REQUIREMENTS FOR CANNABIS PROCESSORS

**SCOPE**

The growing and processing of marijuana can involve several hazardous processes such as carbon dioxide gas enrichment, liquefied petroleum gas extraction, alcohol extraction etc. These hazardous processes are regulated by local and state building, fire, mechanical, plumbing and electrical codes and Washington State Administrative Code 314-55-104.

This rule provides specific requirements for each of these processes for controlling the fire, explosion and asphyxiation hazards associated with marijuana growing and processing operations.

**PERMITS**

The following permits may be required depending on the extent of building construction and specific operations being conducted in each facility.

**Building Permits:** A building permit issued by the Department of Transportation and Land Services (TLS) is required for new construction, modifications made to existing buildings and for fences greater than six feet in height.

In addition, if the occupancy of the existing building is other than a F-1 occupancy, a building permit for change of occupancy is required from TLS. Commercial building permit applications can be found at the following link:

http://www.douglascountywa.net/departments/tls/permits/forms.asp.

**Mechanical Permits:** A mechanical permit issued by TLS is required for the installation of mechanical equipment such as heating and air condition systems, fume hood and other exhaust systems, and CO₂ gas generators. Mechanical permits can be applied for using the commercial building permit application found at the following link:

http://www.douglascountywa.net/departments/tls/permits/forms.asp.

**Plumbing Permit:** A plumbing permit issued by TLS is required for the installation of gas piping such as LP gas, natural gas, CO₂ etc. Plumbing permits can be applied for using the commercial building permit application found at the following link:

http://www.douglascountywa.net/departments/tls/permits/forms.asp.
Pressure Vessel Permit: A pressure vessel permit issued by TLS is required for unfired pressure vessels (such as CO₂ extraction equipment) that operate at pressures greater than 250 psi or with a volume greater than 5 cubic feet. Pressure vessel permits can be applied for using the commercial building permit application found at the following link: [http://www.douglascountywa.net/departments/tls/permits/forms.asp](http://www.douglascountywa.net/departments/tls/permits/forms.asp).

Fire Safety Permits and Inspections: Annual hazardous material operational permits issued by Douglas County are required when the quantity of material in storage or use meets or exceeds the amounts shown in the following table:

<table>
<thead>
<tr>
<th>Material</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP gases (propane, butane, isobutane etc.)</td>
<td>Any amount</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>5 gallons</td>
</tr>
<tr>
<td>Simple Inert Gas (Carbon Dioxide)</td>
<td>6,000 cubic feet or 686 gallons</td>
</tr>
<tr>
<td>Cryogenic fluid (flammable)</td>
<td>More than 1 gallon inside a building</td>
</tr>
</tbody>
</table>

Fire Safety permits can be applied for using the commercial building permit application found at the following link: [http://www.douglascountywa.net/departments/tls/permits/forms.asp](http://www.douglascountywa.net/departments/tls/permits/forms.asp).

Electrical Permits: An electrical permit issued by the State of Washington Dept. of Labor and Industries is required any time electrical wiring is installed, altered, extended, or connected to any electrical equipment. Electrical permit applications can be found at the following link: [http://www.lni.wa.gov/TradesLicensing/Electrical/FeePerm Insp/PermitInspect/default.asp](http://www.lni.wa.gov/TradesLicensing/Electrical/FeePerm Insp/PermitInspect/default.asp)

Sanitary and Waste Water Permits: Permits for waste water disposal may be required. Contact the Chelan-Douglas Health District at (509) 886-6400 for assistance.

**CARBON DIOXIDE (CO₂) GAS ENRICHMENT SYSTEMS**

CO₂ Generation Methods: There are a variety of methods used to generate CO₂, including natural gas and LP gas fueled generators, dry ice, fermentation methods, distribution of gas from portable or fixed tanks and cylinders etc. The use of heaters designed for outdoor use to generate CO₂ is prohibited.

CO₂ Control System: Any area or room where CO₂ gas is discharged or generated shall be provided with a control system that utilizes CO₂ sensor(s) and limits the CO₂ levels to a maximum of 5,000 ppm.

CO₂ Alarm System: Any room or area where CO₂ is stored or where CO₂ gas is discharged shall be provided with a CO₂ alarm system. The alarm system shall consist of continuous gas detection that activates a local alarm within the room or area when
CO₂ accumulations reach 5,000 ppm. The detector shall be monitored by an approved monitoring company.

**Signs:** Signage shall be provided on the exterior door of each grow cultivation room/area utilizing CO₂ and in each room storing CO₂ stating:

![WARNING]

NFPA 704 Simple Asphyxiate placards shall also be provided at the exterior main entrance and at rooms where CO₂ is used or stored.

**PLANT EXTRACTION SYSTEMS USING FLAMMABLE GASES**

**Extraction Equipment:** Plant extraction systems are required to be professional grade closed loop extraction systems designed to recover the solvents. The extraction equipment is required to be evaluated by a qualified, mechanical engineer (or be listed) verifying it is designed to withstand 350 psi, has pressure relief devices on any trapped gas sections, and that all hoses, fittings, vacuum pumps etc. are compatible for use with LP Gas.

Where closed extraction systems use refrigeration recovery systems, the unit is required to be rated for hydrocarbon refrigerants.

**Exhaust System:** The room where plant extraction is conducted shall be provided with an exhaust system providing a minimum of 6 air changes per hour or 1 cfm/square foot of the room. The system shall use explosion proof or intrinsically safe fans and have air inlets located no more than 3 feet above floor level. The exhaust system shall be interlocked with the extraction system and class I division II rated electrical equipment and appliances are required as detailed below. In addition to rated electrical, a non-interlocked ventilation system requires an activation switch in the vicinity of the extraction equipment with a sign stating “EXHAUST SYSTEM MUST BE IN OPERATION DURING THE EXTRACTION PROCESS”.

**Electrical Systems and Appliances:** Plant extraction rooms shall be provided with class I division II electrical. The rated electrical is required to be provided at a height above the floor of 3 feet and lower for a radius of 25 feet from the extraction equipment,
and within a 5 ft. radius of the extraction equipment, including above the equipment. Class I division II applies to any appliance in the room as well as electrical installations.

**PLANT EXTRACTION SYSTEMS USING CO\textsubscript{2} GAS**

**Extraction Equipment:** Plant extraction systems are required to be professional grade closed loop extraction systems with every vessel rated to a minimum of 900 psi. The extraction equipment is required to be evaluated by a qualified, mechanical engineer (or be listed) verifying it is rated to 900 psi.

**CO\textsubscript{2} Alarm System:** The room where CO\textsubscript{2} extraction systems are located shall be provided with a CO\textsubscript{2} alarm system. The alarm system shall consist of continuous gas detection that activates a local alarm within the room or area when CO\textsubscript{2} accumulations reach 5,000 ppm. The detector shall be monitored by an approved monitoring company.

**PLANT EXTRACTION SYSTEMS USING FLAMMABLE LIQUIDS**

**Exhaust System:** Extraction processes using alcohol or other flammable liquids where the liquid is heated are required to be conducted under a fume hood in accordance with the mechanical code. Alternatively, the room can be provided with ventilation and classified electrical as detailed below. The room ventilation system shall provide a minimum of 6 air changes per hour or 1 cfm/square foot of the room or area. The system shall use explosion proof or intrinsically safe fans and have air inlets located no more than 3 feet above floor level.

**Electrical Systems and Appliances:** Plant extraction rooms shall be provided with class I division II electrical. The rated electrical is required to be provided at a height above the floor of 3 feet and lower for a radius of 25 feet from the extraction equipment, and within a 5 feet radius of the extraction equipment, including above the equipment. Class I division II applies to any appliance in the room as well as electrical installations.

**Flammable Liquid Cabinets:** Quantities of flammable and combustible liquids in excess of 10 gallons shall be stored in flammable liquid storage cabinets listed in accordance with UL 1275 meeting the requirements of the International Fire Code Chapter 57, Section 5704.3.2. For quantities exceeding the maximum allowable quantity per control area Chapter 50 of the International Fire Code shall apply.