



Department of Environmental Health & Safety

# NEW & RENOVATION PROJECT PLAN REVIEW CHECKLIST

EOSMS- 307-2

Date: 01/14/2014

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This is an internal document developed by the Department of Environmental Health, Safety & Risk Management (EHS&RM) to facilitate review, by EHS&RM and Facilities Planning & Design staff, of renovation and new facility projects. EH&S believes this checklist is consistent with current government regulations. However, all regulations are subject to interpretation by visiting inspectors. EH&S cannot guarantee that completion of this checklist ensures regulatory compliance. This checklist was developed to provide guidance rather than prescribe requirements. It is not all inclusive and should be augmented as necessary according to site-specific conditions.

Project Name			
Project Description			
Project Type	<input type="checkbox"/> New Construction	<input type="checkbox"/> Renovation	<input type="checkbox"/> Demolition
Review Phase	<input type="checkbox"/> Schematic	<input type="checkbox"/> Preliminary	<input type="checkbox"/> Working Drawings <input type="checkbox"/> Pre-Construction <input type="checkbox"/> Final
Project Manager		Tel:	
Project Start Date		Project End Date	

EHS&RM

Name		Title	
Signature		Date	

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Description

## Reference

Yes  No  NA

## Notes

### HAZARDOUS MATERIALS

#### Asbestos

Do any of the existing building materials contain asbestos?

Yes  No  NA

An asbestos survey is required by law prior to renovation/demolition.

#### Lead (Pb)-Containing Materials

Does the building contain Lead-base painted/coated surfaces?

Yes  No  NA

If Lead is present, the campus is required to warn the contractor that such a hazard exists. Lead hazard warning language should be included in the contractor bid package.



Lead content of the paint exceeds the EPA's hazardous waste limits for lead?  Yes  No  NA

Proposed renovation operations may disturb painted/coated surfaces that contain lead.  Yes  No  NA

All new building, plumbing and piping materials are free of Lead.  Yes  No  NA

**Polychlorinated Biphenyl (PCB)-Containing Material**

PCB-containing material - (e.g., light ballast removal or replacement, transformer removal or replacement) being affected by the project?  Yes  No  NA

How will the PCB waste be handled?

**Hazardous Waste Disposal**

Will operations/process in the new facility result in new sources of hazardous waste materials?  Yes  No  NA

Possible hazardous waste that will be generated as a result of this project has been identified?  Yes  No  NA

What impact will the new waste stream from the facility have on the Campus's waste generation status?

Will new a waste accumulation area be required?  Yes  No  NA

New waste accumulation area be provided for in the design?  Yes  No  NA

Waste Accumulation area has provisions for:

- Segregation of incompatible materials,  Yes  No  NA
- Secondary containment  Yes  No  NA
- Explosion proof fixtures  Yes  No  NA
- Drainage  Yes  No  NA
- Eyewash/safety shower  Yes  No  NA
- Firewall rating  Yes  No  NA
- Accessibility  Yes  No  NA
- Separate exhaust ventilation  Yes  No  NA
- Emergency response  Yes  No  NA

**Custodial Closets/Rooms**

Will the building contain custodial closets/rooms?  Yes  No  NA

Will hazardous materials be store, mixed or used in the custodial closet?



Does the closet contain emergency eyewash and storage cabinet?

Does the closet have exhaust ventilation?

Does the closet meet NFPA standard for hazardous material storage?

Yes  No  NA

**Emergency Eyewash & Safety Showers**

Yes  No  NA

All plumbed emergency eyewash and deluge shower units meet the requirements of section 5, 7 or 9 of ANSI Z358.1 Eyewash and safety showers all work areas where, during routine operations or foreseeable emergencies, workers may come into contact with a substance which is corrosive or severely irritating to the skin or which is toxic by skin absorption? Will these units be in accessible, unobstructed locations that require no more than 10 seconds for the injured person to reach and supply potable water at the flow rates and time duration specified in ANSI Z358.1 - 1981? (8 CCR 5162). All emergency eyewashes and deluge showers shall be equipped with a floor drain, which is flush with the floor.

Yes  No  NA

**AIR QUALITY**

"Permits to construct" should be obtained by the design contractor while the project is in the design stage. The Contractor will provide permits to operate to the University upon completion of the Project. Unless specified in a permit exemption rule by the applicable air district, all fuel combustion equipment (boilers, internal combustion engine-type of equipment, kilns, turbines, water heaters, etc.); spray booths; HEPA vacuums; mercury vacuums, etc.; degreasers; asphalt mixing units; and air pollution control devices, such as filters, scrubbers, baghouses, afterburners will require permits and/or registration under Rule 222. EH&S Air Permitting procedures are available on the web at

Yes  No  NA

<http://www.csupomona.edu/~ehs/ftp/Air%20Permit%20Procedures.doc>.

Yes  No  NA

Are mechanisms in place to ensure that EH&S will receive copies of all permits?

Yes  No  NA



Check BACT requirements for all new equipment and air pollution controls emitting air pollutants. Yes No NA

Incorporate upcoming air quality equipment and compliance standards into renovation and new construction projects. Consult the campus EH&S Department. Yes No NA

Check for the following construction dust control measures: (a) chemical/water suppression; (b) cover storage piles; (c) cost of new vegetation and mulch stabilizers; (d) particulate matter monitoring and recordkeeping; and (e) control measures beyond CEQA mitigation. Yes No NA

Verify that proposed project paints and cleaning products meet air quality requirements for volatile organic compound (VOC) content. Verify with the local air district regarding restrictions on solvent (degreaser)/toxic air contaminant/VOC/CFC and HCFC limitations for content and usage. Provide EH&S Department with amounts of VOCs, emission factors and dates used for completion of annual emissions report for the campus. Yes No NA

Check the type of refrigerants specified for chillers, and other refrigeration equipment, etc. Do not specify the use of CFC-11 or 12 or other class I substances and avoid, if possible, class II substances (see Federal Clean Air Act Amendments of 1990). Yes No NA

Use non-diesel fuels for backup equipment or emergency equipment whenever feasible. Yes No NA

**HVAC**

Will the exhaust system's discharge be located an effectively safe distance from building outdoor air intakes? Yes No NA

Will fume hood exhaust diffusers be located in an area which prevents lab exhaust air from being pulled into building return or outside air systems? Yes No NA

Will the fume hood rooftop exhaust stacks extend at least seven (7) feet above the roof and discharge vertically upward [8 CCR 5154.1(e)(4)(D)]? For rain protection, high velocity discharge or concentric-duct, self-draining stacks (see Figure V-9, 8 CCR 5154.1) or their equivalent could be used. Rain caps which divert the exhaust toward the roof are prohibited by code. Yes No NA

Ensure that outdoor air intakes are located away from any possible sources of hazardous materials, biological materials or odors (e.g., loading docks, trash/refuse areas, Yes No NA



boiler or fuel combustion equipment exhaust stacks and/ or catch basins).

The ventilation rates for various areas within each building should comply with ASHRAE 62-89 standards.

Yes No NA

HVAC equipment (such as cooling towers, chillers and boilers) should be protected from both weather damage and animals/birds. If this HVAC equipment is located outdoors, control measures should be in place that: (a) minimize salt water corrosion of equipment; (b) minimize damage from excessive weather conditions; and (c) prevent animals and birds from building nests in or near equipment. For example, birds that nest in HVAC equipment may create a housekeeping problem (bird droppings and feathers) and/or potential indoor air quality problems.

Yes No NA

Will kitchen exhaust ventilation be separate from the building's ventilation system? Will the kitchen's exhaust be located away from the building outdoor air intakes?

Yes No NA

Will time be allowed for vapor off-gassing (from new equipment, carpets, wall coverings, paints, etc.) prior to occupancy?

Yes No NA

Ensure that chemical/biological storage and work areas are under negative pressure.

Yes No NA

Ensure that appropriate ventilation is provided for isolated hazardous materials/waste areas. This may include a separate system for areas that are not connected with the main building ventilation system (e.g. chemical storage/use rooms cabinets, solvent type part cleaners, rechargeable back up batteries, etc.).

Yes No NA

**FUME HOODS**

The fume hoods and filters shall be constructed of materials that are compatible with the chemicals that will be exhausted from them.

Yes No NA

The fume hood exhaust shall be located in an area which prevents lab exhaust air from being pulled into building return or outdoor air systems.

Yes No NA

Emergency eyewash and deluge showers shall be installed where required by 8 CCR 5162 and equipped with floor drains, which are flush to the floor.

Yes No NA

Will all fume hoods be equipped with a quantitative airflow monitor that continuously indicates whether air is flowing into the exhaust system during operation or an acceptable

Yes No NA



alarm system [8 CCR 5154.1(e)(3)]?

CONFINED SPACES

The following rooms/areas are normally considered confined spaces if built as typically designed in the specifications: (a) fire pump room; (b) telephone/electrical rooms; (c) elevator machine room; (d) elevator pits; or (e) security rooms. Serious consideration should be given to including a second entrance/door into the room/area to eliminate the existence of confined space conditions.

Yes No NA

Consider installation of confined space controls to make designated areas safe for occupants. Among other items, these could include the following: (a) permanent gas detection system (strongly recommended); (b) phone communication system; (c) video cameras; (d) self-contained breathing apparatus; (e) first-aid kits; and (f) fire extinguishers.

Yes No NA

Consider the installation of access doors instead of manholes, if feasible. Occupant rescue through doors is much easier than through manholes.

Yes No NA

EH&S recommends including detailed contractor confined space specifications in the pre-qualification and the construction "conduct of work" language.

Yes No NA

UNDERGROUND/ABOVEGROUND STORAGE TANKS

Has a survey been conducted to determine if petroleum storage tanks (This includes automotive lifts, elevators, etc that have associated tanks or reservoirs) may be impacted by this project?

Yes No NA

Yes No NA

Based upon this survey, will this impact consist of any contaminated soil?

Yes No NA

Will this impact consist of removal, replacement, or addition of either an aboveground or underground storage tank system?

Yes No NA

Have appropriate cost estimates for removal/disposal, replacement or addition of either storage tank system been included in the cost estimate?

Yes No NA

If a new tank system is to be added during the project, does the system meet applicable codes and regulations for above and underground tanks systems? These tank

Yes No NA



systems should comply with design requirements being proposed by the federal and state government, and should be state-of-the-art at the time they are installed.

Have alternative fuel supply/storage measures been evaluated (aside from fuel oil and UST or AST)?

Yes No NA

**FIRE AND LIFE SAFETY**

Are automatic dampers in place for non-rated ceilings (tied into the smoke alarm/detector)?

Yes No NA

Will emergency power back-up be provided to sensitive public, medical, research and storage areas (i.e. elevators, stairwells, ventilation in medical centers and animal labs, fume hood that contain sensitive chemical and biological experiments, and chemical storage areas)?

Yes No NA

Will the protection area per sprinkler for hydraulically designed systems in the H-3 occupancy area not exceed 100 square feet? Will the water supplied to these areas have a minimum density of 0.3 gpm per square foot? (NFPA 13 Table 4-2.2 and Figure 5-2.3)

Yes No NA

Are all fire detection, alarm and communication systems designed in accordance with appropriate NFPA and NEC requirements? (NFPA 101, Section 7-6)

Yes No NA

Will portable fire extinguishers be provided, mounted, located and identified so they are readily accessible to employees? Will portable fire extinguishers be distributed for use by employees on Class A fires so that the travel distance for employees to any extinguisher is 75 feet or less? On Class B fires so that the travel distance from the Class B hazard area to any extinguisher is 50 feet or less? For Class C hazards on the basis of the appropriate pattern for the existing Class A or Class B hazards? (8 CCR 6151(c) and (d))

Yes No NA

Will panic hardware be installed on exit doors of buildings where hazardous materials are used, handled or stored? (NFPA 101, Section 5-2.1.7)

Yes No NA

Will illumination of "means of egress" and emergency lighting be provided (NFPA 101, Sections 5-8 and 5-9)? The use of tritium (or other radioactive material) is not allowed; installation, disposal and maintenance of such lighting requires special permits and add significant additional costs.

Yes No NA

Does the design allow for private offices to open into suites, directly to the outside or into something other than directly into a main exit corridor? This design eliminates

Yes No NA



the use of automatic door closures.

Do sealants, caulking and all other building materials meet the state fire marshal requirements for flammable materials?

Yes No NA

Are stairwells protected by asbestos free fire doors? Will processes or operations involving the handling and use of flammable and/or oxidizing materials (e.g., acetone, chlorates, peroxides) be grounded and bonded appropriately? An effective grounding/bonding system should be provided whenever chemicals are transferred from one container to another.

Yes No NA

**ELECTRICAL**

Will stationary electrical equipment, such as refrigerators and ovens be equipment-grounded through hard wiring, where there is no need for GFCIs?

Yes No NA

Will ground fault circuit interrupters (GFCIs) be used in areas where moisture may be present (e.g., areas where sinks and outlets are in close proximity)? GFCIs should be used on all laboratory benches and where portable or non-stationary equipment is used. There should be no more than three duplex outlets per interrupter. GFCIs should also be used near wet operations, such as sinks. Locating the GFCI unit in a central location at the main electrical panel for the lab encourages prompt attention to standing line leaks and other potential problems in the system. The use of no more than three duplex outlets placed close to each other and attached to a GFCI on the same bench is ideal because this arrangement minimizes long wire runs with many junction boxes that have a leak potential. In addition, when ground faults occur that shut the system down, they can be corrected easily and the system turned back on again quickly (Guidelines for Laboratory Design by Lou Diberardinis, et. al.).

Yes No NA

**PLUMBING**

Have design measures been taken to ensure that hazardous materials and wastes cannot reach either the sanitary sewer system or storm drain system during routine handling or accidental spillage? All connections to both systems could be eliminated wherever hazardous materials or wastes are used, handled or stored.

Yes No NA

Install floor drains, which are flush with the floor, for water collection from emergency deluge showers.

Yes No NA

Are sump/holding tanks required/recommended for the

Yes No NA





(potential) effluent from hazardous materials storage and/or emergency response areas?

Consider sills, burms and liquid tight floors for areas where hazardous materials are stored and/or handled (e.g. laboratories, stockrooms, chiller rooms, maintenance shops, elevator rooms, etc.).

Yes No NA

**COMPUTER/INFORMATION SYSTEMS**

Will computers be repaired and maintained in the Information Center? If so, will the Information Center have a computer maintenance shop? Will chemical cleaners be used, handled or stored in such an area? Will adequate ventilation be provided for solvent vapors? Will appropriate storage cabinets be provided for chemicals?

Yes No NA

Are computer cabling trays easily accessible and designed (sized) to accommodate future expansion?

Yes No NA

**FOOD SERVICE AREA**

Will the food service area contain food preparation equipment such as grills or deep fat fryers? If so, appropriate air quality permits shall be obtained and the installation of this equipment done in accordance with NFPA 96. Will appropriate ventilation be provided?

Yes No NA

Will adequate occupant seating be provided in this area?

Yes No NA

Will exits be clearly marked?

Yes No NA

**SHIPPING RECEIVING AREAS (LOADING DOCKS)**

The shipping/receiving area should be designed for proper vehicle clearance and access. Will the access lane(s) provide adequate room for vehicles to: (a) enter; (b) load; and (c) turn around and/or back out?

Yes No NA

Are utility lines and pipes (e.g. natural gas lines) protected from vehicular impact by posts or other means?

Yes No NA

Will a telephone be located in the receiving area?

Yes No NA

Will the receiving area be well lit for night deliveries?

Yes No NA

Are removable guard rails provided as required by Cal OSHA in 8 CCR 3209 and 3210?

Yes No NA



Are staging areas available for incompatible hazardous materials? Yes No NA

Is refrigerator storage available for materials that require refrigeration upon delivery? Is the refrigeration storage capacity adequate for anticipated deliveries? Yes No NA

Shipping/receiving areas that receive hazardous materials should be equipped with fire extinguishers and an emergency eyewash and shower. Yes No NA

**TRAFFIC CONTROL**

Have provisions been made for safe truck and heavy equipment access to the construction site? Yes No NA

Have provisions been made for pedestrian safety (i.e., a fence around the construction site to exclude students, vendors and other public visitors)? Yes No NA

If building occupants are allowed to pass through and/or work in the vicinity of the construction site, have provisions been made to ensure their safety and health? Yes No NA

**OTHER**

Will tritium gas filled exit signs be disturbed during renovation activities? If so, have removal and/or replacement of existing tritium exit signs, with non-tritium signs, been considered as part of this project? Yes No NA

Will the height levels of illuminated exit signs meet the state fire marshal requirements? Yes No NA

Consider alternative fuels for backup equipment and/or emergency equipment. Yes No NA

Are the walks and paving designed to meet Cal/OSHA Title 8, GISO (sections 3214 and 3231), Americans with Disabilities Act requirements and NFPA 101 requirements for stairs and handrails? Yes No NA

Are stairs designed to meet Cal/OSHA Title 8, GISO (sections 3214 and 3231) and NFPA 101 requirements for stairs and handrails? Yes No NA

Do the vehicle lifts in the Transportation and Power Laboratory meet the California Occupational Safety and Health Administration (Cal/OSHA) requirements for automotive lifts (8 CCR 3540 et. seq.)? Yes No NA



Will old carpeting, equipment and/or materials be recycled? Yes No NA

Will the location of emergency eyewash/showers and drains be identified and/or marked on the space information descriptions? Yes No NA

Has the design considered Cal/OSHA recommendations regarding issues associated with workplace violence? Yes No NA

The campus may need to obtain a Storm Water Discharge Permit (SWDP) from the Regional Water Control Board. Usually, a SWDP is required for any construction activity involving one acre or more of land prior to construction beginning. In the case that a permit is required, permit fees and procedures should be included in the construction phase. Yes No NA

Corridors/halls should be wide enough to accommodate both occupant traffic and potential art displays/exhibits in accordance with NFPA 101. Yes No NA

Is adequate storage space allotted for routine maintenance items (i.e., ladders or tools)? These maintenance items should be stored in designated maintenance storage areas. They should not be stored in electrical or phone rooms/areas. Yes No NA

Ensure that all required permits have been acquired (e.g., elevators, trenching, air quality). Have funds been allocated for these permits? Yes No NA

**ADMINISTRATIVE**

Has the campus EH&S Department been given the opportunity to review appropriate plans and specifications? Yes No NA

Contact and review comments with the campus EH&S Department, if necessary. Yes No NA

Have equipment warranties, project schematics and operational manuals been duly filed and transferred to the user? Are the warranties current when the project is completed and turned over to the campus? Yes No NA

Have building "as-builts" been updated? Yes No NA

Have all required permits and funding sources for equipment/materials been identified prior to construction/renovation? Yes No NA

Has a EH&S been notified to verify all necessary permits Yes No NA



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are obtained prior to building occupancy?

### **Comments:**