May 29, 2008

Mr. Scott Wilkerson
UMaine FM Safety & Environmental Compliance Office
University of Maine
5765 Services Building, Rm 113
Facilities Management
Orono, ME 04469-5765

RE: Maine Pollutant Discharge Elimination System (MEPDES) Permit #ME0090662
Maine Waste Discharge License (WDL) Application #W008153-5S-B-R
Final Permit/License

Dear Mr. Wilkerson:

Enclosed please find a copy of your **final** MEPDES permit/WDL which was approved by the Department of Environmental Protection. You must follow the conditions in the permit to satisfy the requirements of law. Any discharge not receiving adequate treatment is in violation of State Law and is subject to enforcement action.

Any interested person aggrieved by a Department determination made pursuant to applicable regulations, may appeal the decision following the procedures described in the attached DEP FACT SHEET entitled "*Appealing a Commissioner's Licensing Decision*."

If you have any questions regarding the matter, please feel free to call me at (207) 287-7658.

Sincerely,

Phyllis Arnold Rand
Division of Water Quality Management
Bureau of Land and Water Quality

Enc.

Cc: James Sohns, DEP/EMRO
Sandy Lao, USEPA

IN THE MATTER OF

UNIVERSITY OF MAINE	)	MAINE POLLUTANT DISCHARGE
ORONO, PENOBSCOT COUNTY, ME.	)	ELIMINATION SYSTEM PERMIT
NON-PROCESS (FILTER BACKWASH) WATERS)		AND
ME0090662	)	WASTE DISCHARGE LICENSE
W008153-5S-B-R **APPROVAL**	)	**RENEWAL**

Pursuant to the provisions of the Federal Water Pollution Control Act, Title 33 USC, Section 1251, et. seq. and Maine Law 38 M.R.S.A., Section 414-A et seq., and applicable regulations, the Department of Environmental Protection has considered the application of the UNIVERSITY OF MAINE (UMO), with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

APPLICATION SUMMARY

The applicant has applied to the Department to renew combination Maine Waste Discharge License (WDL) and Maine Pollutant Discharge Elimination System (MEPDES) permit for the intermittent discharge (every 30 – 40 days) of up to 30,000 gallons of swimming pool filter backwash waters and an annual discharge of 350,000 gallons of the swimming pool contents to the Stillwater River, Class B, in Orono, Maine.

PERMIT SUMMARY

This permitting action is carrying forward all the terms and conditions of the March 28, 2003 permitting action including:

1. Carrying forward the daily maximum discharge limitations of 30,000 gallons and 350,000 gallons from Outfall #001A and #001B, respectively.

CONCLUSIONS

BASED on the findings in the attached Fact Sheet and subject to the Conditions listed below, the Department makes the following conclusions:

1. The discharge, either by itself or in combination with other discharges, will not lower the quality of any classified body of water below such classification.

2. The discharge, either by itself or in combination with other discharges, will not lower the quality of any unclassified body of water below the classification which the Department expects to adopt in accordance with state law.

3. The provisions of the State's Antidegradation Policy, 38 MRSA Section 464(4)(F), will be met, in that:

   a. Existing in-stream water uses and the level of water quality necessary to protect and maintain those existing uses will be maintained and protected;

   b. Where high quality waters of the State constitute an outstanding national resource, that water quality will be maintained and protected;

   c. The standards of classification of the receiving water body are met or, where the standards of classification of the receiving water body are not met, the discharge will not cause or contribute to the failure of the water body to meet the standards of classification;

   d. Where the actual quality of any classified receiving water body exceeds the minimum standards of the next highest classification, that higher water quality will be maintained and protected; and

   e. Where a discharge will result in lowering the existing quality of any water body, the Department has made the finding, following opportunity for public participation, that this action is necessary to achieve important economic or social benefits to the State.

4. The discharge will be subject to effluent limitations that require application of best practicable treatment.

ACTION

THEREFORE, the Department APPROVES the above noted renewal application of the UNIVERSITY OF MAINE to intermittently discharge 30,000 gallons of swimming pool filter backwash waters and an annual swimming pool draining discharge of 350,00 gallons to the Stillwater River, Class B, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. *"Maine Pollutant Discharge Elimination System Permit Standard Conditions Applicable To All Permits,"* revised July 1, 2002.

2. The attached Special Conditions, including any effluent limitations and monitoring requirements.

3. This permit expires five (5) years from the date of signature below.

DONE AND DATED AT AUGUSTA, MAINE, THIS 2nd DAY OF June, 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
David P. Littell, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application March 14, 2008.

Date of application acceptance March 18, 2008.

Date filed with Board of Environmental Protection _____

This Order prepared by PHYLLIS A. RAND, BUREAU OF LAND & WATER QUALITY

ME0090662 2008 5/29/08

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Beginning the effective date of the permit, the permittee is authorized to discharge non-process waste waters to the Stillwater River. Such discharges shall be limited and monitored by the permittee as specified below:

OUTFALL #001A - Swimming Pool Filter Backwash Waters

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	---	30,000 gpd *[07]*	---		1/Quarter *[01/90]*	Calculate *[CA]*
Total Suspended Solids(1) (TSS) *[00530]*	---	Report #/day *[26]*	---	Report mg/L *[19]*	1/Quarter *[01/90]*	Composite(1) *[CP]*
Total Residual Chlorine *[50060]*	---	---	---	1.0 mg/L *[19]*	1/Quarter *[01/90]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	6.0-8.5 SU *[12]*	1/Quarter *[01/90]*	Grab *[GR]*

OUTFALL #001B - Annual Pool Maintenance Discharge

Effluent Characteristic	Discharge Limitations				Minimum Monitoring Requirements	
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
Flow *[50050]*	---	---	---	350,000 gpd *[07]*	1/Discharge Day *[01/DD]*	Calculate *[CA]*
Total Residual Chlorine *[50060]*	---	---	---	1.0 mg/L *[19]*	1/Discharge Day *[01/DD]*	Grab *[GR]*
pH (Std. Units) *[00400]*	---	---	---	6.0-8.5 SU *[12]*	1/Discharge Day *[01/DD]*	Grab *[GR]*

SPECIAL CONDITIONS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (cont'd)

Footnotes:

Sampling Locations – For the filter backwash discharge (Outfall 001A), sampling conducted for compliance with this permit shall be collected at a point after the filters being backwashed and prior to entering the storm water collection system. For the annual pool maintenance discharge (Outfall 001B), a representative sample shall be collected at a point prior to entering the storm water collection system. Any change in sampling location(s) must be approved by the Department in writing.

Sampling – Sampling and analyses must be conducted in accordance with; a) methods approved in Title 40, *Code of Federal Regulations* (CFR) Part 136; b) alternative methods approved by the Department in accordance with the procedures in 40 CFR Part 136, c) as otherwise specified by the Department. Samples that are sent out for analysis shall be analyzed by a laboratory certified by the State of Maine's Department of Human Services. Samples that are sent to a POTW licensed pursuant to Waste Discharge Licenses, 38 M.R.S.A Section 413 are subject to provisions and restrictions of *Maine Comprehensive and Limited Environmental Laboratory Certification Rules*, 10-144 CMR 263 (last amended February 13, 2000).

All detectable analytical test results shall be reported to the Department including results which are detected below the respective reporting limits (RLs) specified by the Department or as specified by other approved test methods. If a non-detect analytical test result is below the respective RL, the concentration result shall be reported as <Y where Y is the detection limit achieved by the laboratory for each respective parameter. Reporting a value of <Y that is greater than an established RL is not acceptable and will be rejected by the Department. For mass, if the analytical result is reported as <Y or if a detectable result is less than a RL, report a <X lbs/day, where X is the parameter specific limitation established in the permit.

1. **Total Suspended Solids** - A composite sample for total suspended solids shall be comprised of four separate grab samples, one from each of the filters being backwashed.

B. NARRATIVE EFFLUENT LIMITATIONS

1. The effluent shall not contain a visible oil sheen, foam or floating solids at any time which would impair the usages designated by the classification of the receiving waters.

SPECIAL CONDITIONS

B. NARRATIVE EFFLUENT LIMITATIONS (cont'd)

2. The effluent shall not contain materials in concentrations or combinations which are hazardous or toxic to aquatic life, or which would impair the usages designated by the classification of the receiving waters.

3. The discharge shall not cause visible discoloration or turbidity in the receiving waters which would impair the usages designated by the classification of the receiving waters.

4. Notwithstanding specific conditions of this permit the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

C. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with: 1) the permittee's General Application for Waste Discharge Permit, accepted for processing on March 18, 2008; 2) the terms and conditions of this permit; and 3) only from Outfall #001A and Outfall #001B. Discharges of waste water from any other point source(s) are not authorized under this permit, and shall be reported in accordance with Standard Condition B(5)(*Bypass*) of this permit.

D. NOTIFICATION REQUIREMENT

In accordance with Standard Condition D, the permittee shall notify the Department of any substantial change in the volume or character of pollutants being discharged.

E. MONITORING AND REPORTING

Monitoring results obtained during the previous calendar quarter shall be summarized for each quarter and reported on separate Discharge Monitoring Report (DMR) forms provided by the Department and postmarked on or before the thirteenth (13^{th}) day of the month or hand-delivered to the Department's Regional Office such that the DMR's are received by the Department on or before the fifteenth (15^{th}) day of the month following the completed reporting period. **For this permitting action, the DMR's are to be submitted to the Department on or before January 15^{th}, April 15^{th}, July 15^{th}, and October 15^{th} of each year.**

SPECIAL CONDITIONS

E. MONITORING AND REPORTING (cont'd)

A signed copy of the Discharge Monitoring Report and all other reports required herein shall be submitted to the facility's DEP compliance inspector (unless otherwise specified) at the following address:

Maine Department of Environmental Protection
Eastern Maine Regional Office
Bureau of Land & Water Quality
Division of Water Quality Management
106 Hogan Road
Bangor, ME 04401

F. REOPENING OF PERMIT FOR MODIFICATIONS

Upon evaluation of the tests results in the Special Conditions of this permitting action, new site specific information, or any other pertinent test results or information obtained during the term of this permit, the Department may, at anytime and with notice to the permittee, modify this permit to: 1) include effluent limits necessary to control specific pollutants or whole effluent toxicity where there is a reasonable potential that the effluent may cause water quality criteria to be exceeded: (2) require additional monitoring if results on file are inconclusive; or (3) change monitoring requirements or limitations based on new information.

G. SEVERABILITY

In the event that any provision(s), or part thereof, of this permit is declared to be unlawful by a reviewing court, the remainder of the permit shall remain in full force and effect, and shall be construed and enforced in all aspects as if such unlawful provision, or part thereof, had been omitted, unless otherwise ordered by the court.

MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

AND

MAINE WASTE DISCHARGE LICENSE

FACT SHEET

PERMIT NUMBER: **#ME0090662**
LICENSE NUMBER: **W008153-5S-B-R**

NAME AND ADDRESS OF APPLICANT:

UNIVERSITY OF MAINE
Athletic Department
5747 Memorial Gymnasium
Orono, ME. 04469

COUNTY: **Penobscot**

NAME AND ADDRESS WHERE DISCHARGE OCCURS:

Stillwater Avenue
Orono, ME 04469

RECEIVING WATER AND CLASSIFICATION: **Stillwater River, Class B**

COGNIZANT OFFICIAL AND TELEPHONE NUMBER: **Mr. Stewart Harvey**
(207) 581-2668

1. APPLICATION SUMMARY

a. Application – The University of Maine at Orono ("UMO" hereinafter) has submitted a complete and timely application to the Department for renewal of Maine Pollutant Discharge Elimination System (MEPDES) permit # ME0090662/Maine Waste Discharge License (WDL) # W008153-5S-A-N ("permit" hereinafter) which was issued by the Department on March 28, 2003. The 3/28/03 permit authorized the discharge of up to a daily maximum flow limit of 30,000 gallons per day (GPD) for the intermittent swimming pool filter backwash water and 350,000 GPD for the annual discharge of pool water from Wallace Pool to the storm water system at UMO which has an outfall that empties into the Stillwater River, Class B, in Orono, Maine.

b. Source Description: The waste streams regulated by this permitting action are generated by the day-to-day and annual maintenance of the swimming pool on the college campus. One waste stream source is pool filter backwash and the other source is annual draining of

1. APPLICATION SUMMARY (cont'd)

the pool contents. The filtration system used to treat the pool water is a mixed bed, sand and gravel trickling filter. There are four individual filter cells in the treatment tank. The backwashing process involves isolating each cell in the tank, and then flushing the filters one at a time. The volume of wastewater resulting from the backwash process varies from 15,000 – 23,000 GPD depending on the amount of pool usage between each backwash. The time it takes to backwash the system is approximately every 40 minutes. The backwashing process is used to clean the swimming pool filters approximately once every 30 to 40 days.

c. Waste Water Treatment: The pool water typically has a total residual chlorine concentration in the range of 1.5 to 3.0 mg/L. Prior to the monthly pool filter backwash and annual draining, the chlorine concentration in the pool water is lowered to below 0.5 mg/L by turning off the chlorine feed to the pool several days prior to the scheduled backwashing of the filters in order to allow the chlorine in the water to dissipate. If the chlorine levels have not sufficiently dropped, the backwashing is postponed until such time that the level is below the total residual chlorine permitted daily maximum of 1.0 mg/L. Agitation of the water through routine pool use during this period also helps to dissipate the chlorine. A mini spectrophotomer was purchased to monitor chlorine levels.

An in-line filter was installed on November 21, 2006 in order to filter rewash water. Rewash water is used to remove leftover particulates from the filters after backwashing. The pool water is discharged via a 36-inch diameter pipe invert at ± 3 feet above the mean low water level at the outlet.

2. PERMIT SUMMARY

a. Terms and Conditions: This permitting action is carrying forward all the terms and conditions of the March 28, 2003 permitting action including:

1. Carrying forward the daily maximum discharge limitations of 30,000 gallons and 350,000 gallons from Outfall #001A and #001B, respectively.

b. History: the most current relevant regulatory actions are as follows:

January 12, 2001 – The Department received authorization from the U.S. Environmental Protection Agency (USEPA) to administer the National Pollutant Discharge Elimination System (NPDES) permit program in Maine, excluding areas of special interest to Maine Indian Tribes. On October 30, 2003, after consultation with the U.S. Department of Justice, USEPA extended Maine's NPDES program delegation to all but tribally owned discharges. That decision was subsequently appealed. On August 8, 2007, a panel of the U.S. First Circuit Court of Appeals ruled that Maine's environmental regulatory jurisdiction applies uniformly throughout the State. From January 12, 2001 forward, the program has been referred to as the MEPDES program and permit #ME0090662 (same as NPDES permit number) is being utilized as the primary reference number for the UMO waste water discharge permit.

2. PERMIT SUMMARY (cont'd)

March 28, 2003 – The Department issued MEPDES Permit #ME0090662/WDL# W008153-5S-A-N for a five-year term.

October 12, 2005 – The Department promulgated Department Rules 06-096 CMR Chapter 584 – *Surface Water Quality Criteria for Toxic Pollutants* and Chapter 530, *Surface Water Toxics Control Program*.

March 14, 2008 – UMO submitted a complete application to the Department for the renewal of the March 28, 2003 MEPDES permit.

April 14, 2008 – UMO submitted a request for a modification to its permit application accepted by the Department on March 14, 2008. The modification requested a change of the pool filter backwash discharge from Outfall #001A from 23,000 gallons per day to 30,000 gallons per day.

3. CONDITIONS OF PERMIT

Maine law, 38 M.R.S.A. Section 414-A, requires that the effluent limitations prescribed for discharges, including, but not limited to, effluent toxicity, require application of best practicable treatment (BPT), be consistent with the U.S. Clean Water Act, and ensure that the receiving waters attain the State water quality standards as described in Maine's Surface Water Classification System. In addition, 38 M.R.S.A., Section 420 and Department rule 06-096 CMR Chapter 530, *Surface Water Toxics Control Program,* require the regulation of toxic substances not to exceed levels set forth in Department rule 06-096 CMR Chapter 584, *Surface Water Quality Criteria for Toxic Pollutants,* and that ensure safe levels for the discharge of toxic pollutants such that existing and designated uses of surface waters are maintained and protected.

4. RECEIVING WATER QUALITY STANDARDS

Maine law 38 M.R.S.A., §467(7)(A)(5) classifies the Stillwater River as a Class B waterway. Maine law, 38 M.R.S.A., §465(3) describes the standards for classification of Class B waterways.

5. EXISTING WATER QUALITY CONDITIONS

A document entitled, *2006 Integrated Water Quality Report*, published by the Department, indicates the Stillwater River is attaining Class B water quality standards.

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS

a. Flow: The previous permitting action established different daily maximum limits for the two waste streams as they are fundamentally different processes. For the swimming pool filter backwash waste water, a daily maximum limit of 30,000 gallons per event is being established and for the annual discharge of the pool water itself, a daily maximum limit

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

of 350,000 gallons. Both limitations are based on the permittee's estimates of flows for each discharge.

b. Dilution Factors: Dilution factors associated with the discharge from the UMO discharges were derived in accordance with freshwater protocols established in Department Regulation Chapter 530, *Surface Water Toxics Control Program*, dated October 2005. With daily maximum discharge rates of 30,000 gallons (filter backwash) and 350,000 gallons (annual pool discharge), dilution calculations are based on the following formula:

$$\text{Dilution Factor} = \frac{\text{River Flow (cfs)(Conv. Factor)} + \text{Discharge Flow (MGD)}}{\text{Discharge Flow (MGD)}}$$

The critical low flow of the Stillwater River has been determined to be 532 cfs based on a minimum flow requirement specified in a Department Water Quality Certification (#L-16011-35-B-N dated October 23, 1992) for the Bangor Hydro-Electric Company's Milford Hydroelectric Project. The hydroelectric project is located approximately two miles upstream of the UMO discharge point. The dilution factors are as follows:

Monthly filter backwash discharge

$$\text{Acute Dilution} = \frac{(532 \text{ cfs})(0.6464) + 0.030 \text{ MGD}}{0.030 \text{ MGD}} = 11{,}464{:}1$$

$$\text{Modified Acute}^{(1)} = \frac{(133 \text{ cfs})(0.6464) + 0.030 \text{ MGD}}{0.030 \text{ MGD}} = 2{,}867{:}1$$

Annual pool discharge

$$\text{Acute Dilution} = \frac{(532 \text{ cfs})(0.6464) + 0.350 \text{ MGD}}{0.350 \text{ MGD}} = 983{:}1$$

$$\text{Modified Acute}^{(1)} = \frac{(133 \text{ cfs})(0.6464) + 0.350 \text{ MGD}}{0.350 \text{ MGD}} = 247{:}1$$

Footnotes:

(1) Chapter 530.5 (D)(4)(a) states that analyses using numeric acute criteria for aquatic life must be based on 1/4 of the 1Q10 stream design flow to prevent substantial acute toxicity within any mixing zone. The 1Q10 is the lowest one day flow over a ten-year recurrence interval. The regulation goes on to say that where it can be demonstrated that a discharge achieves rapid and complete mixing with the receiving water by way of an efficient diffuser or other effective method, analyses may use a greater proportion of the stream design, up to including all of it. The Department has

6. EFFLUENT LIMITATIONS & MONITORING REQUIREMENTS (cont'd)

made the determination that the discharge does not receive rapid and complete mixing with the receiving water as the pipe outlet is on the east bank of the Stillwater River. Therefore, the default stream flow of ¼ of the 1Q10 is applicable in acute statistical evaluations.

c. Total Residual Chlorine (TRC) – Limits on total residual chlorine are specified to ensure that ambient water quality standards are maintained and that best practicable treatment technology is being applied to the discharge. The more stringent of the two limitations is established in permits/licenses. End-of-pipe water quality based concentration thresholds (worst-case scenario based on a discharge flow of 350,000 gallons) may be calculated as follows:

Parameter	Acute(A) Criterion	Modified Acute Dilution Factor	Acute Threshold
Chlorine	0.019 ug/L	247:1	4.7 mg/L

The Department has established a daily maximum best practicable treatment limitation of 1.0 mg/L for facilities that discharge elemental chlorine or chlorine-based compounds unless the calculated acute water quality based threshold is lower than 1.0 mg/L. In the case of the pool discharges, both of the calculated acute water quality thresholds are higher than 1.0 mg/l, thus the best practicable treatment limitation of 1.0 mg/L is imposed. The TRC levels from 2004 – 2008 ranged from 0.4 to 1.0 mg/L with a mean value of 0.7 mg/L.

d. pH – This permitting action is establishing pH range limits of 6.0 – 8.5 standard units. The limits are considered BPJ. A review of the DMR data for the period 2004 – 2008 indicates the pH range limitations have never been exceeded.

e. Total Suspended Solids (TSS) – This permitting action is carrying forward a daily maximum reporting requirement for mass and concentration for TSS as there is no formal treatment (settling/clarification) of the filter backwash discharge. With a mean daily maximum TSS concentration of 43.1 mg/L discharged at an average flow of 30,000 GPD from 2004 – 2008, the calculated mean daily maximum mass discharged was 10.8 LBS/day.

7. DISCHARGE IMPACT ON RECEIVING WATER QUALITY

As permitted, the Department has determined the existing water uses will be maintained and protected and the discharge will not cause or contribute to the failure of the waterbody to meet standards for Class B classification.

8. PUBLIC COMMENTS

Public notice of this application was made in the *Bangor Daily News* on or about February 20, 2008. The Department receives public comment on an application until the date a final agency action is taken on that application. Those persons receiving copies of draft permits shall have at least 30 days in which to submit comments on the draft or to request a public hearing, pursuant to Chapter 522 of the Department's rules.

9. DEPARTMENT CONTACTS

Additional information concerning this permitting action may be obtained from and written comments should be sent to:

Phyllis A. Rand
Bureau of Land and Water Quality
Division of Water Quality Management
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017 Telephone (207) 287-7658
e-mail: Phyllis.A.Rand@maine.gov

10. RESPONSE TO COMMENTS

During the period of April 15, 2008, through the issuance date of the permit/license, the Department solicited comments on the proposed draft permit/license to be issued for the discharge(s) from the University of Maine-Orono's facility. The Department did not receive comments from the permittee, state or federal agencies or interested parties that resulted in any substantive change(s) in the terms and conditions of the permit. Therefore, the Department has not prepared a Response to Comments.