



PUBLIC HEALTH

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LOSS Technical Subcommittee Recommendations LOSS RAC Meeting - December 2, 2008

**Washington State Department of Health
Richard Benson, PE & Dave Lowe**

Topics to be discussed in same proposal: Performance Standards & Monitoring/Sampling

- Topic 10 Treatment levels
- Topic 11 Verification of performance
- Topic 25 Treatment technology monitoring
- Topic 27 Testing protocol/approve technologies

Related topics to be finished at same time:

- Topic 7 Vertical separation requirements
- Topic 21 Repairs of existing systems

Item #1: Performance Standards & Monitoring Principles

- Soil is integral part of treatment process
- 2-3 ft. vertical separation + pressure distribution + time dosing = significant safety factor/reliability feature
- Subsurface discharge – must stay below surface
- Primary basis for providing health and environmental protection – performance standards and effluent sampling
- Sampling of receiving waters may be required (Issue #26 – to be discussed at next TRS meeting)
- Keep standards/monitoring simple
- Consider costs in developing standards/monitoring

Item #1: Performance Standards & Monitoring Principles

- Consider LOSS size
- Set bar for monitoring & give authority to DOH to be more or less stringent – be flexible
 - Low risk sampling – less frequent sampling
 - High risk situations – more frequent sampling
- Distinguish between performance compliance and process control
- Point of compliance – at “end of pipe” before discharge to soil (treated effluent)
- Manufacturer may have additional sampling or monitoring requirements

Item #2: Parameters to be monitored

- Core parameters for performance standards:
 - **BOD₅** (not CBOD₅)
 - **TSS**
- Apply as needed:
 - **Fecal coliform** – sites sensitive to pathogens
 - **O&G**
 - Nutrients: **TN & TP**
 - Turbidity
 - Chlorine residual – contact time, dechlorinate
 - Diagnostic/Process control parameters
 - ph, temperature, DO
 - Alkalinity
 - Nitrogen species

Item #3: Performance Standards

- Performance standards with core parameters:
 - **ES (Effluent Standard) 1** – residential septic tank effluent
 - **ES2** – similar to current Treatment Standard 2
 - **ES3** – similar to current Treatment Standard 1
 - **Higher treatment level may be needed** – don't specify one (maybe have reclaimed water standards available and give DOH authority to use if needed)

Item #3: Performance Standards

- “Add-on” performance standards:
 - **O&G** - for certain commercial sources, such as restaurants, some grocery stores, tanning salons, beauty shops, spas
 - **TP** – No specific number, depends on site conditions (apply to sites within 500 feet of fresh water body with TMDL for TP)
 - **TN**
 - New construction – value will likely be established during hydrogeo study/nitrogen balance
 - Existing LOSS, repairs – have two different established standards containing values

Item #4: Performance Standards with Parameter Values

- Performance standards with core parameters:

Standard	BOD ₅ (mg/L)	TSS (mg/L)	O&G (mg/L)	Fecal Coliform (#/100 ml)
ES1	≤200	≤100	≤30	---
ES2	≤30	≤30	---	≤1,000
ES3	≤10	≤10	---	≤200

- All values are **annual averages** (see item #5 for sampling frequency)
- Guidance will possibly contain: (from Florida work)
 - Maximum values for a single sample
 - Quarterly averages (for those with monthly sampling)

Item #4: Performance Standards with Parameter Values

- “Add-on” performance standards:

Standard	O&H (mg/L)	TN (mg/L)	TP (mg/L)
ES - O&G	≤30	---	---
ES – TN1	---	≤10	---
ES – TN2	---	≤20	---
ES - TP	---	---	Site Specific

- All values are ***annual averages*** (see item #5 for sampling frequency)

Item #5: Baseline Effluent Sampling Frequency

- 3,500 – 14,500 gpd: ***Quarterly*** sampling
- 14,500 – 100,000 gpd: ***Monthly*** sampling
- Sampling frequency may be increased or decreased by DOH

Items #6-9: Sampling Detail

- Sampling methodology: ***Grab samples***
- Sampling time: ***At times truly representative of wastewater generation and system use***
- Who samples: ***designated LOSS operator***
- Who runs analysis: ***Ecology certified wastewater laboratory***

Items #10-11: Other Detail

- Influent sampling : **No** (DOH may recommend it be done)
- What if “bad” sample: ***To be discussed***

Item #12: Application of Performance Standards

- Soil type 2-5, vertical separation of ≥ 3 feet: **ES1**
- Soil type 2-5, vertical separation of 2-3 feet: **ES2** (revises initial recommendation of TL C)
- Soil type 1, vertical separation of ≥ 3 feet: **ES2** (revises initial recommendation of TL B)
- Soil type 1, vertical separation of 2-3 feet: **ES3** (New recommendation)
- Increased loading rate due to higher quality effluent: **one level higher than normally required** (revises initial recommendation of TL D)
- Failing or existing LOSS that can't meet vertical and/or horizontal separations: **DOH may require higher level of treatment** (e.g. reclaimed water std.)

Item #12: Application of Performance Standards

- a. Soil type 2-5, vertical separation of ≥ 3 feet: **ES1**
- b. Soil type 2-5, vertical separation of 2-3 feet: **ES2**
(revises initial recommendation of TL C)
- c. Soil type 1, vertical separation of ≥ 3 feet: **ES2**
(revises initial recommendation of TL B)
- d. Soil type 1, vertical separation of 2-3 feet: **ES3**
(New recommendation)

Item #12: Application of Performance Standards

- e. Increased loading rate due to higher quality effluent: ***one level higher than normally required*** (*revises initial recommendation of TL D*)
- f. Failing or existing LOSS that can't meet vertical and/or horizontal separations: ***DOH may require higher level of treatment*** (*e.g. reclaimed water std.*)

Item #12: Application of Performance Standards

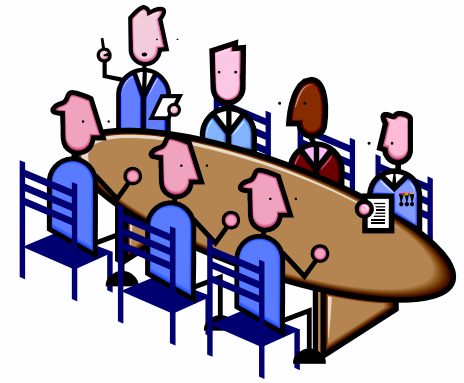
- g. Should rule have provision for soil being used only for disposal/dispersal?
 - General agreement - it makes sense
 - Probably would require effluent quality matching a more stringent performance standard – e.g. similar to current Class A reclaimed water
 - Hydrogeo/mounding study verifies that effluent will stay below surface of soil (remains subsurface dispersal)
 - More discussion needed
 - What do you think?

Item #13: What's Missing?

Status of “Must Do” Items



- LOSS project consistency with local land use/GMA requirements – ***subcommittee, then RAC***
- Operating Permit requirements for new systems & existing LOSS – ***Agreement reached on concept, discussed today, finish - next RAC meeting***
- Public notification / appeal process for LOSS projects > 14,500 GPD - ***Discussed today***
- Enforcement standards/procedures – ***getting legal assistance, will develop draft for RAC***
- Management/Ownership – ***part of discussion for topic # 2, issue paper being developed***



Topics for next TRS meeting :

- Topic 1 More definitions
- Topic 2 Management Plans (*maybe*)
- Topic 4 – Detailed site evaluation requirements
- Topic 26 – Receiving water monitoring requirements (*primary topic*)

Remaining topics from prioritized list

- Topics and issues scheduled for next technical subcommittee meeting
- Topic 1 – Flow splitting (*if not finished today*)
- Topic 2 – Management plans (*if not handled by technical subcommittee*)
- Topic 24 – Short-term operator requirements

Topic 1 Definitions (flow splitting)

- Currently: If flow from any development with wastewater flows at **any common point** ≥ 3500 gpd - LOSS
- There are times when “flow splitting” make good sense
- Intent: minimize “flow splitting” done to avoid an agency or more stringent rules
- Not fully discussed, but can consider – It is a LOSS if:
 - The maximum flow for a 1) non-single family home development (both residential and commercial) **or** 2) any development under the ownership of a single entity is between 3,500 and 100,000 gpd
 - The maximum flow for a single family home development at **any common point** is between 3,500 and 100,000 gpd

Topic 24 Short-term “Operator” Requirements

Current recommendations

- Must have certified operator
 - Ecology Certified Operator
 - Required for LOSS transferred from Ecology
 - Probably required for aeration processes
 - LHJ certified O&M professional
- PE or Designer can't be operator
- Manufacturer – must OK level of operator and notify DOH

Topic 24 – Short-term operator (continued)

- Before construction approval – contract with operator
- LOSS with DOH or LHJ OP – retain operator
- Other existing LOSS – find operator within 2 years
- LOSS owner notify DOH within 30 days change in operators
- Must talk to Ecology and AAG to determine when Ecology certification is required (*See handout*)

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