CITY OF COFFEYVILLE
BOARD OF COMMISSIONERS AGENDA ITEM

MEETING DATE	November 25, 2014	
RESOLUTION OR ORDINANCE NUMBER	R-14-93	
AGENDA TITLE	**Engineering Services – New Generation** **Task Authorization #1, Engineering-Design-Procurement Services**	
REQUESTING DEPARTMENT	Electric	
PRESENTER	Gene Ratzlaff	
FISCAL INFORMATION	Cost as recommended:	$2,200,000
	Budget Line Item:	810-5-030-478
	Balance Available	
	New Appropriation Required:	[ ] Yes [X] No Initially funds will come from the CML&P reserves until we receive funds from Revenue Bonds
PURPOSE	Secure services to provide engineering, design, procurement and support services for the installation of 56 MW of new engine-based power generation capacity.	
BACKGROUND	The Electric Utility presented to the City Commission on September 23, 2014, a proposal to select Burns & McDonnell as the City's Owner's Engineer, for the purpose of installing new generation.	
SPECIAL NOTES	N/A	

ANALYSIS	Staff met with Burns & McDonnell to negotiate cost and scope for engineering services, as defined in the attached “Base Scope of Services”. Burns & McDonnell has agreed to the not to exceed amount of $2,200,000 to perform these services. Should at any point, scope need to be amended or changed; Utility Staff will then present this to the City Commission for consideration.
PUBLIC INFORMATION PROCESS	N/A
BOARD OR COMMISSION RECOMMENDATION	
STAFF RECOMMENDATION	Staff recommends that the Mayor be authorized to enter into an engineering services agreement (Task Authorization #1) for engineering, design, procurement, and support services with Burns & McDonnell for the amount not to exceed $2,200,000.
REFERENCE DOCUMENTS ATTACHED	City of Coffeyville B & M Task Authorization #1 Final (11-17-14), New Generation Owner’s Engineer Task Authorization #1 – Resolution

RESOLUTION NO. R-14-93

A RESOLUTION TO ENTER INTO AN ENGINEERING SERVICES AGREEMENT WITH BURNS & MCDONNELL (TASK AUTHORIZATION #1) IN THE AMOUT NOT TO EXCEED $2,200,000 FOR ENGINEERING, DESIGN, PROCUREMENT AND SUPPORT SERVICES FOR THE CITY OF COFFEYVILLE ELECTRIC UTILITY.

BE IT RESOLVED by the Board of Commissioners of the City of Coffeyville, Kansas that the Mayor be and is hereby authorized to enter into an engineering services agreement with Burns & McDonnell (Task Authorization #1) in the amount not to exceed $2,200,000 for engineering, design, procurement and support services for the City of Coffeyville Electric Utility.

ADOPTED THIS 25th DAY OF November, 2014.

_____
James Falkner, Mayor

ATTEST:

_____
Cindy Price, City Clerk

APPROVED AS TO FORM AND LEGALITY:

_____
Paul Kritz, City Attorney

TASK AUTHORIZATION #1
of
AGREEMENT BETWEEN OWNER AND ENGINEER
FOR PROFESSIONAL SERVICES

City of Coffeyville, Kansas 56MW Reciprocating Engine Power Plant
Owner: City of Coffeyville, Kansas
Engineer: Burns and McDonnell

THIS TASK AUTHORIZATION is made as of November 17, 2014 by and between City of Coffeyville, KS ("Owner") and Burns & McDonnell Engineering Company, Inc., a Missouri corporation ("Engineer"). This Task Authorization shall be considered a Change Order as defined by the Agreement between Owner and Engineer for Professional Services dated October 14, 2014.

Owner authorizes Engineer to proceed with the following:

SCOPE OF SERVICES

The Scope of Services will be as defined in Exhibit A1 attached.

TERMS AND CONDITIONS

The term and conditions defined by the AGREEMENT BETWEEN OWNER AND ENGINEER FOR PROFFESSIONAL SERVICES dated October 14, 2014 are incorporated by reference in and made a part of this Task Authorization.

COMPENSATION

Owner shall pay Engineer for Services set forth in this Task Authorization a Lump Sum amount of Two Million Two Hundred Thousand Dollars ($2,200,000). The Lump Sum includes compensation for Engineer's services and services of Engineer's Consultants, if any. Appropriate amounts have been incorporated in the Lump Sum to account for labor, overhead, profit, and Reimbursable Expenses.

For services provided to Owner by Engineer that is not defined in this Task Authorization or in a lump sum defined by additional Task Authorizations and is approved by Owner, Owner shall pay Engineer an amount equal to the cumulative hours charged in connection with the task by each class of Engineer's employees times the Professional Service Billing Rates for each applicable billing class, plus Reimbursable Expenses. The Professional Service Billing Rates are set forth in the attached Schedule of Hourly Professional Service Billing Rates, Form BMR1215, which will be adjusted annually.

SCHEDULE

The schedule will be as defined in the Appendix 1 to Exhibit A1 attached.

TASK AUTHORIZATION #1
11/17/14

IN WITNESS WHEREOF, Owner, by and through its authorized representatives and Engineer, by and through its authorized representatives, have made and executed this Agreement as of the day and year first above written:

Owner City of Coffeyville, Kansas	Engineer Burns & McDonnell Engineering Company, Inc.
_____	_____
Signature	Signature
_____	_____
Printed Name	Printed Name
Title:_____	Title: _____
Date:_____	Date: _____

Schedule of Hourly Professional Service Billing Rates

Position Classification	Classification Level	Hourly Billing Rate
General Office *	5	$65.00
Technician *	6	79.00
Assistant *	7	90.00
	8	125.00
	9	145.00
Staff *	10	160.00
	11	177.00
Senior	12	192.00
	13	213.00
Associate	14	224.00
	15	236.00
	16	242.00
	17	249.00

NOTES:

1. Position classifications listed above refer to the firm's internal classification system for employee compensation. For example, "Associate", "Senior", etc., refer to such positions as "Associate Engineer", "Senior Architect", etc.

2. For any nonexempt personnel in positions marked with an asterisk (*), overtime will be billed at 1.5 times the hourly labor billing rates shown.

3. Project time spent by corporate officers will be billed at the Level 17 rate plus 25 percent.

4. For outside expenses incurred by Burns & McDonnell, such as authorized travel and subsistence, and for services rendered by others such as subcontractors, the client shall pay the cost to Burns & McDonnell plus 10%.

5. A technology charge of $9.95 per labor hour will be billed for normal computer usage, computer aided drafting (CAD) long distance telephone, fax, photocopy and mail services. Specialty items (such as web and video conferencing) are not included in the technology charge.

6. Monthly invoices will be submitted for payment covering services and expenses during the preceding month. Invoices are due upon receipt. A late payment charge of 1.5% per month will be added to all amounts not paid within 30 days of the invoice date.

7. The services of contract/agency personnel shall be billed to Owner according to the rate sheet as if such contract/agency personnel is a direct employee of Burns & McDonnell.

8. The rates shown above are effective for services through December 31, 2015, and are subject to revision thereafter.

Form BMR1215

Exhibit A1
Base Scope of Services

City of Coffeyville

Confidential & Proprietary

General Project and Scope Description	Burns & McDonnell's Base Scope of Services for the City of Coffeyville (Owner) includes Project Permitting Services, Natural Gas Fuel Supply Services, and Project Engineering Design. This scope is based on the installation of a nominal 56 MW of engine-based power generation capacity with no provisions for future capacity. The design basis of the Coffeyville engine power plant is to duplicate the equipment ratings, equipment sizes, and design redundancy of a "sister plant" being designed by Burns & McDonnell for Stillwater Utility Authority in Stillwater, OK. Consequently, the same equipment specifications and technical bid evaluations used for Stillwater will be used for Coffeyville. The cost of services will be limited to and based on the development of one site. The project scope is based on the plant general arrangement and site layout in Drawing GA001, Rev. A, dated July 14, 2014 and on the project schedule and assumptions dated November 4, 2014 in Appendix 1 to Exhibit A1. Project features, limits of scope, and assumptions: • Engine OEM and capacity based on a Wärtsilä 18V50SG. OEM scope shall be identical to the OEM scope provided in the "sister plant". • Plant will be defined as a "non-critical" facility; Class III per ASCE 7, reference IBC. • Electrical interconnections: high voltage bushings of power plant GSU; standby power – high voltage bushings of standby transformer located on Owner's site. • Remote start capability by Owner, and AGC control of generators by either SPP or GRDA; implementation and programming of both by Engine OEM control system. • Engine OEM control system (Wärtsilä WOIS PLC) will be used for the plant control system • Natural gas plant heating from local distribution company (Atmos); Atmos to provide U/G piping, metering and regulation installation up to building(s) service • High-pressure natural gas interconnection: valved and isolated aboveground piping connection located inside Owner's site; no infrastructure (surface prep; fencing and gate; separate egress, etc…) furnished by Owner; minimum 125 psig and maximum 900 psig at the site property line • SCR reagent: urea • Plant process waste water will be discharged to City municipal sewer system; no separate NPDES permit required • Plant sanitary will be discharged to City municipal sewer system • City potable and fire water available capacity and pressure available adjacent to Owner's site and sufficient to service the new power plant

	• Soils remediation, abatement, or building / structure demolition services are not included • Owner to provide the following: permit costs; ESA Phase I; topographic and ALTA survey in digital format • NERC CIP is not applicable to the plant • Standard spread footing and drilled pier foundation designs (no pile design) • Building design will not include storm shelter provisions • Owner to provide permanent telephone service, internet service, and any SCADA communications • Existing substation modifications for any Owner upgrades or for the interconnection to the Plant will be by others • Owner project financing support will be limited to the development of documents by Burns & McDonnell in the course of the Scope of Services in Exhibit A1. All other financing support effort is not included.
Project Permitting Services	The Project Permitting Services work for the project includes the following: 1. State Air Permit Application 2. Wetlands and Other Waters of the U.S. 3. Threatened and Endangered Species 4. Cultural Resources 5. KDHE Storm Water General Permit and SWP3 6. Hydrostatic Test General Permit 7. KDHE Individual Permit for Wastewater Discharges 8. Federal Aviation Administration (FAA) ***1. State Air Permit Application*** Because of the size of the Project, it is expected that the Project will be subject to major state source permitting (i.e. minor for Prevention of Significant Deterioration or PSD). A f state air permit application will be prepared for the Project and will include the following tasks: **Task 1-1: Calculation of Emissions.** Burns & McDonnell will calculate maximum emissions and hours of operation for the Project. Emissions estimates will include emissions from the RICE, gas heater, emergency generator, and fire pump, as applicable. Emissions, hours of operation and number of startups will be discussed with Owner. It is expected that this site will be minor for Prevention of Significant Deterioration (PSD) **Task 1-2: Pre-Application Meeting with KDHE.** Burns & McDonnell will attend a pre-application meeting at the KDHE's offices in Kansas City to discuss the project and the submitted modeling protocol (prepared in Task #1). This task assumes two Burns &

	McDonnell air permitting specialists will attend this meeting in person with the KDHE. **Task 1-3: Air Dispersion Modeling.** Burns & McDonnell will model all criteria pollutants to determine an appropriate stack height. This modeling will NOT be submitted as part of the application as it is not as required by the KDHE . Only Project sources will be modeled; inventory sources will NOT be included. Burns & McDonnell will perform air dispersion modeling using the EPA-approved AERMOD air dispersion model. The AERMOD modeling program requires compiled meteorological data. It is assumed that this meteorological data will be purchased from an outside vendor. **Task 1-4: Permit Application Report and Form Preparation.** Burns & McDonnell will prepare the entire permit application with supporting calculations and information necessary for agency review. The report will include a project description, federal and state regulations review, and emission estimates, as applicable. Burns & McDonnell will complete the KDHE construction permit application forms to be included with the permit application. **Task 1-5: Quality Review.** Burns & McDonnell will follow internal company policy regarding quality review. The entire application will be reviewed for consistency and accuracy. **Task 1-6: Incorporation of Owner's Comments and Submission of the Application.** Burns & McDonnell will provide an electronic copy of the draft air permit application for Owner's review. Burns & McDonnell will incorporate one round of edits and comments from Owner. Burns & McDonnell will provide a total of three (3) hard copies of the final application to Owner. One copy will be for submission to KDHE and two copies will be for Owner's records. Electronic copies of the application and modeling files will be provided as required by Owner. **Task 1-7: Agency Follow-up with Application.** Burns & McDonnell will provide support to agency follow-up to respond to agency comments and questions regarding the air permit application after submittal. A budgeted 40 hours is included in this proposal. Anything beyond 40 hours will be on a time and materials basis. This may include responding to questions and reviewing the draft permit and response to public comments. ***2. Wetlands and Other Waters of the U.S.*** **Task 2-1: Desktop Review.** Prior to performing the wetland delineation at the Project site, Burns & McDonnell would collect available background data to assist in identifying locations that could potentially contain wetlands and other waters of the U.S. (jurisdictional areas) as part of our initial desktop wetland analysis for the Project. The background data would include National Wetland Inventory (NWI) mapping, Natural Resource Conservation Service (NRCS) soils data and hydric soils lists, U.S. Geological Survey (USGS) topographic mapping, readily available aerial photography, and other pertinent background information.

	Task 2-2: Field Survey. Burns & McDonnell would conduct an onsite pedestrian survey focusing on the areas of the site that were identified during the desktop review as likely to contain wetlands and other waters of the U.S. (jurisdictional areas). The wetland delineation of the Project site would be conducted by a two-person team consisting of a wetland scientist and a global positioning system (GPS) specialist. The team would be Burns & McDonnell staff members based out of the Kansas City. The field survey would evaluate the Project site to identify any jurisdictional areas that may be impacted by the Project. Jurisdictional areas would be delineated in accordance with the guidelines of the *1987 Corps of Engineers Wetland Delineation Manual* (1987 Manual), the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region*, Version 2.0 (Regional Supplement), and other U.S. Army Corps of Engineers (USACE) guidance regarding the jurisdictionality of watercourses. Sample plots would be established at various locations where Wetland Determination Data Forms from the Regional Supplement would be completed to characterize any identified jurisdictional areas and adjacent uplands. As part of this effort, Burns & McDonnell would record information on hydric soils, wetland hydrology, and upland and wetland vegetation on the Project site. Information that was collected from the desktop survey would be confirmed during the site visit. The wetland scientist would also determine if any identified wetlands or ponds have a hydrologic connection to waters of the U.S. Sample plots and jurisdictional areas would be surveyed using a Trimble® Pro XRS sub-meter GPS unit. Onsite photographs would also be taken to provide visual documentation of any identified features. **Task 2-3: Preparation and submittal of wetland delineation report and USACE permit application.** Burns & McDonnell would prepare a single letter-style wetland delineation report for the Project which would be submitted to the Kansas City District of the USACE. The wetland delineation report would include discussions of background data, survey methodology, and results of the delineation. Any anticipated impacts to potentially jurisdictional areas would be identified. Figures would be prepared to incorporate the background data and to illustrate the location and extent of any identified jurisdictional areas. Additionally, the completed Wetland Determination Data Forms (from the Regional Supplement) and photographs of the Project site would be included. Burns & McDonnell would prepare a draft report and provide it to Owner for review and one round of comments. Following incorporation of the comments, Burns & McDonnell would prepare the final report and upon receiving the authorization from Owner, would submit it to the USACE as part of the application package. A Section 404 Permit would be required from the USACE if the Project would have permanent impacts to wetlands or other waters of the U.S. (i.e., ponds, streams, and rivers) that are under USACE jurisdiction. It is anticipated that the Project would qualify for a Nationwide Permit (NWP) 39 for industrial facilities. Temporary impacts to wetlands do not require mitigation; however, conversion of large amounts of forested wetlands to other types of wetlands can require mitigation. If this Project cannot meet the qualifications for a NWP or if mitigation is required, a separate proposal and cost estimate would be prepared at Owner's request. In addition to the Section 404 permit, a Section 401 Water Quality Certification (WQC) would be required. These permits are typically authorized with the issuance of the Section 404 NWP and do not require a separate permit application. Since it is assumed that the Project would qualify for a NWP, it is also assumed that the Section 401 WQC

would be issued with the NWP and would not require additional efforts for coordinating with the appropriate state agency. The Section 401 WQC would contain specific conditions that must be complied with during construction. If these conditions cannot be complied with, then an individual Section 401 WQC must be obtained. For purposes of this scope, it is assumed that the Project construction activities could comply with the specific conditions of the Section 401 WQC. Efforts for seeking an individual Section 401 WQC have not been included within this scope of work.

3. Threatened and Endangered Species

To comply with federal and state laws regarding impacts to threatened, endangered, and concerned species (protected species) or their respective habitat, Burns & McDonnell would conduct an informal consultation with the U.S. Fish and Wildlife Service (USFWS) and the Kansas Department of Wildlife, Parks and Tourism (KDWPT). Burns & McDonnell would extract pertinent background information for the Project area and prepare information request letters, including Project location maps. These letters would be submitted to Owner electronically for review and one round of comments. Burns & McDonnell would finalize the letters and submit them to the USFWS and KDWPT to request protected species information for the Project site. If the USFWS and/or KDWPT require an on-site habitat assessment to evaluate the presence of threatened, endangered, and concerned species or their respective habitat, Burns & McDonnell would conduct a field survey as described below in the Optional Tasks section.

4. Cultural Resources

Burns & McDonnell would coordinate with the Kansas State Historical Society, State Historic Preservation Office (SHPO) to investigate the presence of cultural resources at the Project site. To accomplish this, Burns & McDonnell proposes to perform the investigation with a phased approach to prevent performing any unnecessary fieldwork.

A Burns & McDonnell archaeologist would plot the locations of known cultural resources, determine if the Project site has been previously surveyed, delineate high probability areas where it is likely cultural resources would exist, and collect background data necessary for consulting with the SHPO. Burns & McDonnell will correspond with the SHPO by providing the results of the background investigation in a letter report format that would allow the SHPO to determine what level of effort would be needed on the Project to satisfy the Section 106 process. The letter report would be submitted to Owner electronically for review and one round of comments. Burns & McDonnell would finalize the letter and submit it to the SHPO to request cultural resource information for the Project site.

If the SHPO determines that a Phase I field survey is necessary at the Project site to evaluate the presence of cultural resources, then Burns & McDonnell would assign one, two-person team to perform the survey as described below in the Optional Tasks section.

5. KDHE NPDES Stormwater Construction General Permit and SWP2 Plan

Because the Project would disturb one or more acres of land, a National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Runoff from Construction Activities from the Kansas Department of Health and Environment (KDHE) would be required prior to construction. To obtain this permit, Burns &

McDonnell would prepare the Notice of Intent (NOI) and pertinent Project information and provide it to Owner for review and one round of comments. Upon receiving Owner's comments, Burns & McDonnell would finalize the submittal package and provide it to Owner for signature and submittal to the KDHE. The submittal package will include the signed NOI, supplemental drawings and maps, and the $60 application fee. The application fee would be paid by Owner.

In addition to the application package, and as a requirement of the General Permit, Burns & McDonnell would prepare a Stormwater Pollution Prevention Plan (SWP2 Plan). A typical SWP2 Plan contains the Project description and location, Best Management Practices (BMPs), type and location of erosion and sediment control structures, re-vegetation requirements, good housekeeping, etc. It is assumed that Owner would provide any necessary information for completing the SWP2 Plan. The SWP2 Plan would be completed prior to submitting the NOI; however, it is not necessary to submit the SWP2 Plan to the KDHE for review unless requested. Burns & McDonnell would provide a draft SWP2 Plan to Owner for review and one round of comments. Upon receiving Owner's comments, Burns & McDonnell would finalize the SWP2 Plan and provide up to five copies of the SWP2 Plan to Owner.

6. Hydrostatic Test General Permit

Projects that will discharge hydrostatic test water from new pipelines and storage tanks, and/or existing pipelines and storage tanks exposed to crude oil and refined petroleum products or natural/liquefied petroleum gases require a General Permit for Hydrostatic Test Discharges from Pipeline and Storage Tanks from the (KDHE) prior to any discharges. Burns & McDonnell would prepare the (NOI) and provide it to Owner for review and one round of comments. It is assumed that Owner would provide any pertinent Project information needed to complete the application. Upon receiving Owner's comments, Burns & McDonnell would finalize the submittal package and provide it to Owner for signature and submittal to the KDHE. A check for the annual fee of $60 must be submitted with the NOI.

7. Federal Aviation Administration (FAA)

Burns & McDonnell would coordinate with the design team to review Project-related structures (temporary or permanent) that may require a Notification (Form 7460-1) to be submitted to the FAA to obtain a determination of hazard to aviation navigation. Structure heights (including structure elevations) are compared to locations of FAA-regulated airports that are within the vicinity of the Project. Depending upon structure height and proximity to an airport, Burns & McDonnell would coordinate with the design team to prepare and submit Form 7460-1 for each structure requiring notice to the appropriate regional FAA office for review. Once a Notice is prepared and submitted to the FAA office, a determination is issued approximately 45 days thereafter. These determinations sometimes require further Notifications or actions by the owner or permittee in order to comply with FAA requirements, which often include additional notifications to the FAA prior to construction or once construction is complete.

Optional Tasks

8. Field Survey for Habitat Assessment

It is probable that the USFWS and KDWPT would require a pedestrian survey of the Project site (onsite habitat assessment) prior to issuing a letter of concurrence for the Project. If a habitat assessment of the Project site is required by the KDWPT or the USFWS, then the information provided by the agencies and collected during the background research would be confirmed, and any protected species habitat on the Project site would be identified and evaluated to determine if it could be impacted by the Project. The habitat assessment would be conducted concurrent with the wetland survey to make the most efficient use of time and personnel. The two-person field survey team would consist of personnel qualified to identify wetlands, threatened and endangered species, and operate the GPS unit.

Final Reports to KDWPT and USFWS

The results of the habitat assessment, agency consultations, and background research would be summarized in a letter report. A draft version of the letter report would be provided to Owner electronically for review and one round of comments. Once the comments are received, Burns & McDonnell would finalize the report and submit it to the USFWS and the KDWPT to request concurrence. It is assumed that this report would satisfy federal and state threatened and endangered species requirements; no additional studies would be required; and each agency would issue a concurrence with the findings of the letter report. It is also assumed that no species-specific surveys requiring state or federal scientific collecting permits and/or mitigation measures to compensate for potential impacts to protected species or their habitat would be required.

9. Phase I Field Study for Cultural Resources

Phase I Field Survey

If a Phase I survey of the Project site is requested by Owner, then it is estimated that two Burns & McDonnell principal investigators would be able to survey the site in one day. Where ground surface visibility exceeds 50 percent, the surface would be examined, along with cut banks and open fields. Where ground surface visibility is less than 50 percent, shovel testing may be required. A shovel test is an approximately 50 centimeter by 50 centimeter excavation that is dug to one meter in depth or to the subsoil, whichever comes first. All material from the shovel test is screened through ¼-inch hardware cloth. Any recovered artifacts would be bagged and the origin noted. The walls of the shovel test would be examined, and the soils and profile would be noted. The shovel test would then be backfilled. Locations of the shovel tests and any sites that are discovered would be mapped using a Trimble® Pro XRS sub-meter GPS unit.

Cultural Resources Report

Burns & McDonnell would prepare a report that discusses the results of the pedestrian survey of the Project site, including the background information. The report would include chapters on the environment, cultural history, previous surveys, results of the current survey, and recommendations. A draft version of the report would be provided to Owner electronically for review and one round of comments. Once the comments are received, Burns & McDonnell would finalize the report and submit it to the SHPO.

	If no cultural resources are found or if the survey data presented in the report finds the resources have no integrity, no further consultation with SHPO would be necessary. If cultural resources are found that might be eligible for inclusion in the National Register of Historic Places (NRHP), Burns & McDonnell, Owner, and the SHPO would discuss the possibility of Project redesign to avoid impacts to NRHP eligible sites. If this option is not feasible, further investigations (Phase II and Phase III) to assess the importance of the resources may be necessary. No costs for Phase II or Phase III testing and artifact curation are included in this scope of work. **Air Permitting Assumptions** • Project will be PSD minor and dispersion modeling will be conducted for stack height design purposes (not for submittal to KDHE) • Refined modeling analysis will not be performed; only project sources will be modeled. • The level of effort defined in this scope of work includes travel for one meeting in Topeka with the KDHE. No other travel is included in this scope. • Owner will supply information requested by Burns & McDonnell in a timely manner to support the proposed schedule. • Owner will provide one round of comments on the draft air permit application. • Permit fees will be determined by Burns & McDonnell but Owner is responsible for paying all permit fees. **Other Environmental Permitting ASSUMPTIONS** • Owner will provide a map of the Project site as well as any needed Project information • Owner will obtain property access for the field survey, if required • Owner will pay all permit and application fees • No significant impacts to wetlands will occur and the Project can be permitted under a Nationwide Permit with no formal consultation with the USACE • No state- or federally-listed threatened or endangered species will be affected by Project implementation, and therefore, no formal consultation with the KDWPT and USFWS will be required. • Noise survey to determine predicted sound level impact by the power plant on the surrounding noise receptors or at the property line is not included. • ESA Phase I and other ESA studies and evaluations are not included. • No deep testing will be required during the cultural resources survey • Any meetings with Owner to discuss the Project will be via conference call.

Natural Gas Fuel Supply Services	Burns & McDonnell will provide Natural Gas Fuel Supply Services to Owner for the delivery of high pressure, natural gas supplies to the OEM natural gas engines. In addition, Burns & McDonnell will evaluate and recommend Ancillary Services provided by the Pipeline Company enabling Owner to coordinate the delivery of gas supplies in quick response to the need to generate. As part of the Natural Gas Fuel Supply Services, Burns & McDonnell will provide the following functions: • For comparison purposes, develop a desk top pipeline construction cost estimate and an ongoing operations and maintenance cost estimate for a Gas Fuel Line between each responding Pipeline Company. • Provide support to negotiate commercial terms and conditions for the installation of the Gas Fuel Line as well as ongoing Ancillary Services provided by the Pipeline Company • Provide recommendations on final Gas Fuel Line contract award and Ancillary Services contract award
Project Engineering Design	The Project Engineering Design work for the project includes the following: • Permitting Support and Design Assistance for the Power Plant. • Engineering Design (Power Plant). • Procurement Technical Support (Power Plant).
Permitting Support and Design Assistance	Burns & McDonnell engineering will provide the following permitting assistance support and design assistance: • Site topographical and property line determination (based on survey by others). • Plant and site layouts sufficient to support Burns & McDonnell Engineering air permit efforts. • Emission source locations, elevations, and emission levels for the proposed plant OEM Equipment
Engineering Design	The proposed Engineering Design for the Power Plant tasks include: • Equipment Procurement Technical Support • Vendor Drawing Review • Plant Engineering Design The following paragraphs provide a general discussion of scope for each of the listed tasks as related to Civil, Structural, Mechanical and Electrical engineering, and Architectural design.

Equipment Procurement Technical Support	Burns & McDonnell will provide technical specifications to be used by Owner to procure the Plant Equipment and Materials ("Equipment") required for the installation and operation of the power plant. As part of the technical specifications effort, Burns & McDonnell will provide the following services: • Provide technical evaluation of equipment bids for each contract as bid for the "sister plant" • Provide conformed technical sections of the specifications to be used in awarding Equipment contracts The following efforts will be performed by Owner or Burns & McDonnell under a separate Task Authorization: • Develop and provide commercial terms and conditions for the OEM Equipment and Equipment contracts. • Issue the procurement specifications for bid and publicly advertise the bid documents for any items not identical to the sister plant design. • Commercial evaluation and negotiation of the equipment bids • Award the equipment contracts Burns & McDonnell will provide support to Owner for both drawing and delivery expediting of all Equipment contracts. Owner will have final responsibility for drawing and delivery expediting. Specifications for the Equipment procurement contracts included in the scope are listed in the Equipment Contracts herein.
Vendor Drawing Review	Burns & McDonnell will provide technical review of all vendors and subcontractor drawings/data specified by Burns & McDonnell in the Equipment procurement and Construction contracts. Burns & McDonnell will provide document control for all vendor and contractor drawing submittals through the Burns & McDonnell Document Locator software. Owner will have the opportunity to review and approve all vendor and Burns & McDonnell drawings through the Document Locator software.
Plant Engineering Design	Burns & McDonnell will provide the necessary engineering and design services to construct the plant facilities. The design deliverables for the scope will include the following by engineering discipline. **Geotechnical:** • Site overall geotech plan and specifications • Review of geotechnical recommendations

	Civil: • Site overall construction plan • Site grading and drainage plans • Underground civil utility drawings • Site paving and geometry plans • Site erosion control plan • Spill prevention plan or SWP3 **Structural:** • Building design; plans, sections, and detail drawings • Foundations design for all equipment; plans, sections, and detail drawings • Structural steel design for all supplied equipment not furnished with structural steel supports; plans, sections and detail drawings • Structural steel design for all ductwork and stacks • Foundation design is based on spread footings, strip footings, grade beams, or grade supported slabs, mats, and pads. Drilled pier or auger cast piles foundation designs for the power plant are not included in the base design scope **Architectural:** • Building shell design: pre-engineered metal building shell for the Power Block Building including the engine hall, switchgear room, control room, and mechanical room; bridge cranes; associated structural design; plan and elevation drawings; specifications. • Building interiors design for the building areas stated above; plan and elevation drawings; specifications. **HVAC / Plumbing:** • HVAC design: plan and duct drawings, equipment location and physical arrangement drawings; specifications. • HVAC schedules and controls drawings. • Building sanitary plumbing and sewer design: riser diagram, piping and drain hub plans, and specifications. • HVAC piping: plans, sections, and detail drawings. **Mechanical:** • Process and Instrumentation diagrams (P&IDs). Engine OEM P&IDs will not be duplicated. • General Arrangement drawings • Underground piping drawings • Piping plan and section drawings • Pipe support detail drawings • Equipment List • Valve List • Instrument List (process data) • Process piping Line List • Process piping Specials List

	Electrical: • Electrical one-line diagrams. • Electrical three-line diagrams of MV Switchgear, including connection to GSU • Protective relay settings for BOP Equipment, including MV switchgear, 480V switchgear, and GSU • Plant auxiliary power system load flow and short circuit study utilizing ETAP software • Grounding plan and detail drawings • Underground raceway plan and detail drawings • Lighting & Small power plan and detail drawings • Above grade cable tray plan and detail drawings • Cable schedule which will integrate Engine/ OEM and balance of plant cables • Termination schedule for balance of plant equipment and will integrate Engine/OEM terminations • Schematics for balance of plant equipment • Master device list to include all electrical equipment and instruments for the project • Relay and protective device coordination from the 480V distribution level up to and including the GSU. • Develop SPP interconnection documentation to support the electrical interconnection requirements. All fees and required evaluations or reviews as a result of the SPP interconnection process shall be by Owner.
Construction and Procurement Technical Support	Burns & McDonnell will provide technical specifications to be used by Owner to procure the construction and services required to construct, start-up, commission, and test the plant, and install the engine-driven generators and balance of plant facilities. As part of the Construction and Procurement Technical Support, Burns & McDonnell will provide the following functions: • Assist Owner in the technical review of up to 3 bids received from the contractors. • Provide conformed technical sections of the specifications to be used in awarding construction contracts. The following efforts will be performed by Owner or Burns & McDonnell under a separate Task Authorization: • Develop and provide commercial terms and conditions for the Construction and Services contracts. • Issue the Construction bid documents for bid and publicly advertise the bid documents. • Commercial evaluation and negotiation of the Construction bids • Award the contracts • Administer the Contracts

	Specifications and drawings will be provided for the construction contracts included in the scope as listed in the Construction and Services Contracts List herein.
Project Meetings and Construction Support	Burns & McDonnell personnel will travel to the project site for Project Meetings. The necessity of Project Meetings and locations of the meetings will be agreed upon by Owner and Burns & McDonnell, but shall be no more than once per every 2 months during the design phase of the project. It is anticipated that weekly progress meetings will be handled with conference calls. Engineering support during construction by Burns & McDonnell is not included in the Base Scope. We have assumed that Owner will attend all Equipment factory testing in the respective test facilities. The cost for Burns & McDonnell to attend the factory testing of the Equipment is not included.

Equipment and Construction Contracts	Reciprocating Engine Based Plant	
	Contract No. (5.XXXX)	**Contract Description**
Equipment Contracts	1210	Engine Generator and Auxiliaries
	2710	Air Compressors
	2752	Fuel Gas Filter/Coalescer
	2753	Fuel Gas Dewpoint Heater
	2980	Shop-Fabricated Tanks
	2981	FRP Tanks
	2982	Pressure Vessels
	4440	Ventilation Fans
	4520	Structural Steel (Plant)
	5110	Generator Step Up Transformer
	5120	Auxiliary Transformer
	5230	GSU Relaying and Metering Panels
	5310	Medium Voltage Switchgear
	5320	480V Switchgear
	5330	Motor Control Centers
	5340	Non-Seg Phase Bus Duct
	5410	DC & UPS Systems
Construction Contracts		
	4310	Pre-Engineered Building
	8110	Site Preparation
	8220	Foundations and Underground Utilities
	8320	Mechanical Installation
	8410	Electrical Installation
	9150	Site Security

Equipment and Construction Contracts	Reciprocating Engine Based Plant	
	Contract No. (5.XXXX)	**Contract Description**
Service Contracts		
	9050	Subsurface Investigation
	9055	Construction Material Testing
	9450	Electrical Testing (High Voltage)

Appendix 1 to Exhibit A1

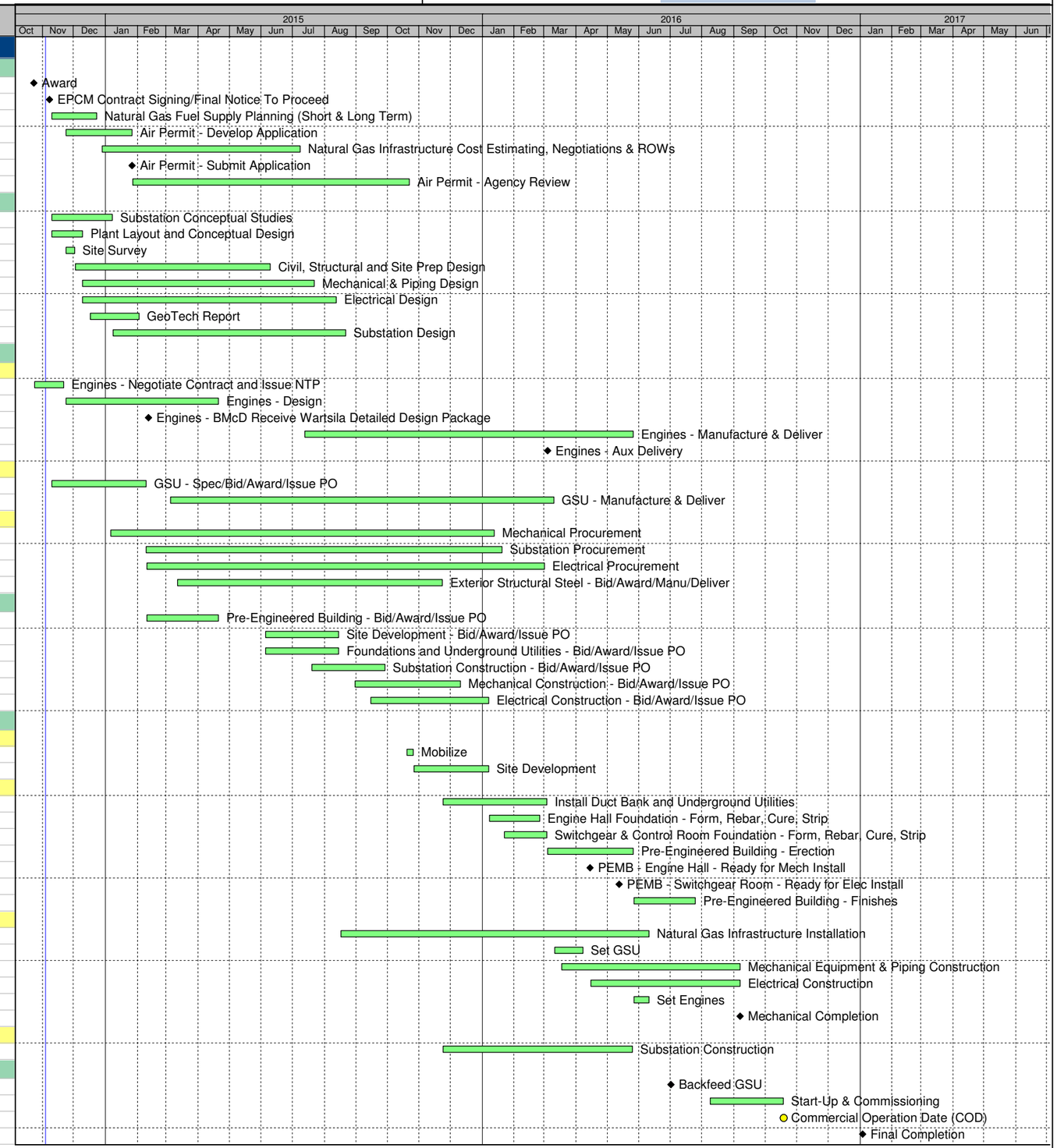
Burns & McDonnell SINCE 1898

Reciprocating Engine Power Plant

DRAFT Contract Level 1 Schedule - 3x18V50SG Engines

Coffeyville KANSAS

Activity ID	Activity Name	Duration	Start	Finish
3 x Wartsila 50SG Recip Engine Power Plant - L1 Schedule		543d	24-Oct-14 A	03-Jan-17
Project Development		251d	24-Oct-14 A	22-Oct-15
D1430	Award	0d		24-Oct-14 A
D1460	EPCM Contract Signing/Final Notice To Proceed	0d		07-Nov-14
D1450	Natural Gas Fuel Supply Planning (Short & Long Term)	30d	10-Nov-14	23-Dec-14
D1050	Air Permit - Develop Application	40d	24-Nov-14	26-Jan-15
D1420	Natural Gas Infrastructure Cost Estimating, Negotiations & ROWs	135d	29-Dec-14	08-Jul-15
D1060	Air Permit - Submit Application	0d		26-Jan-15
D1080	Air Permit - Agency Review	190d	27-Jan-15	22-Oct-15
Engineering		197d	10-Nov-14	21-Aug-15
E1350	Substation Conceptual Studies	37d	10-Nov-14	07-Jan-15
E1400	Plant Layout and Conceptual Design	20d	10-Nov-14	09-Dec-14
E1340	Site Survey	5d	24-Nov-14	02-Dec-14
E1300	Civil, Structural and Site Prep Design	130d	03-Dec-14	09-Jun-15
E1280	Mechanical & Piping Design	155d	10-Dec-14	22-Jul-15
E1290	Electrical Design	170d	10-Dec-14	12-Aug-15
E1390	GeoTech Report	30d	17-Dec-14	02-Feb-15
E1380	Substation Design	160d	08-Jan-15	21-Aug-15
Procurement		393d	24-Oct-14 A	26-May-16
Engines		393d	24-Oct-14 A	26-May-16
P1070	Engines - Negotiate Contract and Issue NTP	21d	24-Oct-14 A	21-Nov-14
P1160	Engines - Design	100d	24-Nov-14	20-Apr-15
P1490	Engines - BMcD Receive Wartsila Detailed Design Package	0d		11-Feb-15
P1040	Engines - Manufacture & Deliver	215d	13-Jul-15	26-May-16
P1430	Engines - Aux Delivery	0d		04-Mar-16
GSU		327d	10-Nov-14	10-Mar-16
P1250	GSU - Spec/Bid/Award/Issue PO	60d	10-Nov-14	09-Feb-15
P1260	GSU - Manufacture & Deliver	250d	05-Mar-15	10-Mar-16
Balance of Procurement		285d	06-Jan-15	01-Mar-16
P1370	Mechanical Procurement	250d	06-Jan-15	12-Jan-16
P1390	Substation Procurement	232d	09-Feb-15	20-Jan-16
P1360	Electrical Procurement	260d	10-Feb-15	01-Mar-16
P1350	Exterior Structural Steel - Bid/Award/Manu/Deliver	180d	12-Mar-15	23-Nov-15
Subcontracts		222d	10-Feb-15	07-Jan-16
P1310	Pre-Engineered Building - Bid/Award/Issue PO	50d	10-Feb-15	20-Apr-15
P1460	Site Development - Bid/Award/Issue PO	50d	05-Jun-15	14-Aug-15
P1470	Foundations and Underground Utilities - Bid/Award/Issue PO	50d	05-Jun-15	14-Aug-15
P1480	Substation Construction - Bid/Award/Issue PO	50d	20-Jul-15	28-Sep-15
P1440	Mechanical Construction - Bid/Award/Issue PO	70d	31-Aug-15	10-Dec-15
P1450	Electrical Construction - Bid/Award/Issue PO	70d	15-Sep-15	07-Jan-16
Construction		260d	17-Aug-15	06-Sep-16
Site Development		45d	20-Oct-15	07-Jan-16
C1090	Mobilize	5d	20-Oct-15	26-Oct-15
C1100	Site Development	40d	27-Oct-15	07-Jan-16
Foundations & Pre-Engineered Building		160d	24-Nov-15	25-Jul-16
C1110	Install Duct Bank and Underground Utilities	60d	24-Nov-15	03-Mar-16
C1120	Engine Hall Foundation - Form, Rebar, Cure, Strip	35d	08-Jan-16	25-Feb-16
C1130	Switchgear & Control Room Foundation - Form, Rebar, Cure, Strip	30d	22-Jan-16	03-Mar-16
C1140	Pre-Engineered Building - Erection	60d	04-Mar-16	26-May-16
C1170	PEMB - Engine Hall - Ready for Mech Install	0d		14-Apr-16
C1440	PEMB - Switchgear Room - Ready for Elec Install	0d		12-May-16
C1150	Pre-Engineered Building - Finishes	40d	27-May-16	25-Jul-16
Mechanical/Electrical Installation		260d	17-Aug-15	06-Sep-16
C1430	Natural Gas Infrastructure Installation	200d	17-Aug-15	10-Jun-16
C1270	Set GSU	20d	11-Mar-16	07-Apr-16
C1190	Mechanical Equipment & Piping Construction	120d	18-Mar-16	06-Sep-16
C1200	Electrical Construction	100d	15-Apr-16	06-Sep-16
C1180	Set Engines	10d	27-May-16	10-Jun-16
C1210	Mechanical Completion	0d		06-Sep-16
Substation Construction		118d	24-Nov-15	25-May-16
C1410	Substation Construction	118d	24-Nov-15	25-May-16
Start-Up & Commissioning		125d	01-Jul-16	03-Jan-17
S1240	Backfeed GSU	0d		01-Jul-16
S1220	Start-Up & Commissioning	50d	09-Aug-16	18-Oct-16
S1230	Commercial Operation Date (COD)	0d		18-Oct-16
S1440	Final Completion	0d		03-Jan-17



Non Critical ◆ ◆ Milestone ○ ○ COD

*See attached schedule assumptions

Report Date: 04-Nov-14

Data Date: 04-Nov-14

Appendix 1 to Exhibit A1 (continued)
City of Coffeyville (COC)
Project Schedule Assumptions (11-4-14)

The following assumptions were used in schedule development to meet a 10/18/2016 in service date for the COC project. Achieving an October 2016 in service date depends on expediting front end engine and BOP design. This can be achieved through sole sourcing with Wärtsilä for a 3x18V50SG facility and beginning BOP engineering immediately. Burns & McDonnell will proceed with engineering and procurement based on the Stillwater Energy Center and leverage equipment bids on that project to expedite procurement for Coffeyville.

- BMcD EPCM contracting approach.
- Coffeyville will sole source engines with Wärtsilä for a 3x18V50SG facility.
- Wärtsilä will be released to start engineering by 11/21/14.
- BMcD will be released to begin supporting (at a minimum) surveying, geotechnical investigation, gas line RFP development, GSU procurement, air permit development, general arrangement development, conceptual plant/substation design and up front Construction Management support by 11/17/14.
- Wärtsilä detailed design package received within calendar 75 days of NTP.
- Engines will be set by Wärtsilä in no longer than 2 weeks.
- 6 weeks for Wärtsilä to commission engines.
- Emissions emission testing will occur after COD.
- Engines can be delivered directly to foundation when needed with no onsite laydown required.
- SPP Interconnect requirements will not delay substation design or procurement
- Minor source air permit requirement with 9 month agency review period duration.
- City has ability to sole source equipment and services contracts on a cooperative procurement basis.
- 5 business day owner review period for critical design deliverables and procurement packages. 10 business day owner review period for all other design deliverables and packages.
- 2 day City Commission award approval turnaround for critical equipment and construction packages as needed after recommendation is provided by BMcD. Twice monthly approvals assumed for all other packages.
- Critical BOP equipment procurement and subcontract bidding will proceed based on Wärtsilä design from previous projects, with conservative assumptions made to cover unknowns. Burns & McDonnell will leverage equipment bid evaluations and purchase orders on existing projects to enter direct negotiations with vendors instead of formal bid cycles where needed.
- Bid periods for equipment and critical subcontracts shall not exceed 30 days.
- Greenfield site assumed. Demolition of existing facilities or underground utilities will be by City.
- Project site is assumed to have favorable geotechnical conditions. Piers, piles or footers are assumed to not be required under the power generation building. Site is assumed to be balanced from an earthwork standpoint with no excessive clearing and leveling required.
- Acquisition of ROW for gas line will not impact gas line construction.
- Any existing line or substation outages required for tie in will be provided as needed to meet the project construction schedule.

SITE KEY

1	ENGINE HALL
2	ELECTRICAL AREA
3	ADMIN-CONTROL AREA
4	MECHANICAL AREA
5	RADIATORS
6	SILENCERS - STACKS
7	SELECTIVE CATALYTIC REDUCER
8	EXHAUST GAS DUCT
9	UNLOADING STATION
10	STEP-UP TRANSFORMER AND CONTAINMENT
11	FIRE WATER TANK
12	FIRE PUMP HOUSE
13	GAS CONDITIONING
14	GAS YARD (BY OTHERS)
15	TANK CONTAINMENT

no.	date	by	ckd	description
A	08/27/14	WRL		PRELIMINARY

CONFIDENTIAL

PRELIMINARY - NOT FOR CONSTRUCTION

Burns & McDonnell SINCE 1898

9400 WARD PARKWAY
KANSAS CITY, MO 64114

date July 14, 2014	detailed W. LESNIAK
designed	checked V. RANALLETTA

Coffeyville KANSAS

PLANT CONSTRUCTION
W18V50SG GENERAL ARRANGEMENT
OVERALL SITE ARRANGMENT

project XXXXX	contract
drawing **GA001**	rev. **A**
sheet - of - sheets	
file COFFEY_GA001.DWG	

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Scale For Microfilming
Millimeters
Inches