



Directive 051 Review Checklist

Injection and Disposal Wells - Well Classification, Logging, Testing and Monitoring

Important: Directive 051 confirms wellbore integrity requirements. It does not replace the need for a separate scheme approval such as Directive 065 where applicable.

Project Information

Item	Details
Project / Client	
Well UWI	
Proposed operation	New injection/disposal well / conversion / amendment / other
Fluid type	
Proposed D051 class	Class Ia / Class Ib / Class II / Class III / Class IV
Injection or disposal interval	
MWHIP / requested operating pressure	
Reviewer / date	

1. Well Classification and Scope

- ☐ Confirm the injected or disposed fluid and select the correct Directive 051 class.
- ☐ Confirm the well licence is appropriate for the proposed fluid before injection or disposal begins.
- ☐ Confirm whether the project also requires a scheme approval under Directive 065 or another AER process.
- ☐ For waste fluids, confirm whether Class Ia or Class Ib criteria apply.
- ☐ For Class II, confirm the fluid is produced water or brine-equivalent fluid.
- ☐ For Class III, confirm whether hydrocarbons, CO₂, sour gas, acid gas, inert gas, storage, EOR, disposal, or cycling applies.
- ☐ For Class IV, confirm potable water or steam use and that Class IV criteria apply.

Quick Well Class Reference

Class	Typical use / fluid type
Class Ia	Disposal of oilfield or industrial waste fluids that require Class Ia handling and monitoring.
Class Ib	Eligible aqueous waste streams from standard industry practices.
Class II	Produced water, brine, brine-equivalent fluids, and some enhanced recovery fluids.
Class III	Hydrocarbons, inert gases, CO ₂ , sour or acid gas, storage, disposal, cycling, or EOR gases.
Class IV	Potable water or steam injection, where Class IV criteria apply.

2. Core Wellbore and Data Review

- ☐ Confirm proposed injection/disposal formation, top/base, and perforation interval.
- ☐ Confirm base of groundwater protection and nonsaline groundwater-bearing zones.
- ☐ Review current well status and conversion history, if applicable.
- ☐ Obtain wellbore schematic / stick diagram showing casing, cement, tubing, packer, perforations, and cellar.
- ☐ Review surface casing, intermediate casing, production casing, liner, and cementing records.
- ☐ Confirm cement returns, cement top, and cement coverage across required intervals.
- ☐ Confirm the proposed MWHIP or requested operating pressure.

3. Packer Depth, Perforations and Cellar

Planning aid only - verify against current AER requirements and project-specific approvals.



- ☐ Record shallowest perforation depth.
- ☐ Record deepest perforation depth.
- ☐ Record proposed packer depth.
- ☐ Check whether packer is no more than 15 m above the shallowest injection/disposal perforation, unless justified.
- ☐ Check whether cellar below deepest perforation is no more than 15 m, unless justified.
- ☐ If packer separation or cellar exceeds typical expectations, attach technical explanation.
- ☐ Confirm schematic clearly shows packer depth, perforation interval, casing details and cellar.
- ☐ Confirm completion geometry supports wellbore integrity, hydraulic isolation and containment.

4. Casing, Cementing and Cement Top

- ☐ Confirm hydraulic isolation of the injection/disposal host zone.
- ☐ Confirm isolation of nonsaline groundwater-bearing zones.
- ☐ Confirm all potential hydrocarbon-bearing zones and injection/disposal zones are isolated by cement.
- ☐ For Class Ia new wells, confirm surface casing and cementing requirements have been reviewed.
- ☐ For Class Ib through Class IV wells drilled for injection/disposal, confirm groundwater isolation requirements have been reviewed.
- ☐ Determine whether a cement top locating log is required because production casing is not cemented to surface or cement returns were not obtained/maintained.
- ☐ Confirm cement top and cement integrity support the proposed operation.

5. Initial Hydraulic Isolation Logging

Class	Initial logging check
Class Ia	Temperature survey plus radioactive tracer survey, oxygen activation log, or cement integrity log. Cement integrity log required for wells injecting gases.
Class Ib / Class II	Temperature survey plus radioactive tracer survey, oxygen activation log, or cement integrity log.
Class III	Temperature survey plus radioactive tracer survey, oxygen activation log, or cement integrity log.
Class IV	One of: temperature survey, radioactive tracer survey, oxygen activation log, or cement integrity log.

6. Log Interpretation Package

- ☐ Confirm all required logs are available in full and legible form.
- ☐ Confirm each log includes a detailed interpretation against its specific objective.
- ☐ Confirm interpretations were completed or reviewed by qualified individuals experienced with the applicable log type and objective.
- ☐ Confirm hydraulic isolation interpretation clearly states whether isolation is demonstrated.
- ☐ Confirm cement integrity interpretation clearly addresses the interval of interest and any limitations.
- ☐ Confirm test/injection conditions during logging are documented.
- ☐ Confirm log pressure conditions are suitable for the requested operating pressure where applicable.

7. Casing Inspection for Conversion Wells

- ☐ Determine whether the well is an existing well being converted to injection or disposal service.
- ☐ If conversion, obtain a full-length casing inspection log.
- ☐ Confirm casing inspection is interpreted on a joint-by-joint basis.
- ☐ Confirm interpretation identifies holes, pits, perforations, metal loss, wall thickness, and anomalies.
- ☐ Confirm interpretation distinguishes internal from external corrosion.
- ☐ Confirm burst resistance using least wall thickness and minimum yield strength is greater than 1.3 times MWHIP.
- ☐ Document whether casing condition supports the proposed injection/disposal service.

8. Initial Pressure / Packer Isolation Test

- ☐ For Classes I through III, confirm initial pressure test is required before injection/disposal begins.
- ☐ Confirm test pressure is at least 7000 kPa unless project-specific direction applies.
- ☐ Confirm test duration is 15 minutes, not 10 minutes.
- ☐ Confirm pressure variation does not exceed 3 percent of applied pressure during the test.
- ☐ Confirm test date, chart, pressure, duration, annulus/tubing configuration and result are documented.
- ☐ Confirm ongoing packer isolation testing requirements under Directive 087 are identified.



9. Ongoing Monitoring

Class	Monitoring check
Class Ia	Daily injectivity and annular pressure monitoring; hydraulic isolation logging every 5 years; annual packer isolation testing; positive annular pressure of at least 500 kPa or fluid level detection system.
Class Ib / II / III	Annual packer isolation testing as per Directive 087.
Class IV	For steam injection wells, monitor injection rate and pressure at least daily; confirm any scheme-specific monitoring.

10. Waiver Review

- ☐ Determine whether any logging waiver is being requested.
- ☐ Confirm waiver request is appropriate for the class and log type.
- ☐ Attach supporting information addressing the Directive 051 waiver criteria.
- ☐ Confirm waiver is not assumed until accepted by the AER.
- ☐ Confirm alternative evidence of casing integrity or hydraulic isolation is included where applicable.

11. Submission Package

- ☐ Directive 051 Well Summary for Injection or Disposal completed.
- ☐ Well schematic / stick diagram attached.
- ☐ Required initial logs attached.
- ☐ Detailed log interpretations attached.
- ☐ Casing inspection log and interpretation attached, if conversion well.
- ☐ Initial pressure / packer isolation test results attached or scheduled as required.
- ☐ Packer depth and cellar review completed.
- ☐ Any waiver request and support attached.
- ☐ Ongoing monitoring requirements identified.
- ☐ Related scheme approval requirements confirmed.