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29 August 2008

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**MGM Proposed West Langley Drilling, Completion, Testing and Abandonment
 Project – NEB Information Request #1**

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National Energy
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Files: OF-EP-Gen-PA-M276 06
29 August 2008

Ms. Shirely Maaskant
Manager Regulatory and Community Affairs
MGM energy Corp.
Suite 4100, 350 7th Avenue SW
Calgary, AB T2P 3N9
Facsimile: 403-781-7801

Dear Ms. Maaskant:

MGM Energy Corp. (MGM) Proposed West Langley Drilling, Completion, Testing and Abandonment Project - NEB Information Request # 1

Pursuant to our obligations under the *Canadian Environmental Assessment Act*, the National Energy Board (NEB) finds that further information is required to complete the environmental review of the project.

We request that you provide your response by **12 September 2008** to Mr. Bharat Dixit, Chief Conservation Officer at fax 403-292-5503 and the individuals copied below. If there are any concerns regarding the requested response date please let us know as soon as possible.

Should you have any questions or require clarification regarding the attached request for information, please contact me by telephone at 403-292-6614 or email at john.korec@neb-one.gc.ca.

Thank you.

John E. Korec, P.Geol.
Environmental Specialist

jek/Attachments

- cc. Ron Wallace, A/Executive Director, Northwest Territories Water Board, fax 867-765-0114
Don Arey, Resource Management Officer, INAC, fax 867-777-2090
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Proposed MGM Energy Corp. West Langley Drilling, Completion, Testing and Abandonment Project
NEB Information Request #1

29 August 2008

**Proposed MGM Energy Corp.
West Langley Drilling, Completions, Testing and Abandonment Project
National Energy Board Information Request #1**

1.1 Preamble: Fisheries and Oceans Canada (DFO) in its letter dated July 15, 2008 (Attachment 1) to the EISC and copied to the NEB and to MGM, provided eleven (11) recommended mitigation measures to reduce potential impacts to fish and fish habitat.

Request: Please review the attached DFO information and provide MGM's comments and commitments MGM would undertake in respect of DFO's eleven (11) recommended measures.

1.2 Preamble: The MGM Project Description dated June 2008 states that the Project scope includes:

- drilling, completion, testing and abandonment of one well
- use of barge landing and staging sites for the storage of equipment and supplies (Figure 4-2). A barge landing site means a site where barges are offloaded and/or moored in place and frozen in with the equipment and materials remaining onboard. A staging site means a site where equipment and materials can be off-loaded from barges and/or trucks and stored. The chosen barge landing and staging sites will be at, or close to, the proposed wellsite. If advance barge staging is not employed, all equipment and supplies may be mobilized from permanent land bases (e.g., Inuvik and/or Tuktoyaktuk) using ice roads.
- construction of ice roads over water and on land to provide equipment and vehicle access to the wellsite, campsites and barge landing and staging sites.

The above scope may form a basis for the environmental screening. In the comments received by the NEB on 1 August 2008 (Attachment 2) from the Government of the Northwest Territories Department of Environment and Natural Resources (ENR), the territorial department provided a number of recommendations with respect to various MGM projects including the West Langley Project.

ENR makes recommendations with respect to:

- fuel storage (Section 1.1.3) – six (6) recommendations;
- air quality monitoring of well evaluations or flaring (Section 1.2.2) – two (2) recommendations;
- a waste management plan (Section 1.3.2.6) – one (1) recommendation with regard to preparing a "Waste Management Plan" that in turn incorporates a number of recommendations or suggestions with respect to its contents.
- minimum flight altitude (Section 2.1.2) – one (1) recommendation; and
- protection of wildlife and habitat (Section 2.1.3) – one (1) recommendation that in turn includes eight (8) mitigation measures; and
- bear-safety training (Section 2.1.4) – one (1) recommendation.

Request: Please review the attached ENR comments and recommendations and provide:

- (a) comments and any appropriate commitments MGM would undertake in respect of ENR's recommendations; and
- (b) MGM's view regarding which recommendations might not apply to the West Langley Project; or

Proposed MGM Energy Corp. West Langley Drilling, Completion, Testing and Abandonment Project
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(c) MGM's justification for not implementing ENR recommendations.

1.3 Preamble: In its correspondence to the NEB dated July 31, 2008, Transport Canada states that the following may apply to the MGM Project:

TC regulatory requirements for a proponent operating an Oil Handling Facility (OHF):

The regulations stem from the Canada Shipping Act 2001, Part 8, Subsections 168(1) to 168(3). Part II of the Response Organizations and Oil Handling Facilities Regulations and the Oil Handling Facilities Standards stipulates the proponent's specific responsibilities. The fundamental requirement is the production of an Oil Pollution Prevention/Emergency Plan for the fuel transfer with a ship. An OHF is a tank farm of a combined storage capacity of greater than 100 cubic meters that is filled directly from a ship (i.e. a tanker or barge greater than 150 gross tons). This plan must be submitted and reviewed by Transport Canada prior to such tanks being put into use. This plan is not a CEEA trigger, but is a regulatory requirement. The regulations stipulate what is required in the plan including (but not limited to) a declaration, personnel training requirements, equipment requirements, prescribed response scenarios, and a schedule of exercises. The proponent must contact the nearest Marine Safety Office to obtain their regulatory interpretation.

<http://www.tc.gc.ca/acts-regulations/GENERAL/C/csa2001/act/csa2001-menu.htm>

Navigable Waters Protection Program (NWPP) under the Navigable Waters Protection Act (NWPA):

The NWPP is the Federal Authority mandated with enforcing the Navigable Waters Protection Act (NWPA). Proponents must deal directly with the NWPP for any work(s) to be built or placed in, on, over, under, through, or across any navigable water. **The Proponent will need to submit formal applications to the NWPP in order to obtain an approval, promulgation, or exemption for each specific work.** The proponent shall also inform the NWPP of any design, construction or operational changes accordingly.

<http://www.tc.gc.ca/marinesafety/oep/nwpp/menu.htm>

The Transport Canada contact is Doug Soloway at (204) 983-7705.

Request: Please review Transport Canada's comments and provide:

- (a) results of MGM's discussions with Transport Canada regarding the above comments;
- (b) MGM's comments and any appropriate commitments MGM would undertake in respect of Transport Canada's comments or requirements; and
- (c) MGM's view regarding which comments or requirements, if any, might not apply to the West Langley Project; or
- (d) MGM's justification for not implementing Transport Canada's requirements.

1.4 Preamble: In its Project Description, MGM states that it conducted public consultation with communities, local organizations and government agencies potentially affected by the Project in April 2008. MGM shared information with these groups to obtain

Proposed MGM Energy Corp. West Langley Drilling, Completion, Testing and Abandonment Project
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community feedback, identify concerns as early as possible, and to gain community feedback and local knowledge about the Project area.

In Section 10 of the Project Description, MGM has provided the results of its consultation with community organizations and general public. However, MGM has not provided a meeting schedule or the results of its consultations with government agencies.

Request: With regard to MGM consultations with federal and territorial government agencies, please provide:

- (a) a summary of issues or concerns raised and how these have been addressed by MGM.; and
- (b) if possible, an approximated meeting schedule.

1.5 Preamble: In Table 12-3 of the MGM Project Description, the mitigation for "potential fish entrainment and mortality" includes "regular inspection of water trucks to ensure compliance". It is not clear whether this means that hoses will be inspected to ensure truck operator's conformance with the DFO *Freshwater Intake End-of-pipe Fish Screen Guidelines* and that water trucks will be inspected for evidence of fish entrainment.

Request: Please specify the scope and periodicity (frequency) of inspections to be undertaken by MGM.

1.6 Preamble: An Environmental Protection Plan is provided in Appendix G of the MGM Project Description. However, there is no description of how the EPP is to be implemented.

Request: Please provide:

- (a) a description of how MGM plans to consolidate mitigation measures that are proposed subsequent to the submission of the Project Description to ensure that its commitments are appropriately carried out in the field, and
- (b) the name, title and contact information for MGM's field person who will be responsible for ensuring that the commitments are undertaken for each phase of the Project.



Fisheries and Oceans Canada
Pêches et Océans Canada

P. O. Box 1871
Inuvik, Northwest Territories
X0E 0T0

July 15, 2008

Your file Votre référence

Our file Notre référence
08-HCAA-CA6-00078

Ms. Barb Chalmers
Environmental Impact Screening Committee
P.O. Box 2120
Inuvik, Northwest Territories
X0E0T0

Dear Ms. Chalmers:

Subject: West Langley Drilling, Completion, Testing and Abandonment 2008-2011

Fisheries and Oceans Canada - Fish Habitat Management Program (DFO) received the proposal put forth by MGM Energy Corporation, on June 30, 2008. The proposal has been reviewed to determine whether it is likely to result in impacts to fish and fish habitat which are prohibited by the habitat protection provisions of the *Fisheries Act* or those prohibitions of the *Species at Risk Act* that apply to aquatic species.*

We understand that the proponent plans to:

- Drill, complete, test, and abandon one well over one or two seasons.
- Build an artificial ice island to use as a drill platform in an area of 0.5 to 2 metres of water. This ice island may or may not be attached to the pre-existing artificial island within the area.
- Use a mud-line suspension technique for drilling that involves capping the pipe approximately one metre below the sea floor.
- Freeze barges in the Mackenzie River for equipment and fuel storage.
- Construct ice roads for access to the well site area.
- Establish a camp to accommodate approximately 75 people during the project.
- Create a temporary storage area for drilling waste on site where the material will freeze and can be broken up and handled easier for disposal.
- Treat wastewater to applicable standards before disposal.
- Complete all work between November and April 2008 through 2011.

To reduce potential impacts to fish and fish habitat we are recommending the following mitigation measures be included into the proposed plans:

*Those sections most relevant to the review of development proposals include 20, 22, 32 and 35 of the *Fisheries Act* and sections 32, 33 and 58 of the *Species at Risk Act*. For more information please visit www.dfo-mpo.gc.ca.

DFO File No.: 08-HCAA-CA6-00078

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1. Excessive winter water withdrawals can lead to the loss of fish and fish habitat. Please refer to the DFO Protocols for Winter Withdrawal in the Northwest Territories (January 2005) for methods to evaluate available water capacity in lakes and for mitigation methods. DFO does not recommend the use of streams as a water source.
2. Water intakes should be properly screened and be equipped with fine mesh of 2.54 mm (1/10") to prevent the entrainment and/or impingement of fish. Please refer to the Freshwater Intake End-of-Pipe Fish Screen Guideline (DFO, 1995).
3. The construction of temporary crossings over ice-covered streams is conducted as specified in the attached Ice Bridges Operational Statement. This Operational Statement provides specific advice on ice bridge construction, maintenance and removal. If it is determined that the conditions and measures described in the Operational Statement can not be complied with, DFO should be contacted with the details of the project.
4. The treated waste water should be discharged over land in a dispersed application rather than directly onto the Mackenzie River or any other water body.
5. The use of biodegradable drill additives is encouraged over non-biodegradable types.
6. All drilling muds and other additives should be certified as non-toxic.
7. Fuel storage should have secondary containment (such as doubled walled tanks, berms etc.) that is sufficient to ensure that fuel will not be able to enter any water body.
8. DFO encourages MGM Energy to use double hulled barges when freezing storage units in the Mackenzie River over winter.
9. Barges to be frozen in place over winter and used for storage should be emptied of all fuel and as much equipment as possible while awaiting river break up.
10. Every possible effort should be made to locate the drill site on the pre-existing artificial island in order for the well head to be on land.
11. Should the artificial island prove impossible to use and a manufactured ice island is necessary every effort should be made to ensure that the entire island is set completely on bottom fast ice. DFO should be contacted if this not possible and the ice island is to be located on ice not frozen to the bottom.

Provided that the additional mitigation measures described above are incorporated into the proposed plans, DFO has concluded that the proposal is not likely to result in impacts to fish and fish habitat.

The proponent will not need to obtain a formal approval from DFO in order to proceed with the proposal.

Please ensure that this office is notified at least 10 days before starting the work. A copy of this letter should be kept on site while the work is in progress.

If the plans have changed or if the description of the proposal is incomplete the proponent should contact this office to determine if the advice in this letter still applies.

Please be advised that any impacts to fish and fish habitat which result from a failure to implement the proposal as described or incorporate the additional mitigation measures included in this letter could lead to corrective action such as enforcement.

If you have any questions please contact the undersigned at (867) 777-7516, by fax at (867) 777-7501, or by email at Erica.Wall@dfo-mpo.gc.ca.

Yours sincerely,

Erica Wall

Erica Wall
Habitat Biologist

Copy: Shirley Maaskant, MGM Energy Corp
Rudy Cockney, NWT Water Board
Conrad Baetz, INAC Inuvik
Bharat Dixit, National Energy Board
Derrick Moggy, DFO Yellowknife
Terry Stein, C&P, DFO Inuvik
Larry Down, DFO Inuvik



Northwest Territories Environment and Natural Resources

Attachment: MGM Delta 6 Projects, ENR Review, July 16, 2008.

ENR Comments: MGM Energy Corp.

- **West Langley Drilling, Completion, Testing and Abandonment Project, 2008 – 2011**
- **Cuttings and Fluids Injection Facility at Aput C-43, Winter 2008 – 2011**
- **Summer Field Assessment, Advance Barge and Staging Project: 2008 – 2011**
- **West Delta Drilling, Completion and Testing Project: 2008-2011**
- **Umiak Drilling, Completion and Testing Project: 2008-2011**
- **Umiak Seismic Program: 2008-2011**

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1. Environmental Protection

1.1. Fuel Management

1.1.1. Fuel Storage in Barges

1.1.1.1. Summary

The Proponent has proposed several strategies for supplying and storage of fuel in support of its above reference seismic and drilling projects.

From the information supplied in the Project Descriptions (PDs) for the Proponent's proposed three Drilling Projects, Cuttings and Fluids Injection Facility, plus Seismic Project, ENR is of the understanding that this will require a cumulative total of approximately 10 million litres of fuel per operating season. Additionally MGM has 3 ongoing projects, *Ogruknang 2D Seismic Project, North Ellice and Olivier 3D Seismic Project, and Elice, Langley and Olivier Drilling Testing and Completion Project*. These ongoing projects require a cumulative total of approximately 9 million litres of fuel per operating season. This gives a cumulative fuel requirement of approximately 18 million litres and would potentially result in 24 frozen-in fuel barges per season. This practice does not provide for an acceptable level of environmental protection and could result in significant environmental impacts should a spill take place. There are currently safe alternatives for the storage of these products, including in land-based engineered facilities. These land-based facilities are subject to national and territorial standards designed to ensure human safety, fire prevention and environmental protection measures are implemented and maintained. ENR is not aware of similar standards having been adopted for over-wintering bulk fuel or other dangerous goods in barges in ice. We are also not aware that any barges or other vessels have been specifically designed for this purpose.

1.1.1.2. Discussion

There are several statements made in the Proponent's PDs that present a position in support of the freezing-in of fuel barges for fuel storage. However, the significance of the impacts to the environment if a spill should take place is not adequately considered. For the purpose of example, ENR offers a response to a few examples of oversimplification and inaccurate statements made in the PDs pertaining to the issues surrounding this practice.

The Proponent states that:

"All fuel tanks will have secondary containment, and will accommodate 110 percent of the capacity of the largest tank. All vehicles will have drip pans placed underneath when stationary (Section 5.4.3.3). The likelihood

of any spill exceeding the capacity of the secondary containment structure is unlikely.¹

S 12.7.2,

However, this statement directly contradicts the proposed over-wintering of frozen-in fuel barges in ice for fuel storage. For reasons discussed below, this practice does not accommodate secondary containment or 110 percent capacity of the largest tank.

"Fuel will be brought in and stored in single-hulled barges with fuel in the inner cells only (Table 5-2). The outer fuel cells will be kept empty to provide secondary containment and minimize the risk of leaks to the environment²".

The statement "The outer fuel cells will be kept empty to provide secondary containment and minimize the risk of leaks to the environment" is inaccurate. Transport Canada has confirmed that double-hulled vessels are specifically constructed with void compartments on all exterior side and bottom tanks. Even if the wing tanks are empty, single-hull barges do not have void compartments on the bottom. It would be more accurate to state the single-hulled barges, when loaded as described, are "simulating" a double-sided vessel: this is not secondary containment. With respect to using single-hulled barges for the purpose of bulk fuel storage by freezing in ice, Transport Canada has also confirmed that these single-hulled barges have no ice classification (i.e. no additional hull strengthening), which has a bearing on where and when the barge can be moved.

"All applicable regulations relating to barge transportation and staging will be followed, and appropriate regulatory notifications will be made³".

This statement may provide the reader with an unwarranted sense of confidence in the use of barges for fuel storage. Regulations for the prevention of pollution from ships govern the carriage of oil in barges at all times, but do not give explicit direction on the practice of over-wintering frozen-in fuel barges in ice. While the regulations do not explicitly prohibit the practice, the statement may misrepresent the fact that the regulations are silent on the subject. Furthermore, Transport Canada has advised they are unaware of a construction standard for barges for the express purpose of fuel storage.

"Safety precautions will be taken to prevent spillage from the barges during operations in accordance with territorial and federal requirements. The barge contractor will be required to have a valid Shipboard Oil and Pollution Emergency Plan (SOPEP) and will be responsible for initial

¹ Section 5: Development Summary, 12.7.2 Fuel/Fluid Leaks or Spills, page 12-15, *Umiak Drilling, Completion and Testing Project: Winters 2008 – 2011*, Submission to the Inuvialuit Environmental Impact Screening Committee

² Section 5: Development Summary, 5.4.3.2 Fuel Storage and Refuelling, page 5-4, *Umiak Drilling, Completion and Testing Project: Winters 2008 – 2011*, Submission to the Inuvialuit Environmental Impact Screening Committee

³ As above, 12.7.2 Fuel/Fluid Leaks or Spills, page 12-15

containment of hazardous materials in the event of a spill during mobilization⁴.

As previously stated, this statement may provide the reader with an unwarranted sense of confidence in the use of barges for fuel storage. There are no territorial or federal requirements or Regulations that give explicit direction to precautions on the practice of over-wintering frozen-in fuel barges in ice. Furthermore, ENR understands from its discussion with Transport Canada, that the SOPEP the Proponent has described is primarily for the purpose of providing a call-out number list and basic instructions to the master in the case of emergency while the vessel is operational, and in consideration of an operational fuel oil spill. This plan is not intended for lay-up/storage procedures, is not for response, and does not does address the over-wintering of a frozen-in fuel barge in ice.

"The risk of fuel spills during transport by barge is considered lower than risks associated with ice road transport⁵."

It is not accurate to compare the construction of barges with tanker trucks. Vehicles for fuel transport are constructed to standards that are specific to their mode of transport. It is the safeguards with respect to freezing in barges for storage that is in question, not transportation.

1.1.2. Spill Contingency Planning

1.1.2.1. Discussion

The Proponent has supplied a detailed MACKENZIE DELTA EMERGENCY RESPONSE PLAN. However, there no evidence that site-specific Spill Contingency Plans have been or will be developed for land-based fuel storage areas/facilities.

There are contradictory statements with respect to fuel storage on ice. For example, it is stated:

During the seismic operations, mobile fuel sloops will be required for storing and dispensing diesel fuel. These sloops will have 110% secondary containment capacity and will have a combined capacity of 79,000 litres. The sloops will be stationed on ice pads at least 100 m from any waterbody, and surrounded with a snow/ice berm when they are stationary for at least 48 hrs. MGM is not planning to store fuel on frozen waterbodies. Fuel sloops that are temporarily located on bottom-fast ice or on sandbars will be subject to the same mitigation measures.⁶

⁴ Section 5: Development Summary, Section 5.2.5.4 Fuel Staging, page 5-11, *Summer Field Assessment, Advance Barge and Staging Project: 2008 – 2011*, Submission to the Inuvialuit Environmental Impact Screening Committee

⁵ Section 5: Development Summary, 12.7.2 Fuel/Fluid Leaks or Spills, page 12-15, *Umiak Drilling, Completion and Testing Project: Winters 2008 – 2011*, Submission to the Inuvialuit Environmental Impact Screening Committee,

⁶ Section 5: Project Summary, 5.9 Fuel and Fuel Storage, page 17, *Project Description for the Proposed MGM Energy Corp. Umiak Seismic Program: 2008-2011*

It is unclear to ENR why *"Fuel sloops that are temporarily located on bottom-fast ice or on sandbars will be subject to the same mitigation measures"* if *"MGM is not planning to store fuel on frozen waterbodies"*. In other words, why is it implied that fuel sloops may be temporarily stored on bottom-fast ice or sandbars, which are within 100 metres of waterbodies.

1.1.3. Recommendations: Fuel Storage and Spill Contingency Planning

Significant quantities of refined petroleum products and other dangerous and hazardous goods will be transported, stored and utilized during the proposed various oil and gas related activities over three working seasons. ENR is concerned that there is significant potential for spills that would result in negative environmental impacts.

In the supplied Project Descriptions, the Proponent has proposed several potential alternate strategies for storage of fuel in support of these projects, including the use of land based storage tanks and/or facilities. ENR recommends that all fuel storage in support of all MGM projects be done in land-based facilities. In addition, where practical and feasible, refueling and fuel storage be restricted to designated bermed areas that are also:

- At a distance greater than 100m from any local high water mark,
- Not located in a drainage channel; and
- At a location that avoids steep grades to waterbodies.

In the case that MGM Energy Corp. continues to pursue the freezing-in of fuel barges as a bulk fuel storage option for the projects in question, ENR will expect that a more thorough and detailed review and assessment of the potential impacts of this method of storage is conducted, prior to the commencement of the projects' licencing/permitting.

ENR recommends that the Proponent update the provided MACKENZIE DELTA EMERGENCY RESPONSE PLAN to include:

- Correct listings in the Regulatory Agencies section, *Regulatory Agency Emergency Contact List*. An incorrect Agency and Person name Phone Number is listed for GNWT. The NWT 24-Hour Spill Report Line is 867-920-8130. The Department is Environment and Natural Resources.
- Develop Site-specific Spill Contingency Plans for all locations where refined petroleum products will be stored, and that copies of the plans are distributed to environmental monitors, operators and contractors in the Field. The site-specific Spill Contingency Plans should include, but not be limited to:
 - o An inventory of response and clean-up equipment;
 - o A site map with location of storage facilities, and the location of emergency equipment and spill response and clean-up equipment; and

- o A cover page that clearly identifies: The NWT 24-Hour Spill Report Line; the name, job title and 24-hour telephone number for the person(s) responsible for activating the Spill Contingency Plan.

With respect to the design of fuel storage facilities, ENR recommends that the Proponent ensure that the most recent version of the National Fire Code of Canada is referenced (2005). ENR further recommends that the Proponent consult the *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products* (CCME 2003, including, but not limited to Sections 3, 4, 8 and 9).

ENR recommends that the proponent establish designated fuel storage and refueling areas that are:

- o at a distance greater than 100 meters from any local high water mark, unless otherwise authorized by an inspector upon review of the specific location and conditions of concern;
- o not located in a drainage channel; and
- o at a location that avoids steep grades from waterbodies.

In the case that fuel is transferred via barges or other seagoing vessels, ENR recommends that the *Arctic Waters Oil Transfer Guidelines* (Transport Canada, April 1997) be adhered to during loading and offloading.

1.2. Well Evaluation and Flaring: Air Quality Modelling

1.2.1. Discussion

MGM has submitted surrogate air quality modelling assessments for both proposed drilling projects. The surrogates are in the form of previous flare dispersion assessments that were conducted for past well evaluation projects, Ellice and Langley, drilled recently in the same operational area. Environment Canada and the Government of the Northwest Territories have previously reviewed these previous assessments and found them acceptable.

Submitting surrogate air quality modelling assessments is an acceptable approach provided the proponent demonstrates that the projects are indeed similar. However, the previous drilling projects did not result in gas discoveries and therefore no well evaluations or flaring were actually conducted that allowed verification of the modelling. And, the Proponent has not provided a project-to-project comparison of flaring scenarios (e.g. the likely gas chemistry, volumes flared, physical stack parameters etc - in tabular form). The absence of confirmatory evidence of previous modelling assessments makes comparison for the current projects difficult. Verification will be required if the proposed projects result in flaring.

MGM also indicates that it will "...adhere to National Energy Board Flaring Guidelines...". However, ENR is unaware of the NEB 'guidelines' that MGM is referring - the document does not appear in the References, and discussion with NEB indicates that they have no such 'guidelines'.

1.2.2. Recommendations: Air Quality Monitoring

ENR recommends that in the case well evaluations or flaring are conducting within the proposed activities, that the Proponent provide post-flaring reports for each of the well evaluations, which includes a comparison to the modelling assessments submitted.

ENR recommends that the Proponent provide clarification and appropriate reference to the "National Energy Board Flaring Guidelines" it references with respect to its planned flaring.

1.3. Waste Management

1.3.1. Summary

MGM is proposing three Drilling Projects, a Cuttings and Fluids Injection Project, a Seismic Program, and a Field Assessment Project. The Proponent has stated in the Project Descriptions (PDs) that it is committed to supplying a project specific Waste Management Plan for each project:

"A Waste Management Plan will be tailored for the Project to identify wastes, handling and storage practices, preferred management and disposal options as well as approved disposal facility contact information."⁷

"The incinerator waste management details will be incorporated into the Project Waste Management Plan, which is being developed."⁸

However, the project-specific Waste Management Plans and related details have not been provided. However, various commitments have been made, including:

- "MGM has determined that there are no acceptable landfills in the Northwest Territories capable of handling the majority of wastes produced from its activities. Therefore, MGM will be shipping the wastes produced from its construction, seismic and drilling activities to approved disposal facilities and recyclers in British Columbia and Alberta."⁹
- "The incinerator will be a dual chambered, diesel fired forced air incinerator with a minimum capacity of 1.4 m³, 90 kg per hour, The

⁷West Langley Drilling, Umiak Drilling, and West Delta Drilling Project Descriptions (PDs) state in Appendix G, I and H, respectively, section 18

⁸ Seismic Program PD, Section 5.8.1

⁹ Glen Miller, gmiller@mgmenergy.com, 4/8/008, MGM Energy Corp. Waste Management Plan, Revised 11/2/2007, p 2.

contractor, once selected, will provide details of proper training of the incinerator operator.¹⁰

- "To meet Canada wide requirements, combustibles and food wastes will be incinerated (approx one cubic metre / day) on-site on a daily basis in a dual chamber diesel fired forced incinerator, with the residue trucked out and disposed of at an approved landfill." (Reference as above)

1.3.2. Discussion

Upon review of the PDs and the Proponents Waste Management Plan, ENR has the following outstanding concerns related to solid waste management, incineration and wastewater treatment planning.

1.3.2.1. Open Burning

Statements in both the PDs and supplied generic Waste Management Plan imply that the Proponent is considering open burning of materials¹¹. Open burning of waste material represents an inefficient disposal method. The low temperature, smouldering nature of open burning tends to result in poor combustion of material, enhancing the emissions and production of toxic substances.

1.3.2.2. Incineration of Oily Wastes

Statements in the PDs imply that wastes to be incinerated include refined oils and oily wastes¹². In regard to the incineration of oily wastes, due to the increased potential for generation of toxic emissions, ENR does not endorse the incineration of Industrial Hazardous or Dangerous Wastes that results from operations or the clean up of spills of refined petroleum products and/or dangerous and hazardous goods and waste (unless authorized in the case of an emergency). The only exception is if the incineration device is designed for the incineration of hazardous wastes and is capable of meeting specific emission limits, as determined on a case-by-case basis, including those established under the CWS for Dioxins and Furans and the CWS for Mercury Emissions.

In some circumstances, used oil (although potentially classified as an *Industrial Hazardous Waste*) can have a secondary value as a resource if it is burned as a fuel (e.g. for space heating). However, used oil can contain metals and other contaminants, and improper burning can lead to the otherwise preventable formation and spread of contaminants in the workplace and in the greater environment.

1.3.2.3. Contingency for Wastewater Disposal in Inuvik

The PDs states that the contingency for wastewater treatment and disposal is transport to Inuvik¹³. The Proponents contingency plan to transport blackwater waster to Inuvik for disposal is not reasonable or appropriate given the potential

¹⁰ Umiak Seismic Program PD, Section 5.8.1

¹¹ MGM Energy Corp. Waste Management Plan, Revised: 11/7/2007, Section 5.5 Open Burning, p 7

¹² Umiak and West Delta PD, section 5.4.4.9

¹³ Umiak and West Delta Drilling PDs, Section 5.4.4.8

large volumes of sewage waste involved in its operations. The described Drilling Projects and the Seismic Program, under optimum conditions, would result in a total of 778 personnel per season. ENR estimates that disposal of this wastewater could result in a 20% increase, by volume, of wastewater to the Inuvik Lagoon. This may result in negative impacts and unwanted liabilities to the community for obvious reasons.

1.3.2.4. Solid Waste Disposal in Inuvik

The Summer Field Assessment and Barge Staging PD states that Garbage will be removed from sites and transported to Inuvik for disposal¹⁴, and that Tugboats and the bathymetry vessel will store and dispose of waste on board at an appropriate waste disposal facility. The Proponent has proposed that waste be disposed of in the Town of Inuvik without providing evidence of prior approval from the community. This may result in negative impacts and unwanted liabilities to the community.

1.3.2.5. Wildlife Attraction to Smelly Wastes

The Proponent has not supplied measures that minimize the attraction of wildlife to smelly waste. Wildlife attraction can lead to unwanted wildlife-human contact, and/or habituation of wildlife, both of which may lead to an increase in mortality of 'nuisance wildlife', due to kills by camp or regulatory personnel for safety reasons.

1.3.2.6. Recommendations: Waste Management

The Proponent should prepare and submit a stand-alone **Waste Management Plan** for each referenced project to demonstrate that proper waste management planning is in place prior to the commencement of operations. The Plan should also demonstrate that authorization has been obtained for the use of off-site waste disposal facilities. The Plan should then be approved by the regulatory authority and be incorporated as a condition of the project licence, permit, or other regulatory authorization. The Waste Management Plan should include adherence to all the proponent's relevant waste management commitments, and also include/address, but not be limited to:

- The identification of waste storage and transport mitigative measures to prevent wildlife attraction. Whether garbage is stored for the purpose of on-site or off-site disposal (i.e. road or air transport), it must be stored in an airtight sealed container to prevent wildlife from being attracted to odors;
- The open burning of non-segregated municipal solid wastes (MSW) - 'camp waste' - is an unacceptable waste management option. The only wastes that are suitable for open burning are paper products, paperboard packaging and untreated wood wastes. Please consult the document titled *Municipal Solid Wastes Suitable for Open Burning* available at <http://www.enr.gov.nt.ca/eps/environ.htm>.

¹⁴ Summer Field Assessment, Advance Barge and Staging Project: 2008 - 2011, Section 5.3.4.

- With respect to the incineration of waste oil, it may contain metals and other contaminants. If waste oil is incinerated it should:
 - a) Be burned in an approved waste oil burner and the waste oil should be tested for contaminants as required in the NWT under the *Used Oil and Waste Fuel Management Regulations*; or
 - b) If it cannot be demonstrated that the waste oil meets the Used Oil and Waste Fuel Management Regulations previously referenced, it must be burned in an incineration device that is capable of meeting the emission limits established by the Canadian Council of Ministers of the Environment (CCME) under the Canada-wide Standards (CWS) for Dioxins and Furans and the CWS for Mercury Emissions; or
 - c) If the standards included in part a) and b) cannot be met, the waste should be safely stored and transported in sealed containers (odour free to prevent animal attraction) and safely transported to a facility that is a registered recycling or disposal facility for these wastes.
- A detailed description of wastewater treatment and disposal strategies that does not include the use of NWT based disposal facilities. This should include additional redundancy within its onsite/regional treatment and disposal plans that ensures adequate contingency for camp waste treatment and disposal. The proposed contingency to use the Inuvik Lagoon is not reasonable given the potential high volumes of waste to be produced.
- With respect to the use of NWT based community waste management infrastructure, the Plan should demonstrate:
 - a) Written consent is received from the community that states it has been consulted on the types and quantities of waste proposed for disposal, and that the community is allowing the use of its waste management infrastructure,
 - b) The community and/or facility has Land Use Permit and/or Water License authorizations that allow the disposal of waste sourced from outside industrial operations and camps, and
 - c) Reference the community bylaws that facilitate the use of its waste management infrastructure sourced from outside industrial operations and camps.
- Detailed incineration Management Strategies.
 The **Waste Management Plan** should include detailed *Incineration Management Strategies* that demonstrate that the device and procedures selected are suitable to the waste stream types intended for treatment. Otherwise, significant environmental impacts, including the production of toxic compounds, will likely result. Incineration strategies should meet the emissions limits established under the Canada-wide Standards (CWS) for Dioxins and Furans (CCME 2001)¹⁵ and the CWS for Mercury Emissions (CCME 2000)¹⁶. These *Incineration Management Strategies* should also include:
 - o A description of waste streams intended for incineration;

¹⁵ http://www.ccme.ca/assets/pdf/d_and_f_standard_e.pdf

¹⁶ http://www.ccme.ca/assets/pdf/mercury_emis_std_e1.pdf

- o Selected incineration technology and rationale for selection (the minimum requirement to accommodate complex waste streams should be a dual-chamber, controlled-air incinerator);
- o A description of recycling and waste segregation plans that control waste entering the incinerator;
- o Operator training and qualifications, and the use of trained and designated operators;
- o Procedures for operation and maintenance, including record-keeping (i.e. completion of burn cycle and maintenance logs, and recording of the weight of each waste load charged to the incinerator);
- o A reporting requirement to summarize the tracking and record-keeping component;
- o Weigh scales to record the weight of each load charged to the incinerator;
- o Incineration residual disposal procedures (If incinerator bottom and/or fly ash are targeted for disposal in the NWT, it must be tested prior to disposal to ensure that it meets the criteria specified in the NWT Environmental Guideline for Industrial Waste Discharges¹⁷. Incineration ash can be contaminated with toxic compounds and by-products such as dioxins and furans and should therefore be tested to ensure that it is disposed of in an appropriate and approved manner).

2. Wildlife

2.1. Wildlife Disturbance

2.1.1. Summary

From the MGM West Langley submission, it appears the proponent is unsure of the timetable and is trying to leave the schedule completely open. Based on the information provided the work should take a maximum of 2 years to complete yet the PD has a 4 year span. This is also true for the other project description submitted. It is difficult to assess spatial and temporal overlap of activities and cumulative effects with such undefined schedules.

In the West Langley submission, the proponent mentions "liaising" with ENR and "determining with consultation" with ENR yet **ENR Inuvik region has not been contacted about this project**. Prior discussions may have cleared up some of the misunderstandings mentioned later in our comments. Historically ENR has worked with proponents to conduct fall denning surveys to identify active grizzly bear dens at the proponent's expense. To date ENR does not have a methodology in place to identify polar bear denning in the area. ENR could assist the proponent to identify potential denning habitat within the project area

¹⁷ <http://www.enr.gov.nt.ca/library/pdf/eps/industrialwastedischarges.pdf>

and ENR is working with CWS to produce maps of potential habitat but these are not complete. Again, discussions with the proponent prior to project submissions would have been beneficial.

The proponent has committed to the following mitigation measures related to wildlife:

- Utilize wildlife monitors to monitor bear activity, and to manage bear encounters;
- Follow *ENR's Bear Encounter Response Guidelines* (attached);
- Avoid all sighted bears and allow them to leave the area and suspend activities or relocate as necessary; Polar and grizzly bears will not be harassed;
- Report any defense of life and property bear kills to the Department of Environment and Natural Resources ASAP;
- Adhere to the Recommended Environmentally Acceptable Minimum Flight Altitudes provided by the Inuvialuit Game Council;

2.1.2. Discussion

ENR acknowledges the mitigation measures set out by the Proponent to minimize impacts to wildlife and wildlife habitat. However, we have outstanding concerns with respect to some of the Proponent's proposed mitigative measures.

For example:

- The proponent states in the Executive Summary, Disturbance of foraging bears "Bear overflight guidelines will be determined through consultation with ENR". ENR recommends the proponent adhere to the recommended environmentally acceptable minimum flight altitudes provided by the Inuvialuit Game Council;
- The proponent states in the Executive Summary, Disturbance of denning Polar Bears and foraging bears, the proponent indicates "sensory disturbance during construction and operations of drilling operations and winter roads" and "sensory disturbance from reconnaissance flights". Furthermore, section 5.3.3.6 Air Support, the proponent states "air support will be required to mobilize the camp start-up and construction crew to the site and to provide emergency evacuation and crew changes". Aircraft over-flights can disturb wildlife increasing stress and potentially effect overall health and condition of local wildlife.
- Section 5.3.4.1 Access, the proponent commits to "Before beginning, Project maps of the known and potential Project sites and access routes will be provided to the Department of Environment and Natural Resources (ENR), Government of the Northwest Territories (GNWT) to allow for locations of bear dens to be identified. Where necessary, road alignments may be modified to avoid important sites". The proponent has not discussed these proposed mitigation measures with ENR.

The following SARA-listed species have the potential to occur in the project area:

- Peregrine Falcon (Special Concern)
- Short-eared owl (Special Concern)

The *Species at Risk Act (SARA)* states that adverse effects on listed species must be identified and assessed, and regardless of significance, mitigated and monitored (Section 79). It is ENR's view that the treatment of those species listed under the Act be consistent with the treatment of species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

The following COSEWIC listed species have the potential to occur in the project area:

- Polar bear (Special Concern);
- Grizzly Bear (Special Concern);
- Wolverine (Special Concern);

2.1.3. Recommendations

To minimize the disturbance to wildlife and wildlife habitat and increase the protection of wildlife and field personnel ENR recommends the following additional mitigation measures be implemented.

The Proponent shall adhere to the following:

- Combine aircraft flights with concurrent MGM projects to reduce the number of flights in the project area;
- Conduct Fall grizzly bear denning surveys in collaboration with ENR
- If caribou approach or are encountered within 500m of project activities, the Proponent should cease operations until caribou are no longer with the range;
- Instruct Pilots to avoid all wildlife when accessing and/or transporting crews to selected field operation sites;
- Do not feed or harass wildlife;
- Maintain a minimum distance of 1.5 km between any project activities and observed/known peregrine falcon nesting sites from April 15th to September 15th;
- Avoid any species-at-risk that are encountered during the course of this land use operation and the Proponent will minimize all activity so as to not disturb these animals; and,
- Have, and keep up to date, a record of wildlife sightings that is submitted to the nearest Renewable Resource Officer upon completion of the field season.

2.1.4. General Comments

Provide all field personnel with bear-safety training prior to field operations. This is both a wildlife and a safety issue. If all field personnel receive this training and learn how to react to bears, the number of nuisance bears killed should decrease.