Project: Fuel Storage Facility Expansion / Upgrade
Kugluktuk, Nunavut
GN Project # 97-501-05

SECTION 1: APPLICANT INFORMATION:

1.2.3.

Owner: Petroleum Products Division
Government of Nunavut
Rankin Inlet, Nunavut
Maureen Hall
Phone: (867) 645-5173
Fax: (867) 645-3554
Email:

GN Project Manager: Public Works, Telecommunications and Technical Services
Government of Nunavut
Cambridge Bay, Nunavut
David Allen
Phone: (867) 983-7294
Fax: (867) 983-2601
Email: dallen@gov.nu.ca

Consultants: A.D. Williams Engineering Inc.
2nd Floor Communications building
5120-49 Street
Yellowknife, NT X1A 1P8
Steven Spry
Phone: (867) 873-2395
Fax: (867) 873-2547
Email: sspry@yellowknife.adwe.com

Contractor: To be selected by tendering

4. Total number of person days is approximately 1100.

SECTION 2: AUTHORIZATION NEEDED

5. Indicate the authorizations associated with the project proposal:

Inuit:
✉ Regional Inuit Association ⇨ land use

Co-Management Board:
✉ Nunavut Water Board (water license) ⇨ water for testing

GNT:
Government of Nunavut
✉ Department of the Environment ⇨ disposal of lead paint
✉ Electrical Safety Unit ⇨ electrical permit
✉ Fire Marshal ⇨ plans review

Other:
✉ Hamlet of Kugluktuk ⇨ land use

6. List the active permits, licences or rights related to the project and their expiry date:

SECTION 3: PROJECT PROPOSAL DESCRIPTION

7. Indicate the activities related to the project proposal:

Municipality: bulk storage of fuel

8. Project duration and location:

Period of Construction: May 1999 to September 2002
Tank Farm Operation: Ongoing

Region: Kitikmeot

Land Status: Crown

Co-ordinates:

Min Lat (degrees/minute):	Min Long (degrees/minute):
Min Lat (degrees/minute):	Min Long (degrees/minute):

NTS Map sheet #:
Please ensure that maps of the project are attached (1:50 000, 1:250 000)

(see project plans)

SECTION 4: MATERIAL USE

10. List equipment (including drills, pumps, aircraft, etc.):

Specific equipment use is not know at this time. Loaders, haul trucks, dozers and compactors will be required to haul granular material to the site.

11. Detail fuel and hazardous materials use:

Fuels	Number of Containers	Capacity of Containers	
		Igal	litres
• Diesel	2 TK-9 relocated vertical tank TK-20 new vertical tank	297,300 743,200	1,351,000 3,377,000
• Gasoline	2 TK-10 relocated vertical tank TK7 in town gas station unchanged	297,300 9,900	1,351,000 45,000
• Aviation Fuel Jet A1	4 TK-11 relocated enlarged vertical tank TK-19 relocated enlarged vertical tank TK-14 airport site, tank unchanged TK-15 airport site, tank unchanged	142,200 204,000 5,100 5,100	646,000 927,000 23,000 23,000
• Aviation Fuel Avgas	4 TK-1 relocated horizontal tank TK-2 relocated horizontal tank TK-12 airport site, tank unchanged TK-13 airport site, tank unchanged	20,000 20,000 3,100 3,100	91,000 91,000 14,000 14,000
• Spare	5 TK-3 relocated horizontal tank TK-4 relocated horizontal tank TK-5 relocated horizontal tank TK-6 relocated horizontal tank TK-7 relocated horizontal tank	20,000 20,000 20,000 20,000 20,000	91,000 91,000 91,000 91,000 91,000
• Propane			
• Other			
Hazardous Materials			
• Lead paint	Existing tanks are painted with lead based paint. It is proposed to encapsulate this paint with an epoxy coating. All paint prep debris will be contained and packaged in barrels for transportation to an approved disposal facility		
• Paint	New paint materials will be shipped as hazardous materials		
•			

12. Do you have a spill contingency plan?

Yes, PPD has a plan.

Do you have an on-site staff training program in place for fuels and hazardous materials?

Yes, PPD

Please attach the spill contingency plan and Material Safety Data Sheets and other appropriate information about the hazardous material associated with the proposed project. (Received at NIRB office)

13. Describe method of fuel transfer:

Standard PPD transfer procedures

SECTION 5. WASTE DISPOSAL AND TREATMENT FACILITIES

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Type of waste	Project amount generated	Method of disposal	Additional treatment procedures
Sewage			
Grey Water	5,000,000 litres for hydrostatic testing of tanks.	Disposal as runoff	
Garbage			
Overburden organic soil, waste material, tailings)		Disposal in a Hamlet approved location	
Hazardous waste: Lead paint and sandblast dust		Shipment to south to an approved waste disposal facility	
Other: Oil Contaminated soil	unknown	Specific remediation technique will depend upon quantity	

14. Describe the acid rock drainage potential of waste rock material and testing methods, if applicable:

Not applicable

SECTION 6: RESTORATION AND ABANDONMENT PLANS

15. Describe or attach the proposed restoration and abandonment plans. Please include information about on-going site remediation throughout the duration of the project.

The fuel facility will be in place and in use as long as the Hamlet of Kugluktuk remains. Therefore, there are no current restoration or abandonment plans.

SECTION 7. ENVIRONMENTAL IMPACT

16. Indicate and describe the components of the environment that are near the project area, as applicable. Attach any relevant maps or information.

The site is inside the boundaries of the community of Kugluktuk. There are no known environmental impacts other than what will occur due to the relocation of the resupply beach. This relocation is being handled under a separate proposal.

17. Indicate and describe other uses of the area:

The area is zoned industrial by the Hamlet of Kugluktuk.

18. Describe the impacts of the proposed project activity on the environmental components and uses in the area, listed above:

19. What are some of the mitigation measures for these impacts?

20. List the environmental and socio-economic studies conducted in the area:

Associated with the project:

ADWEI Report Fuel Facility Expansion / Upgrade Kugluktuk, Nunavut

Pending Research: not applicable

Relevant research not associated with the project:

Dillon Report on Environmental Cleanup
UMA Report on Relocation of the Resupply Beach

SECTION 7: COMMUNITY INVOLVEMENT & REGIONAL BENEFITS

21. List the community representative that have been contacted about his proposed project:

Community	Name	Organization	Date contacted	Means	Telephone #	Fax #
Kugluktuk	Mayor, SAO and Hamlet Council	Hamlet	Various	Meetings, Telephone Calls		

22. Describe the level of involvement that the residents of Nunavut have had with respect to the proposed project:

Refer to item 21. (above)

23. Describe the regional benefits of the proposed proposal to the residents of Nunavut:

Employment

Local employment will be required in accordance with current government policies.

Training Programs

None identified at this time.

Contracts

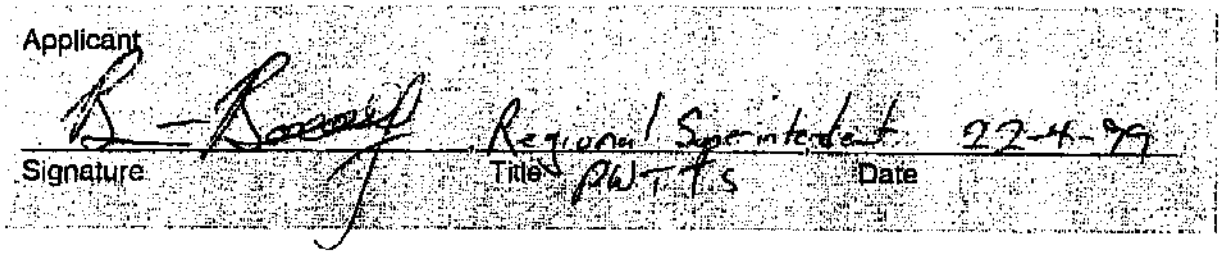
Local contractors will be supplying the majority of earth moving equipment for this contract and may provide the entire contract.

Inuit Impact Benefits Agreement, if applicable:

Other:

24. Describe and attach documentation regarding community concern or support for the proposed project:

The Hamlet is known to support the project, including the relocation of the resupply beach. This will allow the removal of existing fuel lines that run through the centre of the Hamlet. The removal of these lines will free up valuable community land. (see Non Technical Project Proposal for details and options)



Office Use Only			
Application checklist	**Date Received**	**Description**	**Accepted by**
All authorising agency info			
Application complete, signed and dated			
Maps of proposed project			
Maps of use in area			
Baseline studies info			
Community consultation records			

SPECIFICATIONS
CONTENTS

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CONTENTS

PART 1 - GENERAL

1.1 Work Under this Contract

.1 The Work under this contract consists of construction of the following:

- FUEL STORAGE FACILITY EXPANSION / UPGRADE;
- FUEL DISTRIBUTION FACILITY EXPANSION / UPGRADE;
- FUEL RESUPPLY LINE(S) CONSTRUCTION TO MAIN FACILITY.

for the Government of the Nunavut Territories (GN), hereinafter called the Owner, including all equipment and appurtenances therein, as shown on the Contract Drawings and/or as specified herein, in accordance with the terms of this Contract.

1.2 Work Included

.1 The Work, unless specifically stated otherwise, shall include the furnishing of all materials, products, plant, labour and transportation necessary to complete the Work. The intent is that the Contractor provides a complete job.

.2 The Work shall not be deemed complete until all components are placed in operation by the Contractor, and are operating satisfactorily.

.3 Any minor item of the Work not called for in the specifications or shown on the Drawings, but is clearly required to meet the intent of the design and normally provided for the proper operation of such a facility, shall be provided as if specifically called for in the Contract Documents.

1.3 Documents Required

.1 Maintain at the job site at least one copy of each of the following:

- Contract Drawings
- Specifications
- Addenda
- Change Orders
- Reviewed Shop Drawings
- Modifications to the Contract
- Field Test Reports
- Construction Schedule
- Manufacturer's Installation and Application Instructions
- Occupational Health and Safety Regulations

1.4 Specifications

.1 Sentence structure in parts of the specifications is abbreviated, and phrases such as "shall be," and "the Contractor Shall" are deliberately omitted. Such sentences shall be read as though they are complete.

.2 The use of the word "provide" means "supply and install"; or "supply labour and materials for the installation of". It does not mean supply only.

.3 The word "concealed" in connection with piping, electrical work, controls and wherever used in other sections shall mean "hidden from sight" as in ceiling spaces or furred out spaces.

.4 The word "exposed" in connection with piping, electrical work, controls and whenever used in other sections shall mean "visible to persons within a building, in normal working areas."

1.5 Standards

.1 Wherever Standards (i.e., CSA, ASTM and such) are referred to in these Contract Documents the current edition at the date of closing of tenders shall apply.

.2 Where there is a clear conflict between the Standards and the Contract Documents, the Engineer shall, in the first instance, give an interpretation of the intent of the Contract.

.3 Where there is an ambiguity between the Standards and any term of these Contract Documents, the Engineer shall, in the first instance, give an interpretation of the intent of the contract.

PART 2 - PARTICULAR SCOPE OF WORK

2.1 Scope

.1 Upgrade and expand the GN Fuel Storage Facility in Kugluktuk. The list of items involved include, but are not limited to the following items:

.1 Upgrade spill containment by totally reconstructing the containment area including expanded area, new liner throughout, new dikes;

.2 Remove all fuel contaminated soil from the existing fuel facility site, and from along the existing fuel resupply right-of-way through the Hamlet. All contaminated soil is to be stockpiled for remediation under a different Contract;

.3 Provide, fencing, electrical, grounding, signage and stiles;

.4 Gas free, clean out, examine and move all tanks on the sight. Add one new vertical tank, increase the height of two existing vertical tanks. Upgrade stairs and catwalks and appurtances on all tanks. All vertical and horizontal

tank water draw off valves are to be replaced;

.5 Increase the diesel storage capacity by 2,675,000 litres by constructing a new vertical tank;

.6 Increase the gasoline storage capacity by 400,000 litres;

.7 Increase the Jet A-1 storage capacity by 460,621itres;

.8 Decrease the avgas 100LL storage capacity by 91,000 litres;

.9 Reconfigure the existing vertical tanks so that only one new vertical tank is required;

.10 All horizontal tanks are to be emptied, gas freed, cleaned and made ready for the following:

- .1 one for avgas 100LL,
- .2 one for a standby tank,
- .3 five remaining horizontal tanks are to be blind flanged and made ready for service and used for:
  - .1 Jet A-1: if sales increase beyond current expectations,
  - .2 Avgas (100LL): if required;

.11 Provide a new dispenser building capable of dispensing both diesel and gasoline;

.12 Provide a new operator's shelter;

.13 Replace the piping within the main facility and the resupply system;

.14 Provide Automatic Temperature Compensating Meters (ATC's) at the intown gas station, two at the airport facility, and in the P50 fuel dispensing vehicles and for the motive diesel and vehicle gasoline dispensers at the main site.

.15 Remove any obsolete equipment from the tanks;

.16 Encapsulate the lead existing lead paint on the tanks and piping with new paint;

.17 Paint the entire facility;

.18 Provide new lighting, grounding and electrical power wiring as indicated.

.19 Remove the abandoned resupply pipelines and pipe supports from through the Hamlet.

2.2 Location

.1 The Hamlet of Kugluktuk (formerly Coppermine) is located at 67°50'N and 115°06' W. It is approximately 595 kilometres north of Yellowknife in the Kitikmeot Region of Nunavut.

2.3 Climate

.1 Seasonal Meteorological data

Mean Daily Temperature - January		High: -26.4°C, Low: -33.8°C
Mean Daily Temperature - July		High: 13.8°C, Low: 5.6°C
Annual Precipitation	- Rain	10.3 cm
	- Snow	100.7 cm
Wind (average)		SE at 16.6 km/h
Maximum Wind (Gust Velocity)		120 km/h

2.4 Environmental Design Data

All buildings, tanks, and structures shall be designed based on the following criteria unless noted otherwise:

ITEM	DATA
Temperature (1% January)	-45°C
Temperature (Dry bulb, July)	20°C
Snow - Ss	2.4 kPa
Snow - Sp	0.2 kPa
Wind q(1/30)	0.42 kPa
Wind q(1/10)	0.33 kPa
Seismic Z_a	0
Seismic Z_v	1
Zonal Velocity Ratio	0.05

Note: All equipment, seals, gaskets, and lubricants shall perform adequately under these conditions.

2.5 Shipping Cost

Shipping cost is $22.71/100 lbs for shipment lots over 40,000 lbs and $25.18/100lbs for shipments under 40,000 lbs FOB via Hay River by barge. Bulky material will be assigned a with of 15 lbs/cu.ft. This rate was for shipment as of January 1999. This rate should be verified by the Contractor.

2.6 Demographics

.1 Population: 1994 Estimate: 1201

.2 Languages: Inuktitut, English

END OF SECTION 01010

1. WORK SEQUENCE

.1 The Work shall be executed in a timely manner to ensure that construction is completed by the scheduled target dates outlined in these documents.

.2 The Contractor must coordinate activities with other Contractors to have timely access to the site to ensure the timely completion of the project.

.3 The Contractor shall consult with the Engineer on acceptable methods of carrying out the Work, the space available for storage of materials and erection of temporary facilities, location of granular borrow areas, and any other information pertinent to the Work. All costs associated with the forgoing shall be borne by the Contractor.

.4 The tentative Northern Transportation Company Limited (NTCL) cut-off dates for cargo delivery in Hay River to forward to Kugluktuk in 1999 are as follows:

	Cut-off Dates	Delivery Dates
First Tow:	July 06, 1999	August 15
Second Tow:	July 20, 1999	August 31

Fuel resupply is usually supplied by both barges, but may with prior arrangement be entirely shipped on the second tow.

The Contractor shall confirm these dates and will be required to work within NTCL's dates. The owner will not accept any responsibility for any changes in the actual shipping dates.

.5 The original target dates for the upgraded and expanded facility operation are as follows:

Description	Start Date	Duration
Tender Call:	April 19, 1999	4 weeks
Close of Tenders:	May 13, 1999	
Contract Award:	May 20, 1999	
First Construction Season	May 21, 1999	
Mobilization (shop drawings, order material, prepare schedules):		
Empty, gas free and move TK19, prepare berm for TK9, TK10, TK11 and TK19. Install liner and tank pads for TK 11 and TK19. Move TK19 to final location. Empty gas free and move TK11 to final location. Hydrostatic test tanks in new location . provide temporary piping to tanks.	May 21, 1999	12 weeks until fuel delivery

Fuel Delivery, all tanks will need to be filled except one horizontal tank which can be used as a slop tank.	Aug 15, 1999	
Prepare berm for horizontal tanks and TK20, including liner and tank bases. Begin construction of TK20, relocate horizontal tanks to final locations. Provide 2" temporary pipe to tanks, or permanent piping.		7 weeks
Provide temporary dikes and fence for winter operation, make system safe.		Site close about Sep 30, 1999
Second Construction Season		
Complete construction of TK20, hydrostatic test and connect to piping. Complete foundation for tanks TK9 and TK10, empty and gas free tanks and move to new foundation. Modify tank to operate on gas. Complete hydrostatic testing of TK10. Empty and gas free TK19. Increase height of tank, convert tank ti operate on Jet A1, hydrostatic test.	May 15, 2000	13 weeks until fuel delivery
Fuel Delivery, fill tanks TK10 with gas, TK19 with Jet A1, TK1 and 2 with Avgas and TK20 with diesel; all other tanks can remain empty.	Aug 15, 2000	
New dispenser building and operators shelter arrive on site with fuel.		
Complete modifications to TK9, hydrostatic test. Empty and gas free TK11, increase height of tank, convert to Jet A1, hydrostatic test.		7 weeks
Complete dike and liners, complete site piping, hook up new dispensing building.		
Provide temporary fence for winter operation, make system safe.		Site close about Sep 30, 2000
Third Construction Season		

Construct resupply lines, radiographic inspection of lines and hydrostatic testing of lines. This work must not start until year 3.	May 15, 2001	13 weeks until resupply
Complete barrel storage area.		
Surface Preparation and Painting		
Fencing		
Clean-up and complete any outstanding work		
Interim Inspection	Jul 30, 2001	
Fuel Delivery, all tanks to be filled except unused horizontals.	Aug 15, 2001	
Remove abandoned resupply lines, this may start as soon as testing of resupply lines is complete.		5 weeks
Complete deficiencies		
Final Inspection	Sep15, 2001	

6. The above schedule is not complete, it only hi-lights major tasks. A temporary fence is required around the facility at the end of each construction season. The facility must be operable throughout.

7. The installation of ATC's may be done at any point in the schedule.

8. Items not affecting the delivery of fuel, and or substantial completion may be moved backward or forwards to better suit the Contractor's resources.

.9 Installation of the resupply piping must not start until the third year, so as to be co-ordinated with the resupply beach relocation. The installation may also be cancelled at any time up to the third year as per Option 1 - Resupply Lines in Appendix E.

10. Refer to Section 1030 Sub-Section 8.

END OF SECTION 01014

1. THE CONSTRUCTION SITE

.1 The Owner will provide the lands upon which the Work is to be constructed.

2. CONTRACTOR'S USE OF THE SITE

.1 The Contractor shall have exclusive use of the site, provided that the Contractor shall permit access to the Owner, the Engineer and other Contractors on the site for purposes of inspections, reviews, tests and carrying out work related to the Work.

.2 The Contractor shall provide access to the site for the local petroleum products operator for continued dispensing operations, resupply operations, product sampling, inspection, etc.

.3 The Contractor shall keep fuel dispensing systems operational throughout the duration of the Work, adhering to all safety requirements including maintaining secondary containment.

END OF SECTION 01015

Distribution List for NIRB File #:99FN012
Project Name: Fuel Storage Facility Expansion/Upgrade

Kitikmeot List
# of Pages 28

	Contact Name:	Phone #:	Fax #:
Nunavut:			
NTI	Environmental Manager	983-2517	983-2723
KIA	Lands Manager	867-982-3310	867-982-3311
NPC	Executive Director	613-238-1155	613-238-5724
NWB	Executive Director	867-360-6338	613-360-6369
NWMB	Executive Director	867-979-6962	867-979-7785
Kitikmeot HTA	Chairperson	867-983-2442	867-983-2442
Inuit Heritage Trust		867-979-0731	867-979-0269
Federal:			
DIAND - Nunavut	District Manager	867-979-4405	867-979-6445
DIAND - Kitikmeot	Regional Inspector	867-982-4306	867-982-4307
DFO - Eastern Arctic	Regional Biologist	867-979-6274	867-979-8039
DOE	Mgr. Environmental Protection Branch	867-920-6050	867-920-6648
CCG	Ken Brant	519-383-1862	519-383-1989
Territorial Government:			
Sustainable Dev.	John Stevenson	867-982-7240	867-982-3701
CGHT	Doug Crossley	983-7262	983-2491
CGHT		983-7267	983-2617
PWNHC	Charles Arnold	867-920-8084	867-873-0205
Communities:			
Kugluktuk: X0E 0E0			
Hamlet	SAO	867-982-4471	867-982-3060
Kitikmeot HTO Kukluktuk	Chairperson	867-982-4207	867-982-4047