirements of the facility the additional cost of operating, maintaining and or expanding the compressed air and or backup power systems shall be borne by DOE.

(2) Identify the affected Energy Baseline:

The energy baseline affected is that energy consumed in FY 2000 by the central air compressors.

(3) Potential Saved Energy

The electrical use target for the Compressed Air Standby Power ECM is attached as Appendix 3 and Appendix 4 and identifies the potential energy use and potential savings achieved by installing this ECM.

Compressed Air System:

Baseline Annual Energy Use:	1,651,008 kWh
Post Installation Annual Energy Use Estimate:	400,470 kWh
Annual Estimated Energy Savings:	1,250,538 kWh

Standby Power Diesel Generator System:

Baseline Annual Energy Use:	0 kWh
Post Installation Annual Energy Use Estimate:	88,695 kWh
Annual Estimate Energy Savings:	-88,695 kWh

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Total Annual Estimated Energy Savings:

Compressed Air System	1,250,538 kWh
Standby Power Diesel Generator System:	<u>-88,695 kWh</u>
Total	1,161,843 kWh

(4) Identify the Sources of Energy Cost Savings:

Energy costs savings will be achieved by eliminating the leaking compressed air distribution systems and the central air compressors.

(5) Quantify the Guaranteed Annual Cost Savings to the Government:

The annual cost savings is from three elements of operations cost. Operations and Maintenance cost savings by DOE-RL as a result of the implementation of this ECM is stipulated at \$250,000. This amount shall be included as a part of the estimated annual cost savings in this ECM Compressed Air and Standby Power Systems, Section B, Schedule 1, Column (a) Estimated Annual Cost Savings.

The annual savings of electricity are estimated at 1,161,843 kWh, which based upon \$.0405 per kWh, as of October 1, 2001, provides annual cost savings of \$47,055. The annual estimated savings in demand are 1,120 kW. Based upon \$2.409/kW the annual demand cost savings is \$2,698. This represents total estimated savings of \$49,753. (all figures are rounded to nearest whole dollar) This amount shall be included as a part of the estimated annual cost savings in this ECM, Section B, Schedule 1, Column (a) Estimated Annual Cost Savings.

(6) Monitoring and Verification:

The annual energy savings will be calculated by subtracting the actual energy use from the baseline energy use. Air compressor performance will be measured twice annually by taking kw readings of each unit during operation. The runtime of the compressors will be recorded. The actual energy use will be the compilation of the kw readings of each compressor multiplied by the annual run time of each compressor.

Baseline:

The energy baseline is the energy used by the central compressed air system located in the 300 Area. Electrical consumption data is collected monthly by Hanford utilities staff. This data is for the period of October 1, 1999 through September 30, 2000 and summarized in appendix 3.

Target:

The decentralized compressed air system will be more efficient than existing centralized compressed air system by approximately 80%. The following table represents electrical consumption based upon the required compressor horsepower specified in appendix 3. The electrical energy consumption is calculated based upon the following equation.

Equations

$$kWh = HP_{compressor} * 0.7457 * \frac{Hours}{Year} * Compressor Runtime$$

$$kW = HP_{compressor} * 0.7457$$

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requirements will be made in the event building heating requirements increase above existing levels.

*** (7) Annual Economic Price Adjustments**

The annual economic price adjustment shall be as stated in Section H.33 of said contract. Cost adjustments shall be made in accordance with the CPI Index listed in the Bureau of Labor Statistics for All Urban Consumers, series ID: CUUR0400SAO, Western Region. Latest index as of November 2010 is 221.384.

(8) Potential for a Significant Adverse Effect upon the Quality of the Human Environment:

None.

(9) Significant Changes Required of Contractors Management and Maintenance Approach:

The retrofit from steam to hot water in the facility provides for enhanced safety and a decrease in scope of work. The associated maintenance, repair, and capital improvements to the existing steam systems which were provided by the site contractors on a cost reimbursable basis are thus eliminated. The maintenance and repair of the proposed project are by the ESPC contractor under a fixed price contractual agreement.

(10) Proposed Annual Payments to the Contractor:

Total annual payments to the contractor are as listed in the contract, Section B, Schedule 2, column (e) for this Part II ECP.

(11) Capital Liability Schedule:

In the event the project is terminated the capital liability to the Government is based upon the Termination Ceiling Schedule 3 of Section B as applied to the Cancellation Ceiling Schedule 4 of Section B.

(12) Proposed Installation Schedule:

* Item 7 is the only item of the "Basic Elements of Proposal" revised by Modification 130. The wording of the remaining items is unchanged from Modification A007.

300 AREA ECM # 3

Attachment J-6 Basic Elements of Proposal

(1) Technical Description:

This Part II ECM is proposed to include design, construction, operation and maintenance of modifications and upgrades to the Compressed Air and Standby Power Systems as described herein and in Appendix A. All work proposed is to be executed using best commercial practices.

The work included in this proposal is based upon abandoning the central compressed air distribution system and the installation of individual compressors located in each facility requiring compressed air. The work also includes installation of engine driven generators sited to buildings that have defined a requirement for backup power.

The systems proposed and operating performance parameters estimated are based upon current operating conditions and analysis of facility operations. It is agreed and understood by DOE RL and JCI that final design, value engineering, construction opportunities, and or other limitations may require a change in types, quantities, and sizes of equipment. However, such changes will not alter the performance requirements, identified herein, of the completed systems.

JCI assumes no responsibility for maintenance or operations performed by the Government or its' Contractors and the effect of such work by others on the energy performance or quality of the product produced by the systems provided by this work. JCI makes no warranty of existing building systems or operations being in compliance with current health and safety standards.

Should DOE or its' contractors choose to change the operating requirements of the facility the additional cost of operating, maintaining and or expanding the compressed air and or backup power systems shall be borne by DOE.

(2) Identify the affected Energy Baseline:

The energy baseline affected is that energy consumed in FY 2000 by the central air compressors.

(3) Potential Saved Energy

The electrical use target for the Compressed Air Standby Power ECM is attached as Appendix 3 and Appendix 4 and identifies the potential energy use and potential savings achieved by installing this ECM.

Compressed Air System:

Baseline Annual Energy Use:	1,651,008 kWh
Post Installation Annual Energy Use Estimate:	<u>400,470</u> kWh
Annual Estimated Energy Savings:	1,250,538 kWh

Standby Power Diesel Generator System:

Baseline Annual Energy Use:	0 kWh
Post Installation Annual Energy Use Estimate:	<u>88,695 kWh</u>
Annual Estimate Energy Savings:	-88,695 kWh

Total Annual Estimated Energy Savings:

Compressed Air System	1,250,538 kWh
Standby Power Diesel Generator System:	<u>-88,695 kWh</u>
Total	1,161,843 kWh

(4) Identify the Sources of Energy Cost Savings:

Energy costs savings will be achieved by eliminating the leaking compressed air distribution systems and the central air compressors.

(5) Quantify the Guaranteed Annual Cost Savings to the Government:

The annual cost savings is from three elements of operations cost. Operations and Maintenance cost savings by DOE-RL as a result of the implementation of this ECM is stipulated at \$250,000. This amount shall be included as a part of the estimated annual cost savings in this ECM Compressed Air and Standby Power Systems, Section B, Schedule 1, Column (a) Estimated Annual Cost Savings.

The annual savings of electricity are estimated at 1,161,843 kWh, which based upon \$.0405 per kWh, as of October 1, 2001, provides annual cost savings of \$47,055. The annual estimated savings in demand are 1,120 kW. Based upon \$2.409/kW the annual demand cost savings is \$2,698. This represents total estimated savings of \$49,753. (all figures are rounded to nearest whole dollar) This amount shall be included as a part of the estimated annual cost savings in this ECM, Section B, Schedule 1, Column (a) Estimated Annual Cost Savings.

(6) Monitoring and Verification:

The annual energy savings will be calculated by subtracting the actual energy use from the baseline energy use. Air compressor performance will be measured twice annually by taking kw readings of each unit during operation. The runtime of the compressors will be recorded. The actual energy use will be the compilation of the kw readings of each compressor multiplied by the annual run time of each compressor.

Baseline:

The energy baseline is the energy used by the central compressed air system located in the 300 Area. Electrical consumption data is collected monthly by Hanford utilities staff. This data is for the period of October 1, 1999 through September 30, 2000 and summarized in appendix 3.

Target:

The decentralized compressed air system will be more efficient than the existing centralized compressed air system by approximately 80%. The following table represents electrical consumption based upon the required compressor horsepower specified in appendix 3. The electrical energy consumption is calculated based upon the following equation.

Equations

$$kWh = HP_{compressor} * 0.7457 * Hours/Year * Compressor Runtime$$

$$kW - HP_{compressor} * 0.7457$$

The above equation utilizes data from Appendix 2 and 3 to develop the post installation annual electrical energy consumption of 489,165 kWh and 1,600 kW.

Projected energy consumption for the generators is primarily due to heating the generator engines. The consumption projection and savings are detailed in Appendix 4.

(7) Annual Economic Price Adjustments

The annual economic price adjustment for the operation and maintenance service portions of this contract shall be the following:

Cost adjustments shall be made in accordance with the Consumer Price Index listed in the Bureau of Labor Statistics for All Urban Consumers, series ID: CUUR0400SAO, Western Region. Latest index as of November 2008 is 222.132.

(8) Potential for a Significant Adverse Effect upon the Quality of the Human Environment:

None.

(9) Significant Changes Required of Contractors Management and Maintenance Approach:

The retrofit from a central air compressor system to dedicated units and the Standby Power Diesel Generator System for Buildings 3709A, 325 & 331 will provide the facility with enhanced safety and a decrease in scope of work. The associated maintenance, repair, and capital improvements to the existing systems that were provided by the site contractors on a cost reimbursable basis are thus eliminated. The maintenance and repair of the proposed project are by the ESPC contractor under a fixed price contractual agreement.

The elimination of the central compressed air system and the associated air distribution will improve reliability of the systems and eliminate the need of costly future repairs and replacement of the site compressed air system infrastructure.

The elimination of the central compressed air system will result in a credit in the amount of \$1,240 of O&M consumables costs to the Contract No. DE-AC06-97RL13184 Modification M001 for FY 2002 and forward to O&M contract completion.

(10) Proposed Annual Payments to the Contractor:

Total annual payments to the contractor are as listed in the contract, Section B, Schedule 2, column (e) for this Part II ECM.

(11) Capital Liability Schedule:

In the event the project is terminated the capital liability to the Government is based upon the Termination Ceiling Schedule 3 of Section B as applied to the Cancellation Ceiling Schedule 4 of Section B.

(12) Proposed Installation Schedule:

Installation of compressed air systems and standby power generators will be completed within 120 calendar days of the date of Modification M020.

* Item 7 is the only item of the "Basic Elements of Proposal" revised by Modification A106. The wording of the remaining items is unchanged from Modification M030.

Building 306E & W

ADD AIR COMPRESSOR

Description: This measure involves the installation of a 102.1 SCFM air compressor with a 90 psig discharge pressure. Use of the existing air receiver will be retained. This air compressor will be used to supply air to 306W through existing piping. After cooler and air dryer will be installed. Dry compressed air of 50 CFM at 90 psig will be provided to the facilities.

Building 318

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of a 13.2 SCFM air compressor with a 90 psig discharge pressure mounted on an 80 gallon air receiver. Use of the existing air dryer will be retained. Compressed air of 7.6 CFM at 80 psig will be provided to the facility.

Building 320

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves installation of a 24.2 SCFM air compressor with a 90 psig discharge pressure mounted on a 120 gallon air receiver. Use of the existing air dryer will be retained. Compressed air of 12.7 CFM at 80 psig will be provided to the facility.

Building 323

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of a 4.8 SCFM air compressor with a 90 psig discharge pressure mounted on a 30 gallon air receiver. Use of an air dryer is not required. Compressed air of .5 CFM at 80 psig will be provided to the facility.

Building 324

ADD AIR COMPRESSOR

Description: This measure involves the installation of a 64 SCFM air compressor with a 90 psig discharge pressure. Use of the existing air receiver will be retained. Use of an air dryer is not required.

Building 325

ADD AIR COMPRESSOR & DIESEL GENERATOR

Description: This measure involves the installation of a 236 SCFM air compressor with a 90 psig discharge pressure. Use of the existing air receiver will be retained. Use of the existing air dryer will be retained. Compressed air of 175 CFM at 90 psig will be provided to the facility. If the air compressor fails, 175 CFM air at 90 psig shall be restored to the 325 Facility within 1 hour. Installation of a 625 kva / 500 kw standby diesel generator, generator output breaker, and step up transformer will be included. Annual diesel fuel usage for testing is 350 gallons.

Building 326

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of an 22 SCFM air compressor with a 90 psig discharge pressure mounted on a 120 gallon air receiver. Use of the existing air dryer will be retained. Compressed air of 3.5 CFM at 90 psig will be provided to the facility.

Building 327BA

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of a 68 SCFM air compressor with a 90 psig discharge pressure. Use of the existing air receiver will be retained. Use of the existing air dryer will be retained. Compressed air of 25 CFM at 90 psig will be provided to the facility.

Building 328

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of two air compressors and receivers. One is to be an 102.1 SCFM air compressor with a 90 psig discharge pressure mounted on a 120 gallon air receiver and the other is an 1.8 SCFM air compressor and air dryer with a 90 psig discharge pressure mounted on a 30 gallon air receiver. Compressed air of .5 CFM at 30 psig and dry compressed air of 40 CFM at 90 psig will be provided to the facility.

Building 329

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the installation of an 8.2 SCFM air compressor with a 90 psig discharge pressure mounted on a 80 gallon air receiver. Use of the existing air dryer will be retained. Compressed air of 2 CFM at 80 psig will be provided to the facility.

Building 331

ADD DIESEL GENERATOR

Description: This measure involves the installation of a 625 kva / 500 kw standby diesel generator and generator output breaker. Annual diesel fuel usage for testing is 350 gallons.

Building 350

LOCATE AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves the relocation of the air compressor and air receiver from Building 329 Mechanical Room. Use of the existing air dryer will be retained. Compressed air of 10 CFM at 90 psig will be provided to the facility.

Building 3709A

ADD DIESEL GENERATOR

Description: This measure involves the installation of a 25 kva/ 20 kW standby diesel generator, generator output breaker, and automatic transfer switch. Annual diesel fuel usage for testing is 60 gallons.

Building 3715

ADD AIR COMPRESSOR

Description: This measure involves the installation of a dry fire protection air compressor with a 40 psig discharge pressure.

Building 3717

ADD AIR COMPRESSOR

Description: This measure involves installation of a 5.7 SCFM portable air compressor with a 90 psig discharge pressure mounted on a 20 gallon air receiver. Compressed air of 3 CFM at 60 psig will be provided to the facility.

Building 3717B

ADD AIR COMPRESSOR

Description: This measure involves the installation of a 2.5 SCFM air compressor with a 90 psig discharge pressure base mounted and a 30 SCFM air compressor with a 90 psig discharge pressure mounted on an 80 gallon air receiver. Compressed air of .5 CFM at 30 psig will be provided to the facility and compressed air of 30 CFM at 90 psig will be provided to the facility sandblaster and shop tools.

Building 3720
DRYER

ADD AIR COMPRESSOR, AIR RECEIVER & AIR

Description: This measure involves the installation of an 12 SCFM air compressor with a 90 psig discharge pressure mounted on a 80 gallon air receiver and an air dryer. Compressed air of 3.5 CFM total at 30 psig and 75 psig will be provided to the facility.

Building 3722

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves installation of a 5.7 SCFM a portable air compressor with a 90 psig discharge pressure mounted on a 20 gallon air receiver. Compressed air of 3 CFM at 60 psig will be provided to the facility.

Building 350A

ADD AIR COMPRESSOR & AIR RECEIVER

Description: This measure involves installation of a 5.7 SCFM air compressor with a 90 psig discharge pressure mounted on a 20 gallon air receiver. Compressed air of 2 CFM at 90 psig will be provided to the facility.

300 Area Compressed Air/Standby Power Project

Panel 1 Section J-6
Table 11.A and Table 11.B

Table 11.A
Capital Liability Schedule

Building	Construction Capital	Termination Ceiling
Air Compressors		
306E/306W	\$ 43,560	\$ 37,224
318	\$ 19,429	\$ -
320	\$ 28,003	\$ -
324	\$ 34,478	\$ 29,464
325	\$ 80,617	\$ -
309	\$ 23,708	\$ 20,260
326	\$ 27,722	\$ -
327	\$ 51,968	\$ 44,409
328	\$ 34,320	\$ 29,328
329	\$ 24,530	\$ -
350	\$ 25,422	\$ -
350A	\$ -	\$ -
3705	\$ 19,940	\$ 17,040
3715	\$ 9,759	\$ 8,340
3717B	\$ 25,291	\$ 21,613
3717	\$ 13,655	\$ 11,669
3720	\$ 23,543	\$ -
3722	\$ 12,396	\$ 10,593
323	\$ 19,547	\$ -
Sub-Total	\$ 517,888	\$ 229,940
0		
3709A	\$ 74,330	\$ 63,519
325	\$ 282,797	\$ -
331	\$ 143,742	\$ -
Sub-Total	\$ 500,869	\$ 63,519
Grand Total	\$ 1,018,757	\$ 293,459

Table 11.B
O&M Termination Schedule

O&M Consumable	Energy (KWH)	Fuel (Gallons)
-	81,654	\$ -
\$ 244	11,283	\$ -
\$ 362	16,331	\$ -
-	-	\$ -
\$ 566	109,939	\$ -
-	-	\$ -
\$ 438	10,974	\$ -
-	32,982	\$ -
-	56,069	\$ -
\$ 311	6,532	\$ -
\$ 537	21,988	\$ -
-	4,584	\$ -
-	-	\$ -
-	2,199	\$ -
-	26,145	\$ -
-	4,398	\$ -
-	6,596	\$ -
-	4,398	\$ -
-	4,398	\$ -
\$ 2,458	400,470	
\$ 1,765	6,570	98
\$ 1,765	41,063	569
\$ 1,765	41,063	569
\$ 5,295	88,696	1,236
\$ 7,753	489,166	\$ 1,236

Appendix 2

Utility Rates:	Cost (\$/Unit)	Cost (\$/MMBtu)	Energy (Btu)	Notes
Electrical:				
Demand (\$/kW)	\$2.4090	\$705.83		
Electric (\$/kWH)	\$0.0405	\$ 11.87	3,413	
Natural Gas:				
Interruptible Firm, Residential Firm, Commercial	\$ - \$ - \$ -	\$ - \$ - \$ -	100,000	
Fuel Oil:				
#2 Fuel Oil	\$ -	\$ -	139,000	
Propane:				
Propane	\$ -	\$ -	92,000	
Utilities:				
Water (kGal)	\$ -			
Sewage (Kgal)	\$ -	\$ -		
Refuse (Ton)	\$ -	\$ -		
Steam (Klb)	\$ -			
				Holidays are: New Years, President's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving, & Xmas.

Appendix 3

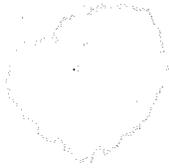
300 Area Compressed Air -Energy Consumption Analysis (Rev - July 31, 2001)																
Building	Compressor Specifications			Operating Parameters			Compressor Classification			Demand		Energy				
	Size (HP)	Voltage	Circuit Size	100 % Run (cfm)	Bldg Comp Air Reqmt (cfm)	Estimated Annual Operation (Hrs)	Compressor Type	Tank Size (Gal)	Air Dryer	Service	Baseline (kW)	Target (kW)	Baseline (kWh)	Target (kWh)	Savings (KWh)	Savings (\$)
306E&W	25	460/3	50A	102.1	50.00	4,380	Simplex Base Mounted	Existing	Yes	Controls, Tools, Process	223.70	81,654				
309	Deleted															
318	3	460/3	25A	13.2	7.60	5,081	Duplex Tank Mounted	80	Existing	Controls, Process	26.85	11,283				
320	5	208/3	60A	24.2	12.70	4,380	Duplex Tank Mounted	120	Existing	Controls, Process	44.74	16,331				
323	2	208/1	20A	4.8	0.50	913	Simplex Tank Mount	30	No	Controls, Process	17.90	4,398				
324	40	460/3	60A	160.0	30.00	8,760	Existing Sullair	N/A	Existing	Doors						
325	50	460/3	125A	236.0	175.00	8,760	Sullair Rotary Screw	Existing	Existing	Controls, Process	447.42	109,939				
326	5	460/3	40A	22.0	3.50	1,394	Duplex Tank Mounted	120	Existing	Controls & 1 cfm Process	44.74	10,974				
327	15	460/3	60A	67.4	25.00	3,249	Simplex Base Mounted	Existing	Existing	Controls, Process	134.23	32,982				
328	0.5	120/1	20A	2.1	0.50	2,086	Simplex Tank Mount	30	No	Controls	4.47	1,099				
328	2.5	460/3	90A	102.1	40.00	3,432	Simplex Tank Mount	120	Yes	Tools	223.71	54,970				
329	2	460/3	20A	8.2	2.00	4,380	Duplex Tank Mounted	80	Existing	Controls, Dry Ppe Sprinkler System	17.90	6,532				
350	10	460/3	35A	35.0	10.00	2,503	Simplex Base Mounted	120	Existing	Tools, Bead Blaster	89.48	21,988				
350A	2	120/1	20A	5.7	2.00	3,074	Simplex Portable	20	No	Paint Spray Equipment	17.90	4,584				
3705	Deleted															
3715	1	120/1	20A	2.1	0.50	2,086	Simplex Base Mounted	N/A	No	Dry Pipe Sprinkler System	8.95	2,199				
3717B	0.75	120/1	20A	2.5	0.50	1,752	Simplex Base Mounted	Existing	No	Controls	6.71	1,649				
3717B	7.5	460/3	30A	30.0	30.00	4,380	Simplex Tank Mounted	80	No	Tools, Sand Blaster	67.11	24,496				
3717	2	120/1	20A	5.7	3.00	4,611	Simplex Portable	20	No	Tools	17.90	4,398				
3720	3	460/3p	15A	12.0	3.50	2,555	Simplex Tank Mounted	80	Yes	Controls, Nitrogen Generator	26.85	6,596				
3722	2	120/1	20A	5.7	3.00	4,611	Simplex Portable	20	No	Tools	17.90	4,398				
Total				2,720	1,438	1,281	2,720	1,438	1,281	\$3,087	1,651,008	400,470	1,250,538	\$50,647		

Total CFM 382.3
Percent Ratio of CFM 0.398229167

kWh of JCI Air Compressors 1,785,576
Compressor Run Time 0.33660
Percent Ratio of kWh 0.2243

Appendix 4

300 Area Decentralization of Standby Power Diesel Generator System Change in Energy Consumption



	kWh	kW
	88,695	162
Estimated Annual Savings	88,695	162

Estimated Annual Power Consumption Distributed Gensets

500kW Gen Heater 6,250 watts to maintain 115 degrees F
 20kW Gen Heater 1000 watts to maintain 115 degrees F
 2 @ 6,250 watts, 1 @ 1000 watts

Note: Calculation of annual power consumption by gensets is based upon 75% on time of heating elements.

Appendix 5

ELECTRICITY CONSUMPTION AND COST REPORT

Month & Year	Percent Capture	Average (KW)	Monthly Consump. (KWH)	Maximum (KW)	Minimum (KW)	Load Factor	Energy Cost (\$)	Demand Cost (\$)	Total Cost (\$)	Comments
10/98	99.7	174.2	129,605	186.7	169.7	0.93	2,826.68	449.76	3,276.44	
11/98	99.3	175.7	126,504	288.7	172.3	0.61	2,759.05	695.48	3,454.53	
12/98	49.5	173.8	129,307	198.7	0.0	0.87	2,820.19	478.67	3,298.86	Low % Capture.
01/99	63.2	182.3	135,631	195.1	172.1	0.93	3,006.94	470.00	3,476.94	Low % Capture.
02/99	99.4	182.0	122,304	217.9	171.1	0.84	2,711.48	524.92	3,236.40	
03/99	99.9	181.2	134,813	206.2	169.2	0.88	2,988.80	496.74	3,485.54	
04/99	98.8	180.0	129,600	198.7	134.9	0.91	2,569.97	478.67	3,048.64	
05/99	99.7	183.7	136,673	226.8	172.1	0.81	1,421.40	546.36	1,967.76	
06/99	99.7	182.0	131,040	204.7	171.8	0.89	1,362.82	493.12	1,855.94	
07/99	99.6	197.0	146,568	346.8	0.0	0.57	1,873.14	835.44	2,708.58	New Meter.
08/99	99.7	181.8	135,259	294.5	16.6	0.62	2,461.72	709.45	3,171.17	
09/99	99.7	186.9	134,568	232.3	174.5	0.80	2,934.93	559.61	3,494.54	
10/99	98.9	191.6	142,550	223.7	179.3	0.86	3,109.02	538.89	3,647.92	
11/99	99.9	191.2	137,664	214.1	179.5	0.89	3,002.45	515.77	3,518.22	
12/99	99.9	195.0	145,080	222.2	158.9	0.88	3,164.19	535.28	3,699.47	
01/2000	99.7	188.6	140,318	222.0	179.5	0.85	3,110.86	534.80	3,645.66	
02/2000	99.6	188.5	131,196	207.1	148.1	0.91	2,908.62	498.90	3,407.52	
03/2000	97.4	192.1	142,922	205.2	174.7	0.94	3,168.59	494.33	3,662.92	
04/2000	99.6	189.4	136,368	202.3	172.6	0.94	2,704.18	487.34	3,191.52	
05/2000	99.5	187.0	139,128	199.7	169.4	0.94	1,446.93	481.08	1,928.01	
06/2000	99.6	184.3	132,696	207.1	0.0	0.89	1,380.04	498.90	1,878.94	
07/2000	99.9	183.0	136,152	330.5	164.2	0.55	1,740.02	796.17	2,536.20	
08/2000	92.1	181.2	134,813	284.6	165.6	0.64	2,453.59	685.60	3,139.19	
09/2000	99.7	183.5	132,120	201.4	150.5	0.91	2,881.54	485.17	3,366.71	
Average	95.6	184.8	135,120	229.9	140.3	0.80	2,533.63	553.77	3,087.40	
Maximum	99.9	197.0	146,568	346.8	179.5	0.94	3,168.59	835.44	3,699.47	

Automatic Data

01-989-360

Old Meter Number

Building ESPC Air Compressors
 Service (line, Breaker) C3-L8
 Transformer Number C6772P (500 KVA)
 New Meter Number 02-424-253
 Data Logger Number 039

Attachment J-7

Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan

SMALL, SMALL DISADVANTAGED, AND WOMAN-OWNED SMALL BUSINESS
SUBCONTRACTING PLAN

Name of Prime Contractor: **Johnson Controls, Inc.**
 Address: **616 The Parkway Richland, WA 99352**
 Telephone No.: **(509) 946-8153**

Contract or Solicitation No.: **DE-AC06-97RL13184**
 Total Amount of Contract: **\$160,295,815**
 Period of Performance: **25 years from date of contract award**
 Place of Performance: **Hanford 200 and 300 areas**
 Description of Contract Requirements: **Energy Savings Performance Contract**

Total amount of planned subcontracting: **\$ 84,872,033**
 Percentage of total amount of contract: **52.95%**

Total planned for subcontracting to small business (SB)
 including item 5 & 6 below: **\$ 522,206**
 Percentage of total amount of planned subcontracting: **0.006%**

Total planned for subcontracting to small disadvantage business: **\$ 61,636**
 Percentage of total amount of planned subcontracting: **0.0007%**

Total planned for subcontracting to woman-owned small business: **\$ 62,436**
 Percentage of total amount of planned subcontracting: **0.0007%**

Items to be subcontracted under this contract and the types of businesses supplying them are:

<u>Subcontracting Items</u>	<u>Large Business</u>	<u>Small Business</u>	<u>Small/Disad. Business</u>	<u>Woman-Owned Small Business</u>
Prime Subcontractor	X			
General Contractor			X	
HVAC/Air		X		
Gas Line Installation w/in 300 area		X		
Gas Line Installation to 300 area	X			
Electrical	X			
Consultants	X			
Permitting	X			
Insulation	X			
Engineering		X		
Fuels (Gas & Oil)	X			
Boiler/Auxiliary Equip. Supplies	X			
Water Treatment	X			
Janitorial Services				X

As stated in our letter dated 11/27/96 ESPC.053, subcontractors for this project were selected as a sole source partner. Subcontracting goals for small, small disadvantaged, and woman-owned small business concerns were not considered as part of the selection process. Selection was based on a qualified, technical, competitive basis to allow Johnson Controls a competitive edge. Subcontractors were advised that they had to agree to "open book" pricing to JCI and they were in competition against Honeywell, not each other. Due to the short turnaround for pricing under a design build, fast track RFP, this method was selected. Due to the unavailability of plans and specifications, this method is standard for the performance contracting business.

Potential sources for solicitation purposes of small, small disadvantaged, and woman-owned small business concerns were not identified. Contractors were identified on a technical, qualified, and competitive basis.

Indirect costs are not included in the above goals/planned percentages.

The following individual will administer the subcontracting program:

Name: Shauna M. Ruse
Title: Contract Administrator
Address: 616 The Parkway
Richland, WA 99352
Telephone: (509) 946-8153

This individual's specific duties as they relate to the firms subcontract program are to administer the subcontracts including subcontracting development, invoice approval, payment and change orders. Duties also include preparation and submittal of subcontracting reports.

Subcontractors were selected at the time of bid and selected on a technical, qualified competitive basis. They were selected as a sole source and advised they were in competition against Honeywell, not each other.

Johnson Controls, Inc. will ensure the clause entitled "Utilization of Small, Small Disadvantaged, Woman-Owned Small Business Concerns" will be included in all subcontracts that offer further subcontracting opportunities and all subcontractors (except small business concerns) who receive subcontracts in excess of \$500,000 (\$1,000,000 for construction of any public facility) will be required to adopt a plan similar to the plan agreed to by the offeror.

Johnson Controls, Inc. will cooperate in any studies or surveys as may be required; submit periodic reports in order to allow the Government to determine the extent of compliance by the offeror with the subcontracting plan; submit Standard Form 294, "Subcontracting Report for Individual Contracts", and Standard Form 295, "Summary Subcontract Report", in accordance with the instructions on the forms; and ensure that its subcontractors agree to submit Standard Forms 294 and 295.

The following types of records will be maintained to demonstrate procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of its efforts to locate small, small disadvantaged, and woman-owned business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated):

- a. Source lists, guides, and other data that identify small, small disadvantaged, and woman-owned small business concerns.
- b. Organizations contracted in an attempt to locate sources that are small, small disadvantaged, or woman-owned small business concerns.
- c. Records on each subcontract solicitation resulting in an award of more than \$100,000, indicating (1) whether small business concerns were solicited and if not, why not, (2) whether small disadvantaged business concerns were solicited and if not why not, (3) whether woman-owned small business concerns were solicited and if not, why not, and (4) if applicable, the reason award was not made to a small business concern.
- d. Records of any outreach efforts to contract (1) trade associations, (2) business development organizations, and (3) conferences and trade fairs to locate small, small disadvantaged, and woman-owned small business sources.
- e. Records of internal guidance and encouragement provided to buyers through (1) workshops, seminars, training, etc., and (2) monitoring performance to evaluate compliance with the program's requirements.
- f. On a contract-by-contract basis, records to support award date submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. (Contractors having company or division-wide annual plans need not comply with this requirement.)

dance with 15.804-6(a)(5). Standard Form 1448, Proposal Cover Sheet (Cost or Pricing Data Not Required), may be used for information other than cost or pricing data.)

52.215-42 Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data—Modifications.

As prescribed in 15.804-8(i), insert the following clause:
REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA—MODIFICATIONS (OCT 1995)

(a) *Exceptions from cost or pricing data.* (1) In lieu of submitting cost or pricing data for modifications under this contract, for price adjustments expected to exceed the threshold set forth at FAR 15.804-2(a)(1) on the date of the agreement on price or the date of the award, whichever is later, the Contractor may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable—

(i) Information relative to an exception granted for prior or repetitive acquisitions.

(ii) Catalog price information as follows:

(A) Attach a copy of or identify the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which this proposal is being made.

(B) Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, and reseller.

(C) Additionally, for each catalog item that exceeds * (extended value not unit price), provide evidence of substantial sales to the general public. This may include sales order, contract, shipment, invoice, actual recorded sales or other records that are verifiable. In addition, if the basis of the price proposal is sales of essentially the same commercial item by affiliates, other manufacturers or vendors, those sales may be included. The offeror shall explain the basis of each offered price and its relationship to the established catalog price. When substantial general public sales have also been made at prices other than catalog or price list prices, the offeror shall indicate how the proposed price relates to the price of such recent sales in quantities similar to the proposed quantities.

(iii) *Market price information.* Include the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. The nature of the market should be described. The supply or service being purchased should be the same as or similar to the market price supply or service. Data supporting substantial sales

to the general public is also required.

(iv) *Identification of the law or regulation establishing the price offered.* If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(v) Information on modifications of contracts or subcontracts for commercial items.

(A) If (1) the original contract or subcontract was granted an exception from cost or pricing data requirements because the price agreed upon was based on adequate price competition, catalog or market prices of commercial items, or prices set by law or regulation; and (2) The modification (to the contract or subcontract) is not exempted based on one of these exceptions, then the Contractor may provide information to establish that the modification would not change the contract or subcontract from a contract or subcontract for the acquisition of a commercial item to a contract or subcontract for the acquisition of an item other than a commercial item.

(B) For a commercial item exception, the Contractor may provide information on prices at which the same item or similar items have been sold in the commercial market.

(2) The Contractor grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this clause, and the reasonableness of price. Access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace.

(3) By submitting information to qualify for an exception, an offeror is not representing that this is the only exception that may apply.

(b) *Requirements for cost or pricing data.* If the Contractor is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The Contractor shall submit cost or pricing data on Standard Form (SF) 1411, Contract Pricing Proposal Cover Sheet (Cost or Pricing Data Required), with supporting attachments prepared in accordance with Table 15-2 of FAR 15.804-6(b)(2).

(2) As soon as practicable after agreement on price, but before award (except for unpriced actions), the Contractor shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.804-4.

(End of clause)

* *Insert dollar amount for sampling (see 15.804-1(c)(1))*

Alternate 1 (OCT 1995). As prescribed in 15.804-8(i), substitute the following paragraph (b)(1) for paragraph (b)(1) of the basic clause.

Johnson Controls, Inc.

(Name of Contractor)

David R. Dumpert

(Typed Name)

(Signature)

Executive Project Manager

(Title)

12 Feb 1997

(Date)

Plan Accepted By:

(Contracting Officer)

Date:

52.232-24

FEDERAL ACQUISITION REGULATION (FAR)

~~52.232-24 Prohibition of Assignment of Claims~~
 As prescribed in 32.806(b), insert the following clause:
 PROHIBITION OF ASSIGNMENT OF CLAIMS

(JAN 1986)

The assignment of claims under the Assignment of Claims Act of 1940, as amended, 31 U.S.C. 3727, 41 U.S.C. 15, is prohibited for this contract.

(End of clause)

52.232-25 Prompt Payment.

As prescribed in 32.908(c), insert the following clause:

(a) As authorized in 32.905(a)(1)(ii), the Contracting Officer may modify the date in subdivision (a)(6)(i) of this clause to specify a period longer than 7 days for constructive acceptance, if required to afford the Government a reasonable opportunity to inspect and test the property furnished or evaluate the services performed, except in the case of a contract for the procurement of a brand-name commercial item for authorized resale.

(b) As prescribed in 32.906(a) and only as allowed under agency policies and procedures, the Contracting Officer may insert in paragraph (b) of the clause a period shorter than 30 days (but not less than 7 days) for making contract financing payments.

PROMPT PAYMENT (MAR 1994)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or an electronic funds transfer is made. Definitions of pertinent terms are set forth in 32.902. All days referred to in this clause are calendar days, unless otherwise specified.

(a) *Invoice payments.* (1) For purposes of this clause, "invoice payment" means a Government disbursement of monies to a Contractor under a contract or other authorization for supplies or services accepted by the Government. This includes payments for partial deliveries that have been accepted by the Government and final cost or fee payments where amounts owed have been settled between the Government and the Contractor.

(2) Except as indicated in subparagraph (a)(3) and paragraph (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following two events:

(i) The 30th day after the designated billing office has received a proper invoice from the Contractor.

(ii) The 30th day after Government acceptance of supplies delivered or services performed by the Contractor. On a final invoice where the payment amount is subject to contract settlement actions, acceptance shall be deemed to have occurred on the effective date of the contract settlement. However, if the designated billing office fails to annotate the invoice with the actual date of receipt, the invoice

payment due date shall be deemed to be the 30th day after the date the Contractor's invoice is dated, provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(3) The due date on contracts for meat, meat food products, or fish; contracts for perishable agricultural commodities, contracts for dairy products, edible fats or oils, and food products prepared from edible fats or oils, and contracts not requiring the submission of an invoice shall be as follows:

(i) The due date for meat and meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)) and further defined in Pub. L. 98-181 to include any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, will be as close as possible to, but not later than, the 7th day after product delivery.

(ii) The due date for fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), will be as close as possible to, but not later than, the seventh day after product delivery.

(iii) The due date for perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(44)), will be as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(iv) The due date for dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, will be as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received.

(v) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(4) An invoice is the Contractor's bill or written request for payment under the contract for supplies delivered or services performed. An invoice shall be prepared and submitted to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(4)(i) through (a)(4)(viii) of this clause. If the invoice does not comply with these requirements, then the Contractor will be notified of the defect within 7 days after receipt of the invoice at the designated billing office (3 days for meat, meat food products, or fish, and 5 days for perishable agricultural commodities, edible fats or oils, and food products prepared from edible fats or oils). Untimely notification will be taken into account in the computa-

tion of any interest penalty owed the Contractor in the manner described in subparagraph (a)(6) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date.

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, prompt payment discount terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number and mailing address of person to be notified in event of a defective invoice.

(viii) Any other information or documentation required by other requirements of the contract (such as evidence of shipment).

(5) An interest penalty shall be paid automatically by the Government, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(5)(i) through (a)(5)(iii) of this clause are met, if applicable.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed and there was no disagreement over quantity, quality, or contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(6) The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority. This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the *Federal Register* semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice payment amount approved by the Government and be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of

any 30-day period will be added to the approved invoice payment amount and be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the contractor of a defective invoice within the periods prescribed in subparagraph (a)(4) of this clause, then the due date on the corrected invoice will be adjusted by subtracting the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties, if requested by the Contractor.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance shall be deemed to have occurred constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivered the supplies or performed the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or contractor compliance with a contract provision. In the event that actual acceptance occurs within the constructive acceptance period, the determination of an interest penalty shall be based on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days (3 days for meat, meat food products, or fish, and 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils).

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than \$1.00 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and Contractor over the payment amount or other issues involving contract compliance or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(7) An interest penalty shall also be paid automatical-