Central Maine Power

Marge - Inspections

February 25, 2004

2004-0013
328 W. Commercial St

Mr. William Needelman, Planner
Planning and Development Department
City of Portland
389 Congress Street
Portland, ME 04101

RE: CMP Site Plan/Conditional Use, Pending Applications for W. Commercial St. Substation
Supplemental Information Requested at February 24, 2004 Planning Board Workshop

Dear Mr. Needelman:

Attached for the Planning Board's and your review are materials requested at the February 24th workshop. Specifically, the following items are attached:

- Updated site grading plan,
- Oil containment and SPCC plan details;
- Abutter (Coachworks) storage shed and pavement information;
- Fencing and equipment separation;
- Landscape plan narrative and Danforth Street steps;
- Additional sound level estimates and calculations; ← 45 ABA 51 Res. Zone
- Gas Insulated Substation (GIS) and SF6 gas information; and
- Electromagnetic field (EMF) information.

Please call me at 621-4478 if you have any questions or require additional information.

Sincerely,

Michael Scavey

Michael Scavey
Project Manager

received 3/1/04

cc: Jim Seymour, Sebago Technics

Attachments

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Supplemental Information for CMP's Pending Site Plan and Conditional Use Applications Proposed Fore River Substation, West Commercial Street, Portland

February 25, 2004

I. Revised Site Plan

A revised site plan depicting the latest proposed grading, is attached to this submittal.

II. Oil Containment/Spill Prevention, Control & Countermeasure (SPCC) Plan

Introduction

Computer modeling of the fate of possible oil spills from the two transformers to be installed at CMP's Fore River Substation (West Commercial Street, Portland) was conducted using the latest grading plan for the site and a 100-year maximum storm event. The modeling was done with the MOSES model, Version 3.0, which was developed by EPRI. The base storage capacity of the substation yard was also estimated using a straight calculation of volume contained by the berm that will surround the station.

Containment Approach

CMP's approach to containment of oil releases within substation yards is to use passive systems, i.e., the containment capacity of the yard itself whenever possible, thereby minimizing reliance on mechanical systems.

Small leaks from electrical equipment are captured by the gravel base soils. When such leaks are identified (typically during regular weekly or monthly substation inspections), absorbent pads are placed under the leak, and soil cleanup is scheduled as soon as possible. Any related necessary equipment repair or maintenance is also scheduled as soon as possible and measures are taken to prevent or contain additional leakage until the equipment is repaired. Oil from these small volume leaks does not typically migrate deeply into the soil, but is restricted to the first several inches to a foot, and is easily cleaned up and recovered via excavation with hand tools. These small releases do not pose a threat to surface water or ground water quality.

Large oil releases from substation equipment are very rare. CMP becomes aware of these very quickly because transformers have oil level indicators that remotely alarm and notify CMP's Communications Center if a measurable drop in transformer oil level occurs. In this situation, CMP substation crews and oil spill response personnel are immediately dispatched to the substation to prevent further oil releases and to begin cleanup. This rapid response ensures that oil will not have time to migrate very far into the soil, which will facilitate cleanup and protect groundwater.

MOSES Model

The MOSES (Mineral Oil Spill Evaluation System) model was developed by the Electric Power Research Institute (EPRI) to model the probability of oil spills reaching water bodies and to evaluate the effectiveness of design changes to minimize this probability. Probability is estimated by applying a Monte Carlo simulation of spill and weather events for particular site characteristics. Computer model data input for a substation includes:

Physical Characteristics
- Porosity and depth of gravel bed within substation
- Slope of ground within substation
- Underlying soil type
- Volume of any containment structures within substation (i.e., berms, sumps)
- Soil and drainage characteristics of any drainage areas outside substation yard

Climatological Characteristics
- Rainfall – Days per year
- Annual Amount
- Maximum 24 hour event
- Number of freezing days per year

Oil Release Characteristics
- Range of potential spill volumes
- Spill duration
- Characteristics of oil spilled

The model makes numerous (100,000) runs with randomly selected values for the variables listed above, and records the number of times an oil spill would leave the substation yard, and the number of times oil would reach a water body. These numbers, divided by the total number of model runs, provide the probability of an oil spill leaving the substation yard and entering water.

MOSES Model Results

The proposed Fore River substation was modeled assuming a berm of 6-inch effective height around the station. Very conservative values were assumed for the parameters listed below that were input into the model:

Parameter	Model Input	Actual Conditions
Area covered by spill	1,200 – 2,800 sq. ft.	9,300 sq. ft. within yard
Depth of gravel bed	6 – 12 inches	6 inch crushed gravel over 18 inches gravel
Perimeter berm	6 inches	8 inches (or more)
Containment volume	4,400 – 10,400 gal (berm height x spill area)	34,800 gal @ 6" depth

Spill volumes of between 50 and 6,000 gallons were modeled, with the upper limit equaling the total volume of one of the transformers on the site. Rainfall data was 44 inches precipitation per year, with 129 days of rainfall above 0.01 inches, and a 100-year, 24-hour storm event of 6.5 inches.

The model results demonstrate that with a 6-inch perimeter berm, all oil will be contained within the yard and none will reach the catch basin.

As a further check on oil containment within the station, a rough estimate of perimeter berm containment capacity was made (see attached). The substation yard has an open area of approximately 9,300 square feet. At a depth of one inch, this area will contain approximately 5,800 gallons of liquid. Therefore, if both transformers emptied all of their contents, oil would rise to a depth of approximately 2.1 inches in the yard (assuming no oil migration into the pore space of the gravel). With an 8-inch berm (as proposed), yard capacity above the bedding material would allow containment of all contents of both transformers plus precipitation from a 5.9-inch storm. Also, pore space within the 6-inch stone bedding above the gravel in the substation itself provides a potential storage capacity of over 10,000 gallons. As a result, the proposed 8-inch gravel perimeter berm is more than adequate to contain all oil from both transformers and to contain all precipitation from a 24-hour, 100-year storm event.

Fore River Substation
Maximum Oil Containment
2/25/2004

1. Area of Substation within fence line:
110' x 95' = 10,450 sq. ft.

2. Area not available for storage:

Control house/switchgear	30' x 25' = 750 sq. ft.
Transformers	20' x 10' x 2 = 400 sq. ft.
Area unavailable for storage	1,150 sq. ft.

3. Remaining area available for oil containment:
10,450 – 1,150 = 9,300 sq. ft.

4. Capacity of substation per inch of oil depth:
9,300 sq. ft. x 1/12 ft x 7.48 gal/cubic foot = 5,800 gal

5. Depth of oil in yard if both transformers discharge:
6,000 gal/transformer x 2 x 1/5,800 in/gal = 2.1 inches

6. Maximum storage capacity in substation yard:

Effective Berm Height (inches)	Oil Storage Depth (inches)	Available Storm Capacity (inches)
6	2.1	3.9
8	2.1	5.9

III. Coachworks Storage Shed & Pavement

CMP, as part of the Purchase and Sale Agreement, is working to resolve title issues associated with a storage shed and pavement extending onto the western portion of the project lot, as identified on the site survey. CMP is requesting a recordable license be granted to this abutter to allow the shed and pavement to remain, and acknowledgement by the owner that the shed and pavement are there on the basis of that license.

IV. Fencing & Equipment Separation

Fencing

The substation fence is a critical component of any substation design as it is essential for public safety. This specialized fence system must provide a solid mechanical barrier to prohibit public access to the substation. CMP's established fence height is 8 feet for posts and fabric. An additional set of 17-inch extension arms projected out at 45 degrees with 3 strands of barbed wire attached adds an additional vertical height of 1 foot. The total fence height is 9 feet. At Fore River, approximately 149 ft. of the total 249 feet of fence line is a combination retaining wall with chain link fence on top. The top of the fence line on the North side abutting Danforth St. will be at approximately the same elevation as the guardrail.

Warning signs, "DANGER HIGH VOLTAGE KEEP OUT", are also attached to the chain link fabric every 50 feet. For the particular circumstances associated with Fore River Substation, signs will be posted on the fence line facing West Commercial St. indicating the open area in front of the substation is a "PRIVATE WAY, PUBLIC PARKING PROHIBITED".

Equipment Separation

The location of Fore River Substation exceeds IEEE Standard 979-1994 for fire protection separation from other buildings. No other features abutting the substation (such as streets and railways) are addressed in engineering standards, or identified in engineering standards as features of concern. Good engineering practices and design ensure safe buffering distances to all of these features. The table below summarizes distances from key features abutting the substation site.

Feature Abutting Substation	Shortest Distance to S/S Fence Line	Shortest Distance to S/S Equipment
Danforth Street guardrail abutment	34 ft.	51 ft.
Auto Body Shop	27 ft.	54 ft.
Railroad	42 ft.	65 ft.

IV. Landscaping Plan Narrative

Landscape Architect Barry Hosmer has developed the attached narrative describing CMP's proposed landscaping plan for this project.

V. Sound Level Estimates and Calculations

The proposed substation transformers will generate sound during normal operation. CMP will require that these transformers meet National Electric Manufacturers Association (NEMA) TR-1 standards. Specifically, these units produce an average sound level of no more than 72 dBA, measured at a distance of 2 meters from the transformer, at full voltage, with first stage fans operating.

Actual site-specific sound levels will depend on obstructions within the substation yard, other nearby sound sources, weather, and other variables. However, estimated sound levels can be developed for this site and adjacent areas. The rule of thumb for sound attenuation is that for each doubling of distance from the "acoustic center" (the point source of the sound), dBA level is reduced by 6. Based on this, and based on an approximate transformer dimension of 24 feet by 18 feet, sound levels would be 72 dBA at 6 feet from the transformer's long dimension. However, given two transformers with identical sound level emissions, the dBA level would be increased by 3 dBA to approximately 75 dBA at 6 feet from either/both transformers, which would coincide with 18 feet from the acoustic center of the transformers. For each doubling of this distance from the acoustic center, dBA would decrease by approximately 6 dBA. [Note: CMP's January 28, 2004 Site Plan application, Appendix 6 (Supplemental Information) included erroneous calculations of anticipated sound levels; this section and information replaces that earlier information.]

Because the sound level scale is logarithmic, linear extrapolation or interpolation to estimate sound levels is not possible. The table below lists, first, estimated transformer-generated sound levels at specific distances from the two substation transformers based on the above formula. Second, it lists estimated sound level ranges at each of four properly lines based on the above formula and the distance-specific estimated sound values. Third, it lists estimated sound level ranges at the closest residential zone boundary and at the closest residence, again based on the above formula and calculations.

Specific Distances from Transformers	Estimated Sound Level (dBA)
24' from transformers	69
60' from transformers	63
132' from transformers	57
276' from transformers	51
564' from transformers	45
Property Lines (closest point)	-
South/southeast - West Commercial Street; 45' from transformers	Between 63 and 69
Northeast - railroad tracks; 45' from transformers	Between 63 and 69
Southwest - Coachworks; 55' from transformers	Between 63 and 69
Northwest - Danforth St.; 90' from transformers	Between 57 and 63
Zone & Residential Landmarks	-
Boundary of Residential 4 Zone; 320' from transformers	Between 45 and 51
Closest residence, approximately 500' north of transformers	Between 45 and 51

Portland's Code of Ordinances, Section 14-320.3(b) (Performance ~~Standards, Noise)~~, includes sound level limits in the Waterfront Port Development (WPD) zone. Specifically, with limited exceptions (none of which apply to this substation project) sound levels may not exceed 55 dBA at or within the boundaries of any residential zone between 7:00 PM and 7:00 AM.

Tonal sounds (as defined in this subsection), while generated in the form of a hum, will be somewhat mitigated by the presence of a 3 foot high retaining wall at the rear of the substation, as well as the distance of this substation from the closest residence, located approximately 500 feet north of the proposed substation.

Based on preliminary site layout information and anticipated sound level generation and attenuation, the substation facility will be well below this 55 dBA limit at the residential zone boundary, and will meet this standard.

VI. Sulfur Hexafluoride (SF_6) Gas

Gas-insulated substation equipment to be installed at Fore River will utilize sulfur hexafluoride (SF_6) gas. This is a liquefied, compressed, non-toxic, non-flammable, and non-reactive dielectric (insulating) gas. Its excellent electric insulating and arc-quenching properties provide safe operation of equipment and, in the case of a GIS substation, allow for considerable reduction in required space. The design specification for the GIS portion of the substation at Fore River requires strict compliance with IEEE standards for GIS according to the current revisions to Standards C37-122 and C37-123. The substation unit is compartmentalized into approximately 30 separate chambers that are closely monitored for leakage. The total weight of this gas will be approximately 2,100 pounds based on an average quantity of 70 pounds per compartment (quantities are very preliminary and may change based on final substation design). The leakage

rate for any individual compartment will be less than 1% per year, and for the entire system, will be less than 0.5% per year.

CMP has utilized SF_6 gas for over 25 years, and during this entire period has operated an SF_6 gas capture cart or carts to avoid and minimize gas releases. CMP currently utilizes SF6 gas at 36 of its substations, totaling over 21,000 pounds of the gas. CMP also participates in the United States Environmental Protection Agency's "SF_6 Emissions Reduction Partnership", a voluntary program whereby CMP agrees to track its use and releases of SF_6, minimize those releases, and set annual goals to continually reduce incidental release of this gas.

VII. Electric and Magnetic Fields (EMF)

Attached are pages from the web site of the National Institute of Environmental Health Science's EMF *RAPID* (Electric and Magnetic Fields Research and Public Information Dissemination Program). This information includes a general discussion of EMF, specific information on substation EMF, typical EMF workplace sources and levels, and other useful EMF information.

Landscape Plan

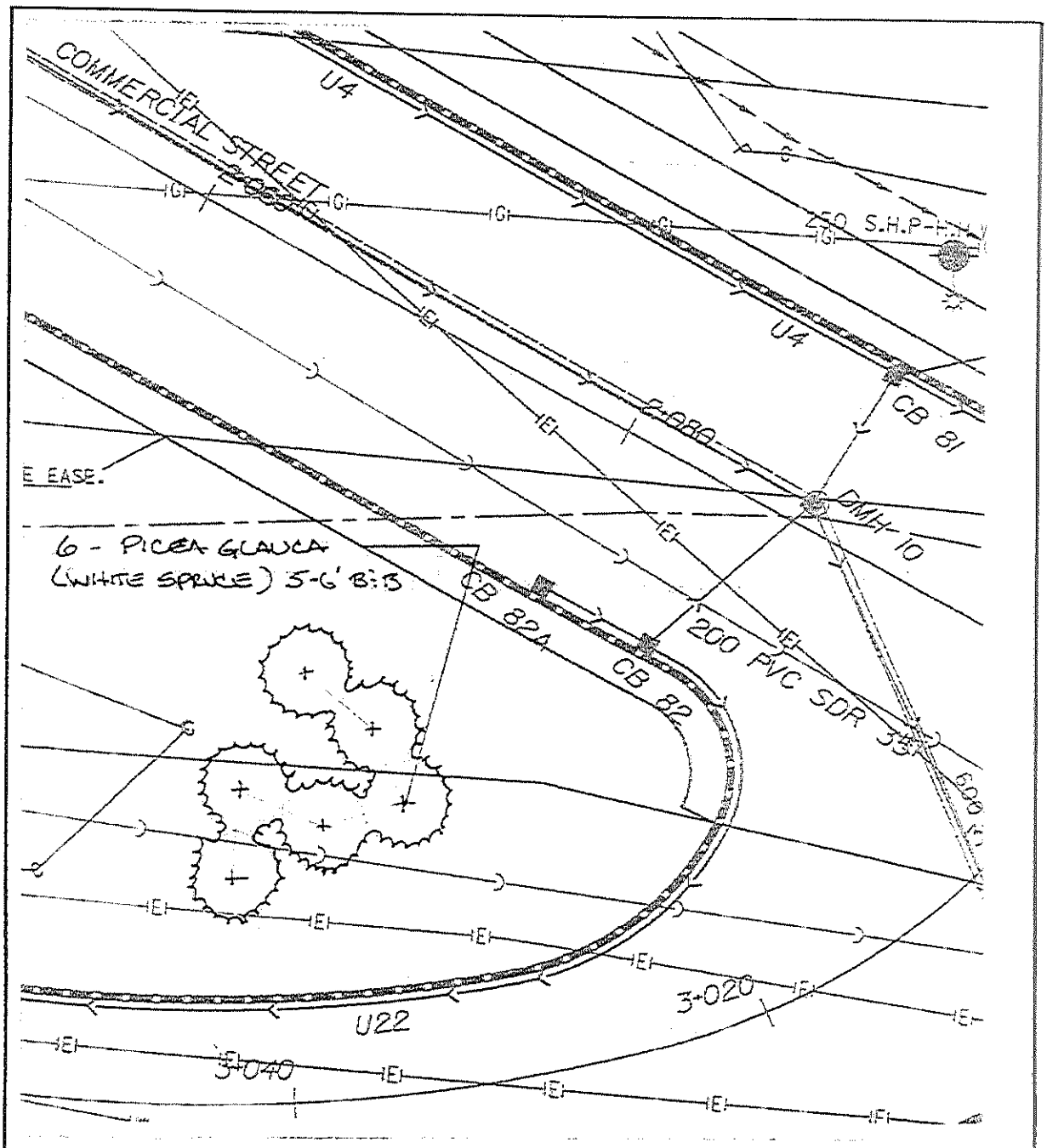
Fore River Substation Landscape Plan

We believe that the best approach to adding value to the landscape in the general area of the project is to provide landscaping off site. This conclusion is based on the following.

1. The site is located in an existing heavy industrial area.
2. The site is not visible from Danforth Street or Commercial Street until one approaches the Commercial/ West Commercial intersection (views look over the site).
3. Security for the facility is critical. Having an open view for policing the site is desirable.
4. There is limited existing landscaping in the area.

Our approach to landscaping would be to:

1. Preserve the grouping of 4 to 5 Gray birch along the easterly property line.
2. Screen the long view to the site from the Commercial Street/ West Commercial Street intersection by planting 6 white spruce on this corner as shown on the sketch plan.
3. Improve the existing grassed slope along the north property line, abutting lower Danforth Street (Industrial Way). The existing partial stair case will be removed and any regrading of the slope and slope stabilization areas will be seeded with an MDOT Type 3 mix with Lupine added. This mix is intended to only be maintained one or twice a year and is the same mix utilized in the existing Veterans circle area as well as on the I-295 Commercial Street Connector.
4. The Norway Maple in the existing Veterans Circle needs to be removed and a 5" specimen Beech Tree has been suggested as a replacement. CMP would provide a contribution towards the purchase of this tree.



Barry J. Hosmer - Landscape Architect 196 Whitney Avenue Portland, Maine 04102 207-874-0248	Sheet Title: Screening @ Commercial and West Commercial Streets	Date: 2/25/04 Scale: 1 = 250 meters
	Project Name: CMP - Fore River Substation	Drawn By: BJH Sheet Number: SK - 1
	Project Number: 0400	

Electric and Magnetic Fields (EMF) Information

NIEHS The National Institute of Environmental Health Sciences

EMF RAPID Electric and Magnetic Fields Research and Public Information Dissemination Program

EMF Questions & Answers June 2002

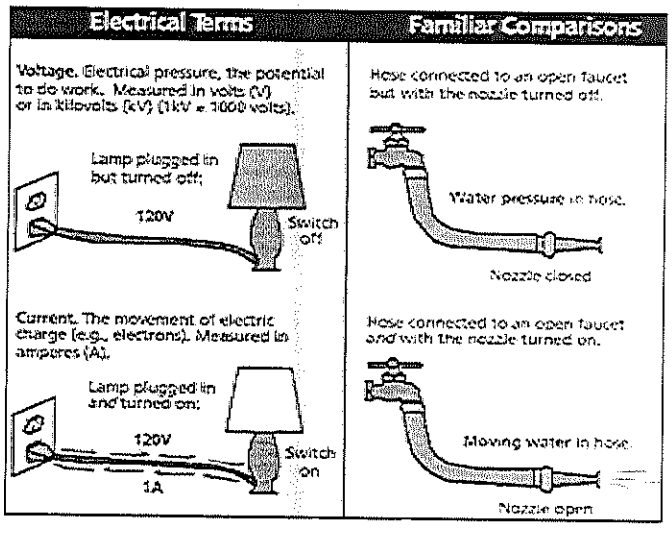
1 EMF Basics

This chapter reviews terms you need to know to have a basic understanding of electric and magnetic fields (EMF), compares EMF with other forms of electromagnetic energy, and briefly discusses how such fields may affect us.

- What are electric and magnetic fields?
- How is the term EMF used in this booklet?
- How are power-frequency EMF different from other types of electromagnetic energy?
- How are alternating current sources of EMF different from direct current sources?
- What happens when I am exposed to EMF?
- Doesn't the earth produce EMF?

Q What are electric and magnetic fields?

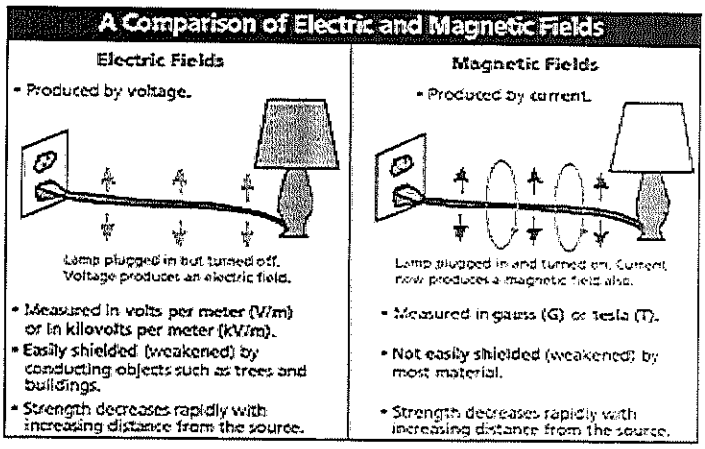
A Electric and magnetic fields (EMF) are invisible lines of force that surround any electrical device. Power lines, electrical wiring, and electrical equipment all produce EMF. There are many other sources of EMF as well. The focus of this booklet is on power-frequency EMF--that is, EMF associated with the generation, transmission, and use of electric power.



Click Here to See Large Image
Voltage produces an electric field and current produces a magnetic field.

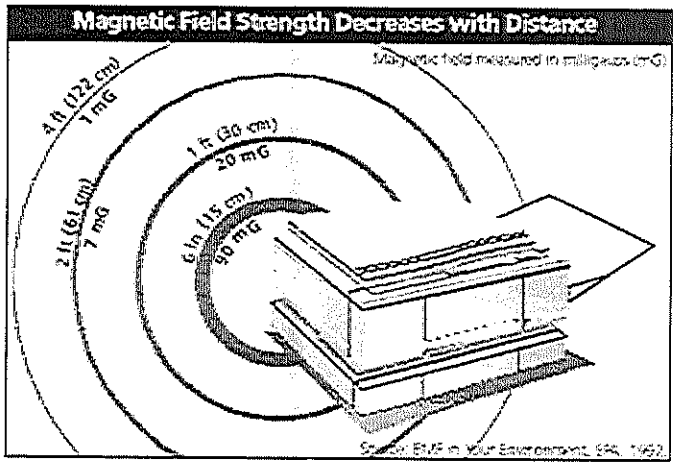
Electric fields are produced by voltage and increase in strength as the voltage

increases. The electric field strength is measured in units of volts per meter (V/m). Magnetic fields result from the flow of current through wires or electrical devices and increase in strength as the current increases. Magnetic fields are measured in units of gauss (G) or tesla (T).



Click Here to See Large Image
An appliance that is plugged in and therefore connected to a source of electricity has an electric field even when the appliance is turned off. To produce a magnetic field, the appliance must be plugged in and turned on so that the current is flowing.

Most electrical equipment has to be turned on, i.e., current must be flowing, for a magnetic field to be produced. Electric fields are often present even when the equipment is switched off, as long as it remains connected to the source of electric power. Brief bursts of EMF (sometimes called "transients") can also occur when electrical devices are turned on or off.



Click Here to See Large Image
You cannot see a magnetic field, but this illustration represents how the strength of the magnetic field can diminish just 1–2 feet (30–61 centimeters) from the source. This magnetic field is a 60-Hz power-frequency field.

Electric fields are shielded or weakened by materials that conduct electricity—even materials that conduct poorly, including trees, buildings, and human skin. Magnetic fields, however, pass through most materials and are therefore more difficult to shield. Both electric fields and magnetic fields decrease rapidly as the distance from the source increases.

Even though electrical equipment, appliances, and power lines produce both electric and magnetic fields, most recent research has focused on potential health effects of magnetic field exposure. This is because some epidemiological studies have reported an increased cancer risk associated with estimates of magnetic field exposure. No similar associations have been reported for electric fields; many of the studies examining biological effects of electric fields were essentially negative.

NIEHS The National Institute of Environmental Health Sciences
EMF RAPID Electric and Magnetic Fields Research and Public Information Dissemination Program
EMF Questions & Answers June 2002

4 Your EMF Environment

Part 2

This chapter discusses typical magnetic field exposures in home and work environments and identifies common EMF sources and field intensities associated with these sources.

Q What EMF levels are found near power lines?

A Power transmission lines bring power from a generating station to an electrical substation. Power distribution lines bring power from the substation to your home. Transmission and distribution lines can be either overhead or underground. Overhead lines produce both electric fields and magnetic fields. Underground lines do not produce electric fields above ground but may produce magnetic fields above ground.

Power transmission lines
Typical EMF levels for transmission lines are shown in the chart on page 37. At

a distance of 300 feet and at times of average electricity demand, the magnetic fields from many lines can be similar to typical background levels found in most homes. The distance at which the magnetic field from the line becomes indistinguishable from typical background levels differs for different types of lines.

Power Distribution Lines
Typical voltage for power distribution lines in North America ranges from 4 to 24 kilovolts (kV). Electric field levels directly beneath overhead distribution lines may vary from a few volts per meter to 100 or 200 volts per meter. Magnetic fields directly beneath overhead distribution lines typically range from 10 to 20 mG for main feeders and less than 10 mG for laterals. Such levels are also typical directly above underground lines. Peak EMF levels, however, can vary considerably depending on the amount of current carried by the line. Peak magnetic field levels as high as 70 mG have been measured directly below overhead distribution lines and as high as 40 mG above underground lines.

Q How strong is the EMF from electric power substations?

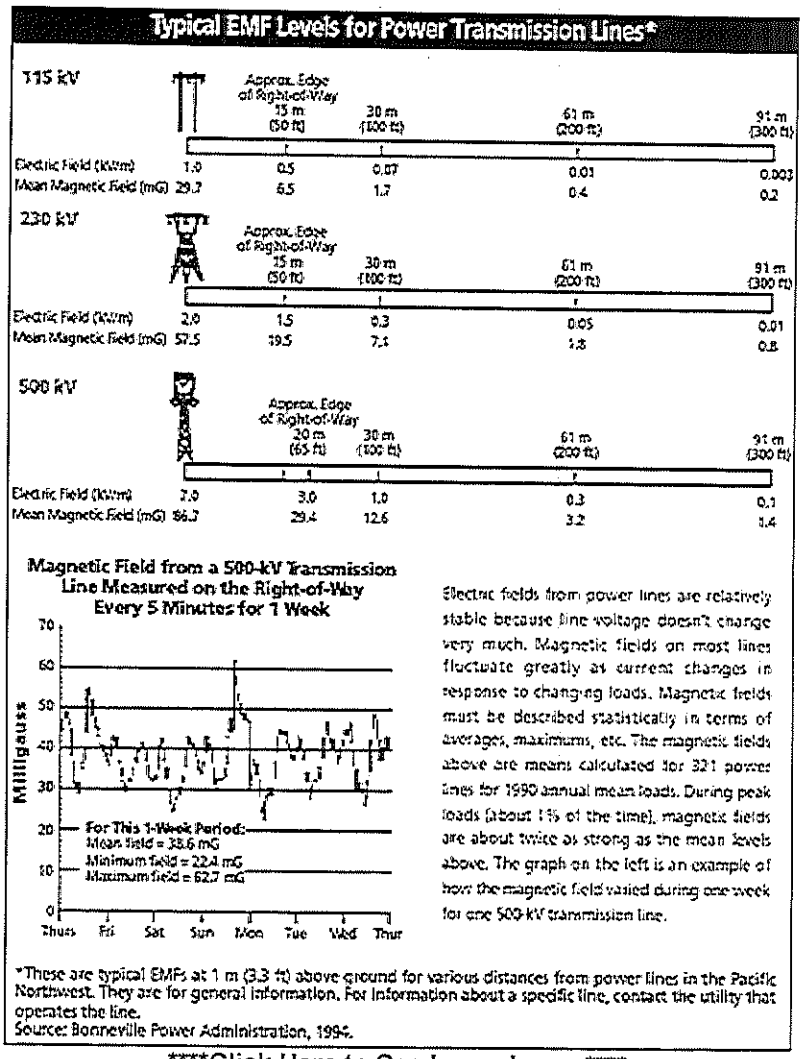
A In general, the strongest EMF around the outside of a substation comes from the power lines entering and leaving the substation. The strength of the EMF from equipment within the substations, such as transformers, reactors, and capacitor banks, decreases rapidly with increasing distance. Beyond the substation fence or wall, the EMF produced by the substation equipment is typically indistinguishable from background levels.

Q Do electrical workers have higher EMF exposure than other workers?

A

Most of the information we have about occupational EMF exposure comes from studies of electric utility workers. It is therefore difficult to compare electrical workers' EMF exposures with those of other workers because there is less information about EMF exposures in work environments other than electric utilities. Early studies did not include actual measurements of EMF exposure on the job but used job titles as an estimate of EMF exposure among electrical workers. Recent studies, however, have included extensive EMF exposure assessments.

A report published in 1994 provides some information about estimated EMF exposures of workers in Los Angeles in a number of electrical jobs in electric utilities and other industries. Electrical workers had higher average EMF exposures (9.6 mG) than did workers in other jobs (1.7 mG). For this study, the category "electrical workers" included electrical engineering technicians, electrical engineers, electricians, power line workers, power station operators, telephone line workers, TV repairers, and welders.



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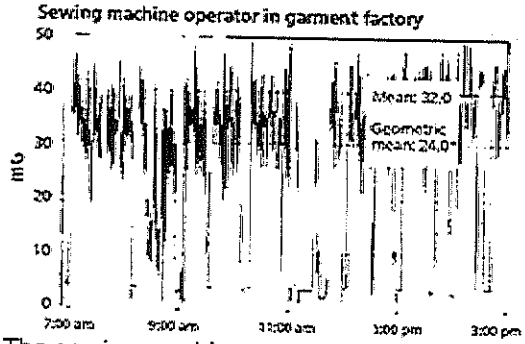
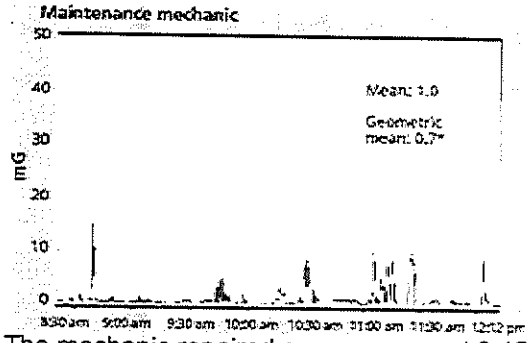
Q What are possible EMF exposures in the workplace?

A The figures below are examples of magnetic field exposures determined with exposure meters worn by four workers in different occupations. These measurements demonstrate how EMF exposures vary among individual workers. They do not necessarily represent typical EMF exposures for workers in these occupations.

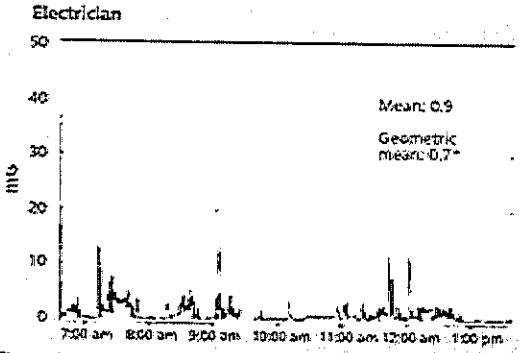
Magnetic Field Exposures of Workers (mG)



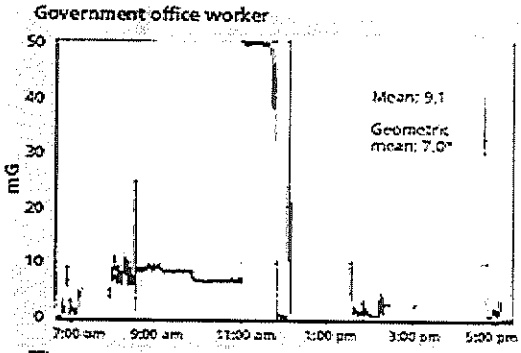
The sewing machine operator worked all day, took a 1-hour lunch break at 11:15 am, and took 10-minute breaks at 8:55 am and 2:55 pm.



The mechanic repaired a compressor at 9:45 am and 11:10 am.



The electrician repaired a large air-conditioning motor at 9:10 am and at 11:45 am.



The government worker was at the copy machine at 8:00 am, at the computer from 11:00 am to 1:00 pm and also from 2:30 pm to 4:30 pm.

*The geometric mean is calculated by squaring the values, adding the squares, and then taking the square root of the sum. Source: National Institute for Occupational Safety and Health and U.S. Department of Energy.

****Click Here to See Large Image****

The tables below can give you a general idea about magnetic field levels for different jobs and around various kinds of electrical equipment. It is important to remember that EMF levels depend on the actual equipment used in the workplace. Different brands or models of the same type of equipment can have different magnetic field strengths. It is also important to keep in mind that the strength of a magnetic field decreases quickly with distance.

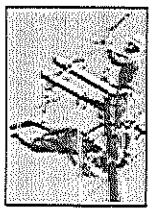
EMF Measurements During a Workday		
	ELF magnetic fields measured in mG	
Industry and occupation	Median for occupation*	Range for 90% of workers**
ELECTRICAL WORKERS IN VARIOUS INDUSTRIES		
Electrical engineers	1.7	0.5-12.0
Construction electricians	3.1	1.6-12.1
TV repairers	4.3	0.6-8.6
Welders	9.5	1.4-66.1
ELECTRIC UTILITIES		
Clerical workers without computers	0.5	0.2-2.0

Clerical workers with computers	1.2	0.5-4.5
Line workers	2.5	0.5-34.8
Electricians	5.4	0.8-34.0
Distribution substation operators	7.2	1.1-36.2
Workers off the job (home, travel, etc.)	0.9	0.3-3.7
TELECOMMUNICATIONS		
Install, maintenance, & repair technicians	1.5	0.7-3.2
Central office technicians	2.1	0.5-8.2
Cable splicers	3.2	0.7-15.0
AUTO TRANSMISSION MANUFACTURE		
Assemblers	0.7	0.2-4.9
Machinists	1.9	0.6-27.6
HOSPITALS		
Nurses	1.1	0.5-2.1
X-ray technicians	1.5	1.0-2.2
SELECTED OCCUPATIONS FROM ALL ECONOMIC SECTORS		
Construction machine operators	0.5	0.1-1.2
Motor vehicle drivers	1.1	0.4-2.7
School teachers	1.3	0.6-3.2
Auto mechanics	2.3	0.6-8.7
Retail sales	2.3	1.0-5.5
Sheet metal workers	3.9	0.3-48.4
Sewing machine operators	6.8	0.9-32.0
Forestry and logging jobs	7.6	0.6-95.5***

If you have questions or want more information about your EMF exposure at work, your plant safety officer, industrial hygienist, or other local safety official can be a good source of information. The National Institute for Occupational Safety and Health (NIOSH) is asked occasionally to conduct health hazard evaluations in workplaces where EMF is a suspected cause for concern. For further technical assistance contact NIOSH at 800-356-4674.

Q What are some typical sources of EMF in the workplace?

A Exposure assessment studies so far have shown that most people's EMF exposure at work comes from electrical appliances and tools and from the building's power supply. People who work near transformers, electrical closets, circuit boxes, or other high-current electrical equipment may have 60-Hz magnetic field exposures of hundreds of milligauss or more. In offices, magnetic field levels are often similar to those found at home, typically 0.5 to 4.0 mG. However, these levels can increase dramatically near certain types of equipment.



EMF Spot Measurements			
Industry and sources	**ELF magnetic fields (mG)**	**Other frequencies**	**Comm**
ELECTRICAL EQUIPMENT USED IN MACHINE MANUFACTURING			

Electric resistance heater	6,000-14,000	VLF	
Induction heater	10-460	High VLF	
Hand-held grinder	3,000	-	Tool exposures measure
Grinder	110	-	Tool exposures measure
Lathe, drill press, etc.	1-4	-	Tool exposures measure
ALUMINUM REFINING			
Aluminum pot rooms	3.4-30	Very high static field	Highly-rectified DC curre
Rectification room	300-3,300	High static field	refines alu
STEEL FOUNDRY			
Ladle refinery			
Furnace active	170-1,300	High ULF from the ladle's big magnetic stirrer	Highest ELF fie
Furnace inactive	0.6-3.7	High ULF from the ladle's big magnetic stirrer	chair of control r Highest ELF fie
Electrogalvanizing unit	2-1,100	High VLF	chair of control r
TELEVISION BROADCASTING			
Video cameras (studio and minicams)	7.2-24.0	VLF	
Video tape degaussers	160-3,300	-	Measured 1
Light control centers	10-300	-	Walk-throug
Studio and newsrooms	2-5	-	Walk-throug
HOSPITALS			
Intensive care unit	0.1-220	VLF	Measured at nu
Post-anesthesia care unit	0.1-24	VLF	
Magnetic resonance imaging (MRI)	0.5-280	Very high static field, VLF and RF	Measured at technicia
TRANSPORTATION			
Cars, minivans, and trucks	0.1-125	Most frequencies less than 60 Hz	Steel-belted tires are the for gas/diese
Bus (diesel powered)	0.5-146	Most frequencies less than 60 Hz	
Electric cars	0.1-81	Some elevated static fields	
Chargers for electric cars	4-63	-	Measured 2 ft fi
Electric buses	0.1-88	-	Measured at waist. Fields at
Electric train passenger cars	0.1-330	25 & 60 Hz power on U.S. trains	Measured at waist. Fields at
Airliner	0.8-24.2	400 Hz power on airliners	Measured a
GOVERNMENT OFFICES			
Desk work locations	0.1-7	-	Peaks due to la
Desks near power center	18-50	-	
Power cables in floor	15-170	-	
Building power supplies	25-1,800	-	
Can opener	3,000	-	Appliance fields mea
Desktop cooling fan	1,000	-	Appliance fields mea
Other office appliances	10-200	-	

Source: National Institute for Occupational Safety and Health, 2001.
ULF (ultra low frequency)-frequencies above 0, below 3 Hz.
ELF (extremely low frequency)-frequencies 3-3,000 Hz.
VLF (very low frequency)-frequencies 3,000-30,000 Hz (3-30 kilohertz).

Q What EMF exposure occurs during travel?

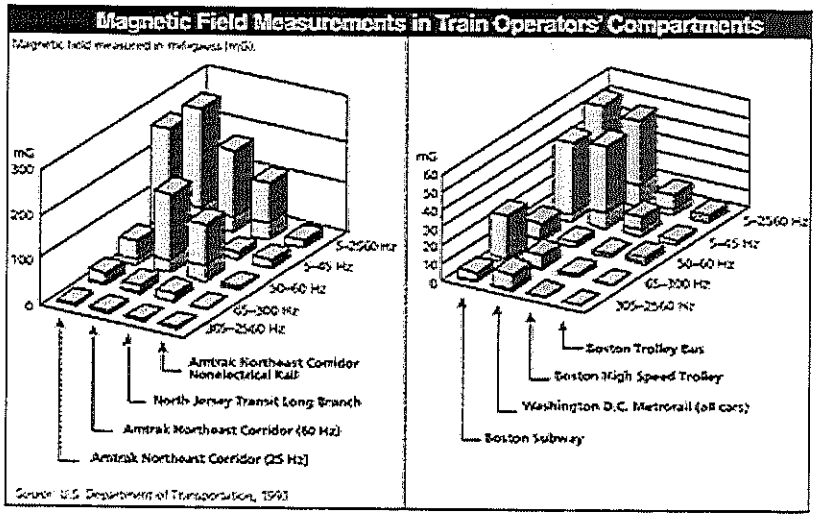
Inside a car or bus, the main sources of magnetic field exposure are those you pass by (or under) as you drive, such as power lines. Car batteries involve direct

A current (DC) rather than alternating current (AC). Alternators can create EMF, but at frequencies other than 60 Hz. The rotation of steel-belted tires is also a source of EMF.

Most trains in the United States are diesel powered. Some electrically powered trains operate on AC, such as the passenger trains between Washington, D.C. and New Haven, Connecticut. Measurements taken on these trains using personal exposure monitors have suggested that average 60-Hz magnetic field exposures for passengers and conductors may exceed 50 mG. A U.S. government-sponsored exposure assessment study of electric rail systems found average 60-Hz magnetic field levels in train operator compartments that ranged from 0.4 mG (Boston high speed trolley) to 31.1 mG (North Jersey transit). The graph below shows average and maximum magnetic field measurements in operator compartments of several electric rail systems. It illustrates that 60 Hz is one of several electromagnetic frequencies to which train operators are exposed.

Workers who maintain the tracks on electric rail lines, primarily in the northeastern United States, also have elevated magnetic field exposures at both 25 Hz and 60 Hz. Measurements taken by the National Institute for Occupational Safety and Health show that typical average daily exposures range from 3 to 18 mG, depending on how often trains pass the work site.

Rapid transit and light rail systems in the United States, such as the Washington D.C. Metro and the San Francisco Bay Area Rapid Transit, run on DC electricity. These DC-powered trains contain equipment that produces AC fields. For example, areas of strong AC magnetic fields have been measured on the Washington Metro close to the floor, during braking and acceleration, presumably near equipment located underneath the subway cars.



****Click Here to See Large Image****
These graphs illustrate that 60 Hz is one of several electromagnetic frequencies to which train operators are exposed. The maximum exposure is the top of the blue (upper) portion of the bar; the average exposure is the top of the red (lower) portion.

Q How can I find out how strong the EMF is where I live and work?

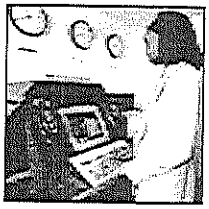
A The tables throughout this chapter can give you a general idea about magnetic field levels at home, for different jobs, and around various kinds of electrical equipment. For specific information about EMF from a particular power line, contact the utility that operates the line. Some will perform home EMF measurements.

You can take your own EMF measurements with a magnetic field meter. For a spot measurement to provide a useful estimate of your EMF exposure, it should be taken at a time of day and location when and where you are typically near the equipment. Keep in mind that the strength of a magnetic field drops off quickly with distance.

Independent technicians will conduct EMF measurements for a fee. Search the Internet under "EMF meters" or "EMF measurement." You should investigate the experience and qualifications of commercial firms, since governments do not standardize EMF measurements or certify measurement contractors.

At work, your plant safety officer, industrial hygienist, or other local safety official can be a good source of information. The National Institute for Occupational Safety and Health (NIOSH) sometimes conducts health hazard evaluations in workplaces where EMF is a suspected cause for concern. For further technical assistance, contact NIOSH at 800-356-4674.

Q How much do computers contribute to my EMF exposure?



A Personal computers themselves produce very little EMF. However, the video display terminal (VDT) or monitor provides some magnetic field exposure unless it is of the new flat-panel design. Conventional VDTs containing cathode ray tubes use magnetic fields to produce the image on the screen, and some emission of those magnetic fields is unavoidable. Unlike most other appliances which produce predominantly 60-Hz magnetic fields, VDTs emit magnetic fields in both the extremely low frequency (ELF) and very low frequency (VLF) frequency ranges. Many newer VDTs have been designed to minimize magnetic field emissions, and those identified as "TCO'99 compliant" meet a standard for low emissions.

Q What can be done to limit EMF exposure?

A Personal exposure to EMF depends on three things: the strength of the magnetic field sources in your environment, your distance from those sources, and the time you spend in the field.

If you are concerned about EMF exposure, your first step should be to find out where the major EMF sources are and move away from them or limit the time

you spend near them. Magnetic fields from appliances decrease dramatically about an arm's length away from the source. In many cases, rearranging a bed, a chair, or a work area to increase your distance from an electrical panel or some other EMF source can reduce your EMF exposure.

Another way to reduce EMF exposure is to use equipment designed to have relatively low EMF emissions. Sometimes electrical wiring in a house or a building can be the source of strong magnetic field exposure. Incorrect wiring is a common source of higher-than-usual magnetic fields. Wiring problems are also worth correcting for safety reasons.

In its 1999 report to Congress, the National Institute of Environmental Health Sciences suggested that the power industry continue its current practice of siting power lines to reduce EMF exposures.

There are more costly actions, such as burying power lines, moving out of a home, or restricting the use of office space that may reduce exposures. Because scientists are still debating whether EMF is a hazard to health, it is not clear that the costs of such measures are warranted. Some EMF reduction measures may create other problems. For instance, compacting power lines reduces EMF but increases the danger of accidental electrocution for line workers.

We are not sure which aspects of the magnetic field exposure, if any, to reduce. Future research may reveal that EMF reduction measures based on today's limited understanding are inadequate or irrelevant. No action should be taken to reduce EMF exposure if it increases the risk of a known safety hazard.

On to EMF Exposure Standards

EMF Questions & Answers Home | Introduction | EMF Basics | Evaluating Potential Health Effects | Results of EMF Research | **Your EMF Environment** | EMF Exposure Standards | National and International EMF Reviews | References

EMF*RAPID* Home | NIEHS Home
For More Information About EMF: Web Center
Last Modified: 04 Oct 2002

Lighting Detail

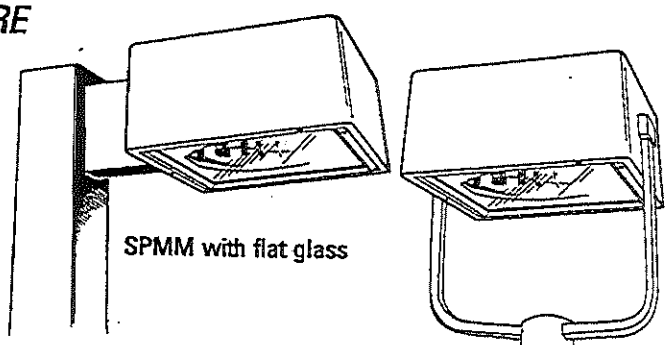
DECASHIELD® 175 LUMINAIRE

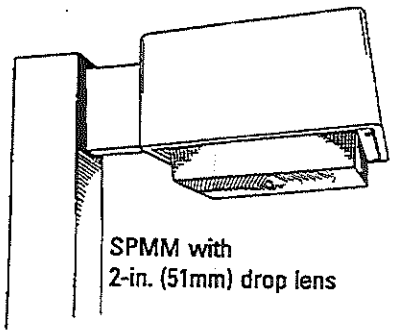
APPLICATIONS

Entranceways, walkways, parking areas, driveways, malls, cutoff wall lighting (with wall mounting plate)

SPECIFICATION FEATURES

- UL1572 Listed SUITABLE FOR WET LOCATIONS
- CSA Certified
- Standard construction is IP55
- Cutoff optics
- Enclosed and gasketed
- Heat and impact resistant tempered flat glass lens (standard)
- UV stabilized polycarbonate or acrylic prismatic drop lens (optional)
- Heavy-duty die-cast aluminum housing
- For cutoff wall lighting applications, order wall mounting plate **WMPDB-SP** separately
- Optional mogul base socket – E39 standard (no lamp included) can be provided in units with MC3 distribution. Contact Factory.
- Shipped assembled with medium base – E26 standard – lamp installed in socket
- Magnapack packaging available– See Technical Section





ORDERING NUMBER LOGIC

SP LISTED

SPMM 15 S 0 H 1 G MC3 DB F

PRODUCT ID. XXXX	WATTAGE XX	LIGHT SOURCE X	VOLTAGE X	BALLAST TYPE X	PE FUNCTION X	LENS TYPE X	IES DISTRIBUTION TYPE X X X	COLOR XX	OPTIONS XXX
SPMM = Square Pole Mount SYMM = Pole Top Yoke Mount	05=50 07=70 10=100 15=150 (55V) 17=175	S =HPS M=MH or Merc Standard: Medium base lamp installed in socket	60Hz 0=120/208/240/277 Multivolt 1=120 2=208 3=240 4=277 5=480 D=347 F=120X347 T=220 50Hz 6=220 NOTE: Dual voltage connected for lower voltage	See Ballast and Photometric Selection Table A =Autoreg G =Mag-Reg with Grounded Socket Shell H =HPF Reactor or Lag M=Mag-Reg (Use only for 50, 70, 100, 150 watt HPS 480 volt)	1=None 2=PE Receptacle NOTE: Receptacle connected same voltage as unit. Order PE Control separately.	A=Acrylic 2-in. (51mm) Drop Lens G=Flat Tempered Glass L=LEXAN® Polycarbonate 2-in. (51mm) Drop Lens	See Ballast and Photometric Selection Table S=Short M=Medium C=Cutoff 3=Type III 5=Type V	AL=Aluminum BL=Black DB=Dark Bronze CG=Charcoal Gray WH=White	F=Fusing (Not available with multivolt or dual voltage)

SP UL The catalog numbers, options and modifications on this page are UL Listed unless otherwise noted.

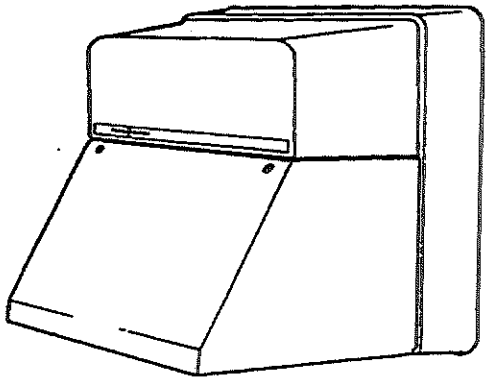
WALLIGHTER 250 CUTOFF LUMINAIRE

APPLICATIONS

Building perimeters, entrances, walkways, residential yards, loading docks and many other wall mounted area lighting applications.

SPECIFICATION FEATURES

- UL1572 Listed SUITABLE FOR WET LOCATIONS
- CSA Certified
- Three-piece die-cast aluminum housing protected inside and out with dark bronze electrocoat finish
- Enclosed, gasketed, with anodized aluminum reflector and tempered glass bottom closure
- Standard and tamper resistant hardware included
- Thru-feed conduit entrance on side with built-in conduit clamps
- Front access to ballast components when installed
- Mogul (E39 standard) or medium base (E26 standard) sockets



Turtle-friendly luminaires available for coastal nesting areas. Contact factory.

ORDERING NUMBER LOGIC

W25C	25	S	0	A	1	G	MGL	DB	0
PRODUCT ID. XXXX	WATTAGE XX	LIGHT SOURCE X	VOLTAGE X	BALLAST TYPE X	PE FUNCTION X	LENS TYPE X	LAMP BASE XXX	COLOR XX	OPTIONS X
W25C = Wallighter 250 (250 watt max.) luminaire with cutoff optics	See Ballast and Photometric Selection Table 05 = 50 07 = 70 10 = 100 15 = 150 (55V) 17 = 175 20 = 200 25 = 250 77 = 70/75	See Ballast and Photometric Selection Table S = HPS M = MH or Merc (with 175W only)	See Ballast and Photometric Selection Table 60Hz 0 = 120/208/240/277 Multivolt 1 = 120 2 = 208 3 = 240 4 = 277 5 = 480 D = 347 F = 120X347	See Ballast and Photometric Selection Table A = Autoreg G = Mag-Reg with Grounded Socket Shell H = HPF Reactor or Lag K = Hot Restart M = Mag-Reg N = NPF Reactor or Lag P = CWI with Grounded Socket Shell	1 = None For PE Kit, see Accessories	G = Glass	For IES Optical Configuration See Ballast and Photometric Selection Table MGL = Mogul base E39 (Standard without lamp) MED = Medium base E26 (Standard with lamp)	DB = Dark Bronze	B = Time Delay Automatically Switched Quartz F = Fusing (Not available with multivolt) 0 = Non-Time Delay Automatically Switched Quartz

The catalog numbers, options and modifications on this page are UL Listed unless otherwise noted.
Data subject to change without notice

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August 21, 2002

9/18/02

Ms. Kandi Talbot
City of Portland
389 Congress Street
Portland, ME 04101-3503

STATE OF MAINE
WILLIAM C. HASKELL
NO. 8518
REGISTERED PROFESSIONAL ENGINEER
8/21/02

Subject: Site Plan Submission
Maine Yacht Harbor—Phase 1

Dear Ms. Talbot,

Allied Engineering, Inc., Gawron Architects, Inc. and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a. Yacht Haven, L.L.C. to prepare plans and permit applications for the development of a proposed Maine Yacht Harbor marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the City of Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57 acre lot. The project will be constructed in two phases. Phase 1 includes a temporary gravel parking lot with 79 spaces plus the construction of the boat ramp, 124 boat slips, 10 moorings, temporary office (construction trailer), temporary restroom facility and temporary lighting. Phase 2 (to be permitted at a later date) will include an approximate 45,200 s.f. vessel workshop, and permanent parking facilities. Phase 1 of this project is considered a minor development under the Portland ordinance because the parking area is designated as temporary.

This letter and the attached application and plan set describe the applicant's plans to redevelop the above-referenced parcel. The members of the project team have appreciated the opportunity to discuss the project with City Staff to date. We have benefited from your comments, and look forward to the planning department's review.

Project History

This project was initiated back in the late 1980's by a previous owner and has been before the Planning Board several times for amendments and reapprovals. The following chronology describes the general characteristics of the previous submissions and approved projects:

- May 1991 Approval: Originally submitted in the fall of 1989, this project included 230 boat slips; 2,160 square foot building; 40,000 s.f. rack storage facility; boat ramp; and 162-space parking lot. It appears that a revised version of this submission was approved on May 14, 1991.
- July 1993 Approval: Reapproval required because substantial construction had not occurred and the permit had lapsed. Project is resubmitted for approval of a two-phased project consisting of 230 boat slips, 123 parking spaces, 140 boat rack storage; and a 19,800 s.f. building.
- 1995 Approval: Reapproval required because substantial construction had not occurred and the permit had lapsed. Project was resubmitted with the only changes being related to traffic improvements, shoreway access and the Board of Appeals interpretation regarding the placement of the marina in the Shoreland Zone.
- 1997 Approval: Reapproval required because substantial construction had not occurred and the permit had lapsed. Project was resubmitted with the only changes related to the zoning change to the Industrial Low Impact Zone (I-L), and the replacement of guardrail with curbing around a landscaped area.
- December 1999 Approval: Reapproval was requested by the owner to facilitate the sale of the property. The general development plan included a two-phased project consisting of a 140 boat rack storage facility, 230 boat slips, 123 space parking lot, a 55 space overflow parking lot and a 19,800 s.f. building.
- In 1999 the property was purchased by Maine Yacht Harbor, a.k.a Yacht Haven. L.L.C., at which point a process of review began. The new owner evaluated the property and the previous development plan related to economic viability and the engineering of the overall design of the "rack storage marina" concept. This review concluded that many changes would have to be made to the project scope to meet the goals of the present owners.

Site Description

The site is presently occupied by a 1,575 s.f. office building and approximately 27 parking spaces located in the residential zoned portion of the site. The southern portion of the site where the proposed development is to be constructed is currently undeveloped. The site is previously disturbed and was formerly a ship-building operation and fuel tank yard. The majority of the surface coverage is pavement and graveled areas. The portion of the site in the Low Impact Industrial Zone (I-L) has approximately 84,700 s.f. of existing impervious surface (approximately 80 percent of the total area). The proposed site has approximately 85 feet of frontage on Kensington Street in the I-L Zone and approximately 395 feet of frontage on Kensington Street in the Residential Zone. The southern-most property line is bounded by Casco Bay. Abutting land uses are industrial and residential

with the abutting landuse to the north and east being residential. The railroad tracks and a baked bean processing plant are located to the west of the lot.

Proposed Use

The project will be constructed in two phases. In Phase 1, being permitted as part of this site plan application, the applicant proposes to construct a temporary gravel parking lot with 79 spaces (including 4 ADA spaces), temporary office (construction trailer), temporary restroom facility, temporary site lighting (catalog cut sheets for the fixtures are attached to this letter), associated utilities for the marina, 124 boat slips, 10 moorings and the boat ramp. Phase 2 (to be permitted at a later date) will include the construction of a 45,200 s.f. vessel workshop and dock house, a permanent paved parking area, landscaping and the associated stormwater management facilities. A schematic plan for Phase 2 is provided for informational purposes.

The applicant proposes to complete the Phase 1 portion of the project by late fall 2002.

Other Permits

The applicant has obtained the necessary permits from other permitting agencies to allow construction of the dock, boat slips and moorings, including the following:

- MeDEP Natural Resources Protection Act, Coastal Wetland Alteration and Water Quality Certification (Permit #: L-16531-4C-G-N and L-16531-4C-F-N)
- Department of the Army Permit (Permit #: 200102442) to install and maintain the marina floats and moorings and construct a boat ramp.
- Board of Harbor Commissioners, Harbor of Portland, Permit.

Copies of the permits are included in this application package.

Landscaping

Phase 1 does not include any landscaping improvements. The intent of Phase 1 is to complete the construction of the docks, necessary utilities and temporary parking for the marina customers. Landscaping will be included as part of Phase 2 to be permitted at a later date. Gorrill-Palmer Consulting Engineers, Inc. and the applicant do not recommend installing landscaping in Phase 1 because the site will be redisturbed and redeveloped

during the construction of Phase 2. It is anticipated that Phase 2 will be developed within two years of the completion of Phase 1.

There is an existing wooded buffer along the eastern side of the site. This buffer will remain undisturbed as part of this project.

Stormwater

Stormwater improvements have not been proposed as part of the Phase 1 construction. Phase 1 will result in very little change in the landuse and cover-type and will not have a significant effect on the volume or peak stormwater runoff. Historically, this site has been occupied by highly commercial or industrial development that has compacted the gravel cover and created a nearly impervious surface. The existing site remains mostly compacted gravel and is essentially impervious. As part of Phase 1, the proposed temporary parking lot will continue to be gravel, except for the four ADA parking spaces and will be no more intensive than past development on the site. Runoff will continue to surface flow off the site into Casco Bay.

In Phase 1 the existing gravel area designated as temporary parking will be regarded and shimmed approximately 0 inches to 3 inches, primarily to minimize local ponding and improve surface drainage flow.

Stormwater runoff, specifically related to water quality, will be addressed in Phase 2, when the large vessel workshop building and permanent paved parking area is constructed. Gorrill-Palmer Consulting Engineers, Inc. and the applicant do not recommend constructing stormwater improvements as part of Phase 1 for two reasons: first, Phase 1 results in very little impact to the volume and peak stormwater runoff; second, the site will be entirely redisturbed and redeveloped as part of Phase 2.

Zoning

The property is divided into two zones. The western portion of the site is located within the Residential Zoning District (R-3), and the eastern portion of the site is located in the Industrial Zone (I-L). Within the lot the residential zone encompasses approximately 49,571 s.f. with the industrial zone occupying approximately 105,972 s.f. for all land located above mean high tide. Under Chapter 14, Section 232 of Portland's Land Use code, Marinas are a permitted use in the Industrial Zone. The setback requirements for this site include a 25-ft. front, side and rear setback for the I-L Zone except for when the

side setback abuts a residential zone it shall be increased to 40-feet. The Residential Zone front, side and rear setbacks are 25, 16 (assuming structure is $2^{1/2}$ stories) and 25 feet. respectively.

A portion of the property appears to be located within FEMA's 100-year flood plain. According to the Zoning Ordinance the proposed development is permitted within the floodplain district provided a zoning permit is obtained from the zoning administrator.

The site also is located within Shoreland Zone according to Section 14-447 in Portland's Land Use Code. In the Shoreland Zone, no setback is required for structures, which require direct access to the water as an operational necessity. Under Section 14-47 of Portland's Land Use Code, the definition of a marina is as follows:

> *"Commercial operation providing floats, slips and piers intended primarily for berthing of noncommercial vessels and the provision of related services such as supplies, fuel, equipment and repairs, which may be provided both to tenants and nontenants."*

Utilities

The facility is estimated to produce the following wastewater flow based on Chapter 5, Design Flows in the Maine Subsurface Waste Water Disposal Rules the maximum daily flow for the Phase 1 marina will be:

100 gpd	= 100 gpd
10 gpd/slip x 124 slips	= 1,240 gpd
TOTAL USAGE	= 1,340 gpd

Based on the marina's requirements and these assumptions, the average daily flow is estimated to be 1,340 gpd (for Phase 1). A pump station will be installed at the landside end of the pier to pump the sewage to an existing manhole in Kensington Street. Water service will also be extended from an existing water main within Kensington Street along with underground electric, telephone and cable service. The pump station will be sized to convey the entire flow from Phase 1 and Phase 2.

Letters of ability to serve the proposed project have been sent out to the utility companies. Copies of the letters are included in this site plan application package.

Lighting

Temporary site lighting will be provided to facilitate safety for pedestrians and motorists, while minimizing the impact of glare on the adjacent properties. Catalog cut sheets for the temporary light fixtures are attached to this letter.

Conclusion

Yacht Haven, L.L.C. and the rest of the project team is submitting this site plan for the review by the Portland Planning Department. Gorrill-Palmer Consulting Engineers, Inc. has enjoyed meeting with the staff to date on this project and are willing discuss any questions or concerns the Planning Department may have. Please contact us with any questions.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William C. Haskell

William C. Haskell, P.E.
Project Engineer

Copy: H. Mason Sears w/ encl.
William Faucher, w/ encl.
Mark Burnes, w/encl.

U:\519\519 Site Plan Talbot 8-20-02.doc

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August 20, 2002

Mr. David Coffin
Portland Water District
225 Douglas Street
Portland, ME 04104-3553

Re: Maine Yacht Harbor
Letter of Ability to Serve

Dear Dave:

Allied Engineering, Gawron Architects and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a Yacht Haven L.L.C. to prepare plans and permit applications for the development of a proposed Marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57-acre lot. The project will consist of two phases; Phase 1 will consist of the construction of a temporary gravel parking lot, temporary office (construction trailer), a boat ramp and 124 boat slips. Phase 2 will consist of constructing a vessel workshop building replacing the Phase 1 parking area, with the addition of a new permanent parking lot.

Utility Improvements

Water and fire protection service will be needed at the pier servicing the marina facility. At this time it is anticipated that an 8 and 4-inch water line will run parallel from the existing 12-inch main that crosses the site between Kensington and Sherwood Street. The mains will extend southward along the western side of the property to the proposed utility vault. A hydrant will be installed near the pier off the 8-inch main. The Site Layout & Utility Plan has been provided with this letter for your convenience.

Anticipated Flows

The facility is estimated to produce the following wastewater flow based on Chapter 5, Design Flows in the Maine Subsurface Waste Water Disposal Rules the maximum daily flow for the marina will be:

100 gpd	= 100 gpd
10 gpd/slip x 124 slips	= 1,240 gpd
TOTAL USAGE	= 1,340 gpd

Based on the marina's requirements and these assumptions, the average daily flow is estimated to be 1,340 gpd.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of the Portland Water District to serve the project. In addition, we are interested in receiving:

- An estimate for any work the Water District would perform.
- Information as to any easements that the District may require on-site.
- Any results of hydrant tests in the vicinity of the site.
- Any other information that you believe would be useful as this project proceeds.

We have appreciated your assistance to date on this project. Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William Haskell, P.E
Project Engineer

Enclosure

Copy: H. Mason Sears w/o encl.
William Faucher, w/o encl.
Mark Burnes, w/o encl.

jml/JN519/Coffin8-20-02

1H

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August 20, 2002

Mr. Frank Brancely
Portland Public Works
55 Portland Street
Portland, ME 04101

Re: Maine Yacht Harbor
Letter of Ability to Serve

Dear Frank:

Allied Engineering, Gawron Architects and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a Yacht Haven L.L.C. to prepare plans and permit applications for the development of a proposed Marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57-acre lot. The project will consist of two phases; Phase 1 will consist of the construction of a temporary gravel parking lot, temporary office (construction trailer), a boat ramp and 124 boat slips. Phase 2 will consist of constructing a vessel workshop building replacing the Phase 1 parking area, with the addition of a new permanent parking lot.

Utility Improvements

Sewer service will be needed at the pier servicing the marina facility. At this time it is anticipated that a pump station will be installed at the eastern end of the site near the proposed utility vault at the beginning of the existing pier. From the pump station, a 4 inch force main will be located 8 feet from the southern edge of the proposed Phase 2 building, and will continue to the existing sewer manhole at the end of Kensington Street. The Site Layout & Utility Plan has been provided with this letter for your convenience.

Anticipated Flows

The facility is estimated to produce the following wastewater flow based on Chapter 5, Design Flows in the Maine Subsurface Waste Water Disposal Rules the maximum daily flow for the marina will be:

100 gpd	= 100 gpd
10 gpd/slip x 124 slips	= 1,240 gpd
TOTAL USAGE	= 1,340 gpd

Based on the marina's requirements and these assumptions, the average daily flow is estimated to be 1,340 gpd.

I

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of the Portland Public Works to serve the project both for conveyance of the flow and treatment at the plant. In addition, we are interested in receiving:

- Information as to any easements that the Public Works may require on-site.
- Any other information that you believe would be useful as this project proceeds.

We have appreciated your assistance to date on this project. Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William Haskell, P.E
Project Engineer

Enclosures

Copy: H. Mason Sears w/o encl.
William Faucher, w/o encl.
Mark Burnes, w/o encl.

JML/JN519/Brancely8-20-02

IJ

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

PO Box 1237
15 Shaker Rd.
Gray, ME 04039

207-657-6910
FAX: 207-657-6912
E-Mail:gpcei@maine.rr.com

August 20, 2002

Ms. Debbie Paiement
Time Warner Cable
118 Johnson Road
Portland, ME 04102

Re: Maine Yacht Harbor
Letter of Ability to Serve

Dear Ms. Paiement:

Allied Engineering, Gawron Architects and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a Yacht Haven L.L.C. to prepare plans and permit applications for the development of a proposed Marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57-acre lot. The project will consist of two phases; Phase 1 will consist of the construction of a temporary gravel parking lot, temporary office (construction trailer), a boat ramp and 124 boat slips. Phase 2 will consist of constructing a vessel workshop building replacing the Phase 1 parking area, with the addition of a new permanent parking lot.

Utility Improvements

At this time it is anticipated that two 2-inch underground conduits with pull wires would be extended on-site to the existing utility vault at the beginning of the pier from the existing pole within the right of way on Kensington Street. The proposed service will be extended approximately 650 feet to the proposed utility vault. The Site Layout & Utility Plan has been provided with this letter for your convenience.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Time Warner Cable to serve the project. In addition, we are interested in receiving:

- An estimate for any work that Time Warner Cable would perform within the right-of-way.
- Information as to any additional easements that you may require on-site.
- Any other information that you believe would be useful as this project proceeds.

We have appreciated your assistance on this project. Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William C. Haskell

William Haskell, P.E
Project Engineer

Enclosure

Copy: H. Mason Sears w/o encl.
William Faucher, w/o encl.
Mark Burnes, w/o encl.

JL/JN519/Paiement8-20-02

1L

Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

PO Box 1237
15 Shaker Rd.
Gray, ME 04039

207-657-6910
FAX: 207-657-6912
E-Mail:gpcei@maine.rr.com

August 20, 2002

Mr. John Caprio
Verizon
5 Davis Farm Road
Portland, ME 04103

Re: Maine Yacht Harbor
Letter of Ability to Serve

Dear Mr. Caprio:

Allied Engineering, Gawron Architects and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a Yacht Haven L.L.C. to prepare plans and permit applications for the development of a proposed Marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57-acre lot. The project will consist of two phases; Phase 1 will consist of the construction of a temporary gravel parking lot, temporary office (construction trailer), a boat ramp and 124 boat slips. Phase 2 will consist of constructing a vessel workshop building replacing the Phase 1 parking area, with the addition of a new permanent parking lot.

Utility Improvements

At this time it is anticipated that two 2-inch underground conduits with pull wires would be extended on-site to the existing utility vault at the beginning of the pier from the existing pole within the right of way on Kensington Street. The proposed service will be extended approximately 650 feet to the proposed utility vault. The Site Layout & Utility Plan has been provided with this letter for your convenience.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Verizon to serve the project. In addition, we are interested in receiving:

- An estimate for any work that Verizon would perform within the right-of-way.
- Information as to any additional easements that Verizon may require on-site.
- Any other information that you believe would be useful as this project proceeds.

Mr. John Caprio
August 20, 2002
Page 2 of 2

We have appreciated your assistance on this project. Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William Haskell, P.E
Project Engineer

Enclosure

Copy: H. Mason Sears w/o encl.
William Faucher, w/o encl.
Mark Burnes, w/o encl.

JL/JN519/Caprio8-20-02

IN

GP Gorrill-Palmer Consulting Engineers, Inc.
Traffic and Civil Engineering Services

PO Box 1237
15 Shaker Rd.
Gray, ME 04039

207-657-6910
FAX: 207-657-6912
E-Mail:gpcei@maine.rr.com

August 20, 2002

Mr. Mark Kreider
Central Maine Power Company
162 Canco Road
Portland, ME 04103

Re: Maine Yacht Harbor
Letter of Ability to Serve

Dear Mr. Kreider:

Allied Engineering, Gawron Architects and Gorrill-Palmer Consulting Engineers, Inc. have been retained by Maine Yacht Harbor, a.k.a Yacht Haven L.L.C. to prepare plans and permit applications for the development of a proposed Marina. The site is comprised of two lots and is identified as Chart # 429 Block # G Lot # 001, and Chart # 430 Block #B Lot # 013 in the Portland Assessor's records. The site is located at the terminus of Kensington Street, and will occupy approximately 2.5 acres of the 3.57-acre lot. The project will consist of two phases; Phase 1 will consist of the construction of a temporary gravel parking lot, temporary office (construction trailer), a boat ramp and 124 boat slips. Phase 2 will consist of constructing a vessel workshop building replacing the Phase 1 parking area, with the addition of a new permanent parking lot.

Utility Improvements

At this time it is anticipated that two 5-inch underground conduits with pull wires would be extended on-site to the existing utility vault at the beginning of the pier from the existing pole within the right of way on Kensington Street. The proposed service will be extended approximately 650 feet to the proposed utility vault. Loads and power requirements will be provided to your office when they have been determined. The Site Layout & Utility Plan has been provided with this letter for your convenience.

Ability to Serve

In support of the applications to the reviewing authorities, we are writing to request a letter indicating the ability of Central Maine Power Company to serve the project. In addition, we are interested in receiving:

- An estimate for any work that Central Maine Power would perform within the right-of-way.
- Information as to any additional easements that you may require on-site.
- Any other information that you believe would be useful as this project proceeds.

We have appreciated your assistance on this project. Please contact me if you have any questions relative to this matter.

Sincerely,

Gorrill-Palmer Consulting Engineers, Inc.

William Haskell, P.E
Project Engineer

Enclosure

Copy: H. Mason Sears w/o encl.
William Faucher, w/o encl.
Mark Burnes, w/o encl.

Att. 2

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

YACHT HAVEN, LLC
Portland, Cumberland County
BOAT RAMP
L-16531-4C-G-N (approval)

) NATURAL RESOURCES PROTECTION ACT
) COASTAL WETLAND ALTERATION
) WATER QUALITY CERTIFICATION
) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of YACHT HAVEN, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: On August 22, 1990, the Department approved subtidal dredging and the construction of a 200 foot long pile supported pier for a marina on a previously developed commercial site adjacent to the Fore River. The applicant was unable to begin construction until 2000 due to economic conditions, but had requested and received permit extensions from the Department.

B. Summary of Proposal: The applicant now proposes to construct a 16-foot wide, 125-foot long boat ramp using precast concrete planks installed over a rock fill and geotextile base. Material excavated for the ramp will be used on the site to fill an upland area. Riprap will be placed along the sides of the ramp to prevent scour. The boat ramp will provide the only means of launching boats at the site in the spring and retrieving them in the fall for service and storage. The proposed boat ramp will be constructed according to plans entitled, "Fixed Pier Project," prepared by Kleinschmidt Energy and Water Resource Consultants, and revised on January 10, 2002.

C. Site Description: The applicant owns a 27,000 square foot lot which was formerly the site of a home heating oil distribution business. The property is identified on Municipal Tax Map 430 as Lot 1-76.

2. WATER QUALITY AND HABITAT CONSIDERATIONS:

The Department of Marine Resources (DMR) visited the site on March 8, 2002. In comments dated March 19, 2002, DMR described the site as a moderate energy, unconsolidated shore with a parking lot in the upland. The intertidal zone is 160 feet wide with sand, gravel, and cobble in all but the lower intertidal zone which is muddy sand. Barnacles and periwinkles are present along with a sparse seaweed cover. The proposed project will replace 1520 square feet of gravel/cobble beach and 480 square feet of mudflat or soft bottom with the hard bottom of the ramp. DMR states that the concrete planks installed along the natural

gradient is less damaging than the habitat loss from a solid concrete or asphalt boat ramp. DMR recommends that excavating equipment operate within the exposed footprint of the ramp during periods of low tide to minimize impacts to the surrounding intertidal area. To further minimize impacts to marine organisms from turbidity, DMR recommends no excavation between June 1 and October 1. The Department finds that these recommendations must be followed.

3. WETLAND PROTECTION RULES:

The Wetland Protection Rules (Chapter 305) require all projects in coastal wetlands to avoid the loss of wetland area, functions and values if there is a practicable alternative to the project that would be less damaging, to minimize the amount of wetland area altered, and to compensate for filling more than 500 square feet of intertidal habitat when a functional assessment determines that a wetland function or functions will be lost or degraded.

The applicant submitted an alternatives analysis demonstrating that the only other practical alternative for launching and retrieving boats is a Travel Lift, which requires deep water access along a travel surface and would require additional intertidal and subtidal filling beyond the footprint of the proposed boat ramp. The applicant minimized the area to be altered by selecting a site where the ramp can be installed along the existing slope of the beach thus eliminating additional grading and filling. The applicant also submitted a functional assessment of the project site prepared by Duke Engineering & Services and dated January 3, 2002. The assessment followed the methods prescribed in Appendix A of the Natural Resources Protection Act application. The assessment states that the primary function of the beach and mudflat is habitat for marine invertebrates. No invertebrates were found after sampling the 1,520 square feet of upper intertidal beach habitat within the boat ramp's footprint. Empty clam shells and three clam worms were found in the more productive 480 square feet of sandy mud habitat at the lower end of the boat ramp profile.

Based on the functional asssessment, the Department finds that no compensation is required for the proposed project since the profile of the shoreline will not change significantly, and there will be no net loss of intertidal area. The loss of infauna habitat is limited to the lower section of the boat ramp and is less than 500 square feet.

4. OTHER CONSIDERATIONS:

The Department has not identified any other issues involving existing scenic, aesthetic, or navigational uses, the natural transfer of soil, natural flow of water, water quality, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.

E. The proposed activity will not unreasonably harm any estuarine or marine fisheries provided that there is no excavation between June 1 and October 1, and excavating equipment operates within the exposed footprint of the boat ramp during periods of low tide.

F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

I. The proposed activity is not on or adjacent to a sand dune.

J. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

THEREFORE, the Department APPROVES the above noted application of YACHT HAVEN, LLC to construct a boat ramp, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The applicant shall take all necessary measures to ensure that its activities or those of its agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. The boat ramp shall not be excavated between June 1 and October 1.

4. Excavating equipment shall only operate within the exposed footprint of the boat ramp during periods of low tide.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED AT AUGUSTA, MAINE, THIS 30 DAY OF April, 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

Date of initial receipt of application 01/15/2002
Date of application acceptance 01/31/2001

Date filed with Board of Environmental Protection

DBB/L16531GN

FILED
APR 30 2002
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

2D

STATE OF MAINE
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION
AUGUSTA, MAINE
04333

ANGUS S. KING, JR.
GOVERNOR

DEPARTMENT ORDER

IN THE MATTER OF

ALAN J. GRAVES/YACHT HAVEN, LLC.	) NATURAL RESOURCES PROTECTION ACT
Portland, Cumberland County	) COASTAL WETLAND ALTERATION AND
DREDGING & MARINA	) WATER QUALITY CERTIFICATION
L-16531-4C-F-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 480-A et seq. and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of ALAN J. GRAVES/YACHT HAVEN, LLC. with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project:

1) On June 27, 1990, the Department denied the applicant's proposal to construct a marina and dredge 2.75 acres of intertidal and subtidal marine habitat (L-16531-4C-A-N).

2) On August 22, 1990, the Department approved the project after the applicant modified the proposal and eliminated the intertidal dredging (L-16531-4C-B-M).

3) On December 10, 1990, the Department approved a project modification increasing the dimensions of the proposed concrete pier (L-16531-4C-C-M).

4) On October 30, 1992, the Department approved a two year extension of the permit (L-16531-4C-D-M).

5) On October 27, 1994, the Department approved a five year extension of the permit to allow the applicant sufficient time to acquire financial support to begin the project (L-16531-4C-E-M). The permit expired on October 27, 1999. The applicant has now secured financial support to purchase the property and begin construction after obtaining all permits and a lease or easement from the Bureau of Parks and Lands.

B. Summary of Proposal: The applicant proposes to construct a 125 slip marina with a rack storage building with a capacity to store 200 boats. The storage building will be located in an upland area of the parcel. The marina will include two 12 foot wide, 700 foot long floating concrete docks joined by a 140 foot connector. A 3[illegible] foot wide, 210 foot long pile supported walkway will span the

intertidal zone and provide access to the docks. Approximately 15,000 cubic yards of soft subtidal sediment will be dredged from a 2.13 acre area on the western side of the project area. This area is shown on a pre-dredge survey prepared by Thomas J. Ober, dated January 20, 1999, and submitted with the application. All dredged sediments will be transported by barge to the Portland Disposal Site, located approximately 7.1 nautical miles from the mainland. A derelict pile supported pier located on the west side of the project area will be removed and properly disposed of in an upland location.

C. Site Description: The project site is at the southern end of Kensington Street and east of the Burnham & Morrill factory. A Canadian National rail line runs along the western boundary of the property. The low energy unconsolidated shore has an intertidal zone that varies from 100 feet to 200 feet wide. The upland is developed with several buildings and a parking area that was the former site of Webber Energy Company.

2. WATER QUALITY AND HABITAT CONSIDERATIONS:

To maintain water quality, the applicant performed physical and chemical testing of the sediments proposed for dredging. The U.S. Army Corps of Engineers evaluated the original test results in 1990 and determined that they were suitable for unconfined disposal at the Portland Disposal Site.

The tidal waters in the project area are classified as SC waters. Water quality in class SC waters must provide suitable habitat for fish and other estuarine or marine life. The applicant's consultant prepared a biological assessment of project area in 1990 and found a limited assemblage of marine worms and mollusks. A Department biologist reviewed the assessment. In review comments dated January 3, 2000, the biologist stated that the original assessment was adequate to evaluate the project impacts to the marine resources. She stated that the proposed project will have a minimal effect on the overall biological community in the shallow subtidal area of Back Cove and Casco Bay. This community of marine worms, crustaceans, and mollusks will likely recover within a few years.

The Department of Marine Resources (DMR) visited the site and reviewed the project's anticipated impacts on the marine environment. In comments dated January 4, 2000, DMR described the site as armored with riprap in the upper intertidal, covered with sand, gravel, cobble and stone in the mid intertidal, and sandy mud in the lower intertidal and subtidal zones. The area has a moderate rockweed cover. Barnacles and periwinkles are abundant. Mussels are present, and there is evidence of soft-shell clams and marine worms. The area is closed to the harvesting of shellfish.

In addition, to meet the requirements of Section 480-D (9) for assessing the impacts of the proposed project on the fishing industry, DMR held a public meeting on December 29, 1999. DMR stated that no issues of concern or opposition to the proposed project were expressed

at that meeting. DMR recommends that dredging and spoils transportation be limited to the period between January 1 and March 15 in order to minimize impacts to marine resources and fishing and boating activity. The Department finds that all dredging and transportation of spoils must be limited to the period between January 1 and March 15. To notify fishermen about the proposed project, the Department also finds that the applicant must publish the barge route to the disposal site in the Portland Press Herald at least two weeks prior to the start of dredging. This legal notice must also include the proposed dredging dates and the procedure for responding to inquiries regarding loss of fishing gear during the dredging operation.

3. EROSION AND SEDIMENT CONTROL CONSIDERATIONS:

The applicant also proposes grading and filling in the upland to reconstruct and reconfigure the parking area. The applicant has submitted an erosion control plan with the application. In addition to this plan, the Department finds that the applicant must take all measures necessary to ensure that there is no erosion of soil into the coastal wetland during construction of the proposed project.

4. OTHER CONSIDERATIONS:

The Department has not identified any other issues involving existing scenic, aesthetic, or navigational uses, the natural transfer of soil, natural flow of water, or flooding.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment provided that the proposed erosion control plan is implemented, all erosion control measures are maintained, and the applicant takes all measures necessary to ensure that there is no erosion of soil into the coastal wetland during construction of the proposed project.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater fisheries or other aquatic life.

E. The proposed activity will not unreasonably harm any estuarine or marine fisheries provided that dredging is limited to the period from January 1 to March 15, and the information in Finding 2 is published in the Portland Press Herald two weeks prior to the start date for dredging.

2G

F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

I. The proposed activity is not on or adjacent to a sand dune.

J. The proposed activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

THEREFORE, the Department APPROVES the above noted application of ALAN J. GRAVES/YACHT HAVEN, LLC. to dredge and construct a marina, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The applicant shall implement the proposed erosion control plan, maintain all erosion control measures, and take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Dredging shall be limited to the period between January 1 and March 15.

4. The applicant shall publish the information in Finding 2 in the Portland Press Herald two weeks prior to the start of dredging. Specifically, this legal notice shall include the barge route to the disposal site, the proposed dredging dates, and the procedure for responding to inquiries regarding the loss of fishing gear during the dredging operation.

DONE AND DATED AT AUGUSTA, MAINE, THIS 13th DAY OF January, 2000

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

Date of initial receipt of application December 14, 1999
Date of application acceptance December 15, 1999

Date filed with Board of Environmental Protection

FILED
JAN 13 2000
BOARD OF ENVIRONMENTAL PROT
STATE OF MAINE

DBB/L16531FN