

# Guideline

*Environmental Protection Act 1994*

## Temporary emissions licence

*This guideline has been prepared by the administering authority to provide information on the use of a temporary emissions licence (TEL) under the Environmental Protection Act 1994. It is designed to assist applicants in preparing their TELs, and sets out the way in which the administering authority will consider and decide whether or not to approve a draft TEL.*

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## **1 Introduction**

### **1.1 Background**

The *Economic Development Act 2012* included amendments of the *Environmental Protection Act 1994* (EP Act) to include a new regulatory tool; temporary emissions licences (TELs). TELs are an important part of the Government's response to the natural disasters of 2010/11 and the Flood Commission of Inquiry (FCoI).

### **1.2 What is a TEL?**

A TEL is a permit that temporarily relaxes or modifies specified conditions of an environmental authority (EA)<sup>1</sup> or transitional environmental program (TEP) to allow the release of a contaminant into the environment in response to an applicable event.

### **1.3 An applicable event**

An 'applicable event' is described as an event or series of events, either natural or caused by sabotage that was not foreseen<sup>2</sup> when particular conditions were imposed on an EA or TEP. For example, a flood or bushfire that was not, in fact, considered at the time the relevant conditions were applied could be considered an applicable event.

### **1.4 'Temporary'**

There is no express limitation on the period of a TEL in the EP Act, but the terminology 'temporary' indicates that these instruments are intended to be short term. As a general guide, it is unlikely that the immediate response to an event should take longer than 3 months. If an activity has conditions which are considered inappropriate for the longer term, the applicant should be lodging an application for amendment of the conditions.

## **2 Making an application**

### **2.1 Who can enter into a TEL?**

A person may apply, under s.357B of the EP Act, for a TEL only if the person is an EA or TEP holder. The 'term' person includes an individual, public authority or corporation.

### **2.2 When a TEL can be used**

A TEL can be applied for either in anticipation, or as a result, of an applicable event. Some examples where a TEL could be implemented are:

- (a) for discharges to water when flood waters are due to reach the operation within hours or days
- (b) when monitoring and reporting requirements related to contaminant releases cannot occur due to an applicable event preventing safe access
- (c) to allow a waste transfer station to release contaminants (e.g. noise and odour emissions) associated with the acceptance of a volume of materials greater than its EA and/or for extended periods outside of their normal operating hours as part of a flood recovery after flood waters have receded
- (d) to allow an operation to release contaminants (e.g. noise, water or air emissions) associated with operating 24 hours a day to aid in the reconstruction of infrastructure damaged as a result of an

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<sup>1</sup> Under s. 677 of the EP Act, a registration certificate for a transitioned development permit becomes an EA for the prescribed environmentally relevant activity (ERA) and the development conditions of the permit become conditions of the EA.

<sup>2</sup> Or was foreseen but, because of a low probability or occurring, it was not considered reasonable to impose a condition on the EA or TEP to deal with the event or series of events.

applicable event.

A TEL does not:

- (a) manage the release of legacy water to the environment from mine sites or other environmentally relevant activities (ERAs) that are still affected by flooding issues that pre-date the commencement of the TEL mechanism
- (b) remove the need for operators to manage their sites in accordance with the conditions of their EA at the end of the TEL, or to comply with unrelated conditions of their EA during the term of the TEL
- (c) apply retrospectively to contaminant releases
- (d) apply as a result of an accident occurring on site (refer to options below for mechanisms available to address accidents)
- (e) otherwise retrospectively legitimise unlawful practices.

There are alternative mechanisms available under the EP Act for other types of situations, for example:

- (a) emergency directions in relation to a threat of serious or material environmental harm or a threat to human health arising from, for example, an accident. More detail on the use of emergency directions can be found in the Guideline – Emergency powers (ESR/2016/2275) which is available on the [DES website](#)
- (b) TEPs in relation to a program of works to bring an activity into compliance with a condition or standard or reduce environmental harm over a period of time. More detail on the use of TEPs can be found in the Guideline – Transitional environmental program (ESR/2016/2277) which is available on the [DES website](#)
- (c) amendment of EA or TEP conditions if the real issue is that there is an error in the conditions or the scope of the activity has changed.

### **2.3 How an application is made**

**Due to the 24-hour timeframe for deciding a TEL, the Department of Environment and Science's (DES's) normal application process is not followed for a TEL application. A TEL application must not be submitted via mail, fax or email without first discussing lodgement with DES staff. If a TEL application is submitted to, for example, an unmonitored email account after hours, DES will not regard the application as received until the email is opened the next business day.**

An application for a TEL must be made either in person to an authorised person or by email or fax to the administering authority as follows:

- (a) **During business hours** please call your local DES office for instructions on submitting an application.
- (b) **If lodgement/contact with the local DES office is not possible** call DES's Permit and Licence Management (PALM) unit on 1300 130 372 (select option 2) for instructions on submitting an application.
- (c) **After hours** (including weekends and public holidays) please call 1300 130 372 (select option 2) for instructions on submitting an application after hours.

The application must have enough information to allow the administering authority to make a decision on the application. Refer to section 3.1 regarding information required to decide a TEL.

### **2.4 Fee associated with TEL application**

A fee is payable to the department for a TEL. The fee prescribed in regulation for a TEL is set out in the

department's Information sheet – Fees for permits for environmentally relevant activities (ERAs) (ESR/2015/1721) which is available on the DES [website](#).

Where it is not practicable to pay the fee for a TEL at the time of application, the administering authority will invoice the applicant to pay the fee within the period of not less than 20 days from the date of the invoice.

### **3 Considering and deciding a TEL**

This part sets out how the administering authority will evaluate a TEL application and assess whether or not the proposal should be approved as submitted, approved on different terms to those outlined in the application or refused. Depending on the complexities of the proposal for a TEL, the administering authority may need to consult with various other expert parties to the extent practicable in the application timeframes. These parties could include other state government departments, local government or relevant water service providers.

Where the TEL application seeks approval for releasing contaminants into a drinking water catchment, the relevant water service provider for that drinking water catchment (such as the local government or relevant regional water board) must be contacted by the administering authority as soon as practicable after receiving the application to seek feedback on the proposal.

Although an application may be lodged in anticipation of an applicable event, this is not intended to encourage speculative TEL applications in circumstances where either an EA amendment or a TEP would be more appropriate. For example:

- (a) If a reasonably foreseeable type of event (such as the recurrence of average wet seasons) was in fact not foreseen at the time that the relevant conditions were imposed on the EA or TEP, simply due to an oversight, and this event is not imminent at the time the operator becomes aware of the oversight, the operator should apply for appropriate EA or TEP conditions, so as to address this type of event on a permanent basis.
- (b) If the applicable event is not imminent, but rather the operator is simply speculating that such an event might possibly occur at some time in the future, this is not considered to be in anticipation of a particular applicable event.

#### **3.1 Content to be included in a TEL application**

The information required to be submitted with a TEL application is based on the criteria against which a decision on a TEL is to be made (s. 357D of the EP Act) and the definition of a TEL (ss. 357A and 357B of the EP Act).

It is recognised that TELs are intended to be fully flexible and therefore granted quickly on limited information, however, s. 357B(4)(b) of the EP Act states that an application must be supported by enough information to enable the administering authority to decide the application.

Where some of the information outlined below is unable to be supplied an otherwise properly made application will be decided, however, it may be approved on different terms to that requested or refused. By providing the required information in as much detail as reasonably practicable in the timeframe available, the administering authority will be able to make an informed decision that is less likely to be conservative.

It should be noted in supplying the following information, the administering authority has the ability to amend, cancel or suspend the TEL if new information becomes available that shows the impacts are greater than anticipated (refer section 4.4).

The following information is the required information to enable the administering authority to decide the TEL application:

- (a) Details of the applicable event (i.e. identify the natural disaster or sabotage). If the event is obvious

and well-known to the administering authority, this does not need to be in detail (e.g. bushfire or cyclone). If the event is not known to the administering authority, provide enough information so that the administering authority is able to understand the context.

- (b) If the event is anticipated rather than having already occurred:
- i. The likelihood of the applicable event happening. Provide details, including assumptions of the chances of the event occurring. For example, if a cyclone has been predicted to affect the operations, provide details of how likely this is to occur based on Bureau of Meteorology Tropical Cyclone Warning Services. Percentage terms of likelihood would be beneficial.
  - ii. When the applicable event is likely to happen. Outline when it is anticipated the event is going to occur. Any assumptions made in this timing need to be provided. It is important to provide as much detail as possible, such as modelling data and outputs associated with an anticipated applicable event. If this information is unavailable, resources such as official government warnings and associated anticipated timings may be acceptable.
  - iii. What circumstances need to exist before the TEL takes effect. Estimate when the contaminant release is likely to occur in relation to the applicable event. For example, a certain flow rate in a waterway after a cyclone has passed.
- (c) If the event has already occurred or commenced, the extent and impact of the applicable event.
- (d) The particular conditions (transcribed in full from the EA or TEP) relating to any release which is proposed to be overridden by the TEL. Also include information regarding what way and to what extent the conditions are proposed to be relaxed or modified. Details regarding the location of any contaminant releases should also be included. Briefly state reasons.

Any conditions associated with releases such as monitoring or reporting conditions and provisions/conditions of an associated TEP (all transcribed in full) which are proposed to be overridden by the TEL. Briefly state reasons and provide detail of what interim alternative arrangements are proposed.

- (e) A desktop assessment of the risks associated with granting/not granting the TEL. This assessment should assess risks associated with:
- i. impacts on identified environmental values (EVs) and environmental quality objectives. Where relevant, site specific EVs and environmental quality objectives should be used, e.g. schedule 1 of the *Environmental Protection (Water) Policy 2009* (Water EPP), otherwise default values and objectives listed in an Environmental Protection Policy
  - ii. impacts on the health, safety and wellbeing of another person
  - iii. economic impacts. Economic impacts are broader than financial impacts on the operator and include economic impacts on the state, the region and third parties.

The risk should be assessed in the context of the EVs that may be impacted and should identify, analyse and evaluate the risk based on information available and also include details of measures that are able to be taken to mitigate the impacts under (i), (ii) and (iii) above. This may include plans to notify other persons potentially affected e.g. nearby landowners and occupiers and/or persons who may frequent and use an area.

- (f) Proposed monitoring activities to measure impacts from the release. Details should include criteria (e.g. flow rates and contaminants) to be monitored (both at release and in the environment), monitoring locations and monitoring frequency.

- (g) Where known, information regarding other authorised releases into the environment, e.g. other releases authorised under other EAs and/or TELs. The cumulative impacts of these releases to the environment and health, safety and wellbeing of another person should be considered in the analysis required under f) above.

As discussed above, a TEL issued in the absence of a full appreciation for the potential of cumulative impacts may be amended, suspended or cancelled by the administering authority if information, e.g. monitoring data, demonstrates the cumulative impacts of the releases are greater than was envisaged when the TEL was issued.

- (h) Matters of public interest in regard to the application. This includes what benefits there are to the community in allowing the TEL and if these benefits are likely to override short term environmental harm. Examples where the public interest might override short-term environmental harm include:
- i. A release is necessary to enable a facility to carry out a disaster recovery function for the broader community, such as with a public waste processing facility
  - ii. A release avoids the risk that a contaminant, if stored for a longer term, will deteriorate in quality and pose a greater risk to the environment in the future
  - iii. Prompt release avoids a safety risk such as a dam break or an explosion
  - iv. The wider economic interest of the state, the region and third parties, would be served by allowing the release, while the impact of the release would be manageable.
- (i) Details of when the release of contaminants will cease. This does not necessarily mean a specific date or time. The cessation of the release may be tied to certain criteria but these must be measurable and finite, that is, they should be described in such a way that the release date can be calculated at the relevant time. Examples might include:
- i. upon a particular flow rate in a receiving water ceasing
  - ii. once a natural disaster is no longer in effect
  - iii. upon restoration of relevant specified services or infrastructure by a public authority.
- The contaminant releases should only be in effect for a short period, possibly as little as hours but no longer than approximately 3 months.

### **3.2 Options for decisions**

The administering authority has 3 options available under s.357E of the EP Act, when deciding a TEL application. These options are:

- (a) refuse;
- (b) approve as submitted
- (c) approve on different terms than have been requested.

The administering authority must complete an assessment report to document the decision made about the proposed TEL, which option was chosen and why conditions imposed were necessary or desirable. Given the 24-hour timeframe for deciding an application, the assessment report should be simple, straight forward and to the point.

Where a TEL application has demonstrated the level of risk to humans and the environment from the proposed contaminant releases is low, it may be approved as submitted. An example might be a waste transfer station applying for extended operational hours to accept waste generated from the response to an applicable event.

This would be low risk if there are no sensitive uses in the surrounding environment and the operator has outlined how it would manage the risks including through monitoring, reporting and a definite cease date.

When approving a TEL with conditions, the administering authority may impose conditions that are necessary or desirable. The purpose of such conditions will be to ensure any release of contaminants is undertaken in a manner that minimises the potential for environmental harm or adverse consequences, to the extent reasonably practicable, in the circumstances of the applicable event. In assessing conditions to be imposed, the administering authority will also consider the likelihood of environmental harm and the capacity of the operator to comply (taking into account issues such as practicality and safety considerations arising out of the relevant event).

When refusing the application or approving on different terms than requested in the application, the administering authority must give an information notice about the decision. The notice must outline the reason refusal was decided as the most appropriate option for the application or why the approval was on terms different to that requested in the application. This is required to ensure that review and appeal provisions outlined in chapter 11, part 3 of the EP Act can be activated.

### **3.3 Timeframe for decision**

**There are no deeming provisions for TELs not decided within the statutory timeframes of the EP Act. Where a TEL application is not decided an operator releasing in accordance with a proposed TEL but in non-compliance with the conditions of the EA will be in breach of the EP Act.**

The timeframe for deciding a TEL application is quite clear; the administering authority must decide the application as soon as practicable, but no later than 24 hours after receiving it. This timeframe provides an appropriate balance between the need to decide an application quickly, in time to address an applicable event and protect the environment and human health.

In some situations, e.g. an anticipated event, an applicant may apply for a TEL by gradually supplying information to support an application as it becomes available, thereby enabling the administering authority to begin considering information as early as possible. Because of the 24 hour decision timeframe, however, when applying for a TEL in this way, it is vital that the applicant indicate to the administering authority, in writing, that the application is still not complete and should not be regarded as having been received. Upon submitting the final information on which the decision is to be based the applicant should then inform the administering authority the application is complete and the decision making period should commence.

As there are no deeming provisions in the EP Act in regard to a TEL which is not decided within the 24-hour timeframe, the administering authority is still able to decide the TEL application after the 24-hour timeframe. A person who is aggrieved by an undecided TEL application may seek a judicial review under the *Judicial Review Act 1991*.

Where a TEL is not required immediately, the TEL may be stated not to take effect until a certain time/date or a trigger event occurs, even though the TEL has been decided within the 24-hour timeframe. If a TEL is not immediately required, an operator should:

1. Using all reasonable endeavours, do all things possible to avert the need for a TEL, e.g. reduce dam levels in compliance with EA conditions.
2. Where a specific applicable event is currently developing and may occur in the foreseeable future but is not yet certain, it may be appropriate to prepare, and even discuss with DES, a draft TEL application that may become necessary but not submit it until it is reasonably clear that the TEL will in fact be needed.

If there is sufficient time in advance of the TEL becoming necessary, e.g. as may be the case in point 2 above, it is desirable for DES to provide a draft TEL decision notice to the applicant before issuing the final version, so as to minimise the risk of errors or unintended consequences.

### **3.4 Contents of a TEL**

The administering authority must, when issuing a TEL, state the period for which the TEL is issued. The TEL must also state the time, duration, volume and location of contaminant releases permitted by the licence. The conditions of the EA or TEP which are to be overridden are also to be stated in the TEL. Further, conditions to monitor the releases, to ensure that the expected impact of the release on the receiving environment is not exceeded, should be contained in a TEL.

The format of a TEL will be laid out similar to an EA. The conditions would be listed under logical subject groupings. The following are the common subject groupings with a brief description of conditions that could be included in each grouping. Not all these groupings would be necessary on all TELs and some TELs may include other groupings not included here.

#### **Contaminant releases**

This grouping would contain conditions outlining threshold trigger limits for the proposed contaminant to be released. It could also contain the details of where, when and how the contaminant is to be released. It is recognised that the nature of applicable events may require such details to be expressed broadly or in more general terms.

#### **Monitoring requirements**

Within this grouping, conditions would outline what the monitoring requirements are. These conditions would detail what needs to be monitored, how often it needs to be monitored and that the monitoring must be undertaken by a person with appropriate experience and qualifications. Monitoring requirements will be subject to the prevailing safety, health and access issues and risk posed by the relevant applicable event.

#### **Cessation of release**

This condition set is important to the protection of human and environmental health from unforeseen consequences of contaminant emissions. These conditions would require releases of the contaminant to cease, immediately, or as soon as practicable, if:

- (a) identified threshold triggers are exceeded during release
- (b) monitoring identifies the cumulative capacity of the receiving environment has been exceeded by multiple proponents adversely impacting upon the same EVs.

Cessation requirements should not be expressed such that they take effect before the holder of the TEL would reasonably become aware of the requirement to cease or before it would be reasonably possible to stop the release.

#### **Notification of release events**

This section would only be required if the administering authority considers it necessary to vary relevant notification conditions in the EA or TEP.

Conditions in this section would require the TEL holder to notify the administering authority within a specified period, potentially only a few hours, of when the release has actually occurred. The TEL holder could also be required to notify when the release has ceased. In some circumstances the TEL holder may be required to provide the administering authority daily reports regarding release monitoring.

#### **Site specific condition sets**



Particular TELs may have conditions specific to a particular industry and/or site for a range of reasons which are not covered in other condition sets. Therefore, this section can be used to develop condition sets which address particular site attributes or the particular industrial activity being carried out.

An example of a site specific condition set may include conditions requiring the applicant to notify persons potentially affected, e.g. nearby landowners and occupiers.

### **Notification of emergencies, incidents and exceptions**

Most EAs already have relevant conditions for the notification of emergencies, incidents and exceptions and this section will often not be required for a TEL for an EA. It may be appropriate for a TEL for a TEP.

This section would include standard requirements to report emergencies or incidents that result in the release of contaminants not in accordance with the TEL.

### **3.5 Notifying applicants of a TEL decision**

The administering authority will advise operators in a timely fashion after deciding an application for a TEL. Given the exigent nature of TEL decisions, where circumstances dictate, initial notification of a TEL decision may be verbal (either in person or over the phone) or via email. Verbal notification will, however, be followed up in writing with a decision notice signed by the delegate of the administering authority.

## **4 Dealings with TELs**

### **4.1 TEL cannot be surrendered or transferred**

TELs cannot be surrendered or transferred. Since the holder of the TEL is (by definition) the holder of the EA, the TEL does not need to be transferred because it will automatically become applicable to the new operator. If the operator no longer requires the TEL, they must comply with the conditions of their EA.

### **4.2 TELs cannot be amended or cancelled by application**

There are no provisions in the EP Act for an operator to apply for an amendment of a TEL. When an operator wishes to instigate changes to a TEL this should be affected by applying for a new TEL; the administering authority would then cancel the previous TEL to coincide with the commencement of the replacement TEL. Nevertheless, a TEL can be amended by the administering authority with the written agreement of the holder. Normally, this would be practicable if the amendment is simple and does not justify a new application. A simple amendment may be, for example, one that does not increase the potential for environmental harm permitted.

There are no provisions in the EP Act for an operator to apply to cancel a TEL. If a TEL is no longer required an operator may simply re-establish compliance with conditions of the relevant EA or TEP. If the administering authority becomes aware that a TEL is no longer required, e.g. based on advice from the operator, the administering authority may decide to cancel the TEL under s.357J(b) of the EP Act. Where a TEL is cancelled, the administering authority will notify the operator immediately, e.g. by phone call and/or email, and confirm the decision in writing.

### **4.3 Monitoring compliance with TELs**

DES monitors the performance of clients on the basis of the potential environmental risk. Where the risk associated with the TEL warrants; sites issued with TELs will be targeted for compliance monitoring as per [DES's Regulatory Strategy](#).

### **4.4 Penalties for non-compliance**

The holder of, or a person acting under, a TEL must comply with the conditions of the TEL. The maximum penalty for non-compliance with a TEL is 6250 penalty units or 5 years imprisonment for a wilful offence (4500 penalty units otherwise). This penalty is consistent with that for failing to comply with a condition of an EA or

contravening a requirement of a TEP.

DES's has a wide range of enforcement measures available to it and the enforcement approach taken in regard to a particular non-compliance with a TEL will be guided by the principles in [DES's Enforcement Guidelines](#).

#### **4.5 Amending, cancelling or suspending a TEL**

The amendment, suspension or cancellation of a TEL as discussed in this section can be made without receiving and considering submissions from the operator. This provides for a quick decision timeframe which is necessary to protect the community where decisions have to be made quickly and are based on limited information.

It is recognised that, in circumstances of immediate amendment, suspension or cancellation, some operations may not be able to be ceased directly. In such circumstances, the operator must immediately commence all practical steps necessary to cease the release as soon as possible.

Where the administering authority has amended, suspended or cancelled a TEL, there will be no compensation payable to the operator as a result. The amendment, suspension or cancellation does not impact on releases authorised under the TEL prior to such amendment, suspension or cancellation.

#### **Greater than anticipated impacts**

The administering authority may immediately amend, suspend or cancel a TEL if after granting the TEL it receives information that the impact of a release is greater than the anticipated impacts when the TEL was granted. When deciding to amend, suspend or cancel, the administering authority must have regard to the criteria outlined in s.357D of the EP Act and be able to demonstrate that the impacts are greater than those first anticipated.

For example, noise generated from an operator that has extended operating hours as a result of the TEL is having a greater impact on the health of residents in surrounding noise sensitive areas than was anticipated. If the administering authority becomes aware of alternative mitigation measures that will lower the impact, the TEL may be amended to require implementation of these measures. If there are no measures to mitigate the adverse impact, the TEL may be cancelled.

#### **Multiple TEL impacts**

The administering authority may also amend, suspend or cancel a TEL if other TEL applications are received and, if granted, would adversely affect the same EVs. This ensures a level playing field where multiple operators can demonstrate a need to impact on the same EVs. For example, a number of mines in a particular basin may need to discharge mine water into the same catchment. The fact that one operator may apply for a TEL, should not prevent other operators from receiving the same ability to discharge into the same catchment.

#### **4.6 Review and amend conditions of the environmental authority**

An additional provision of granting a TEL is that the administering authority has, under s. 215 of the EP act, the power to review the conditions of the associated EA. This means that the original approval may be reviewed with the view to ensuring that a TEL will not be required in the future for similar circumstances. This is intended to provide a disincentive for operators trying to use TELs as an approach to overcome poor site management. It does not necessarily mean that approval standards will be lowered, simply to alleviate the need for a future TEL.

Amendments consequent on the approval of a TEL are subject to the normal requirements for amendments including notifying and receiving representations from the holder and are subject to appeal. Any required amendments will be made after the TEL has ceased and the administering authority has assessed all applicable information pertaining to the TEL, such as monitoring data and associated reporting. So too, the administering authority should use discretion in regard to making amendments to EA conditions based upon the (low)

probability of a recurrence of the applicable event, particularly applicable events caused by sabotage. For example, where an operator's on-site water management practices were found to be insufficient leading up to an applicable event, even though they were compliant with their EA prior to the applicable event, the granting of a TEL may trigger a review of these conditions of the EA. However, the review of the conditions will be restricted to those which relate to the reasons for the TEL being issued and does not open up the review of unrelated conditions.

**Approved:**  
19 October 2015

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## Version history

Version	Date	Version details
1	3 June 2013	Original document
2	6 December 2013	Fixed typos and added section 2.4 on fees.
3	21 November 2014	Updated for changes to legislation allowing an application for a temporary emissions licence where the conditions of a transitional environmental program cannot be met. In addition the applicability has been widened to allow for events that were foreseen but, because of a low probability or occurring, it was not considered reasonable to impose a condition on the environmental authority or transitional environmental program to deal with the event or series of events.
4	19 October 2015	Removed reference to repealed information sheet "Contact details for environmental licensing including council areas" (EM148). Updated corporate style.
4.01	2 February 2016	Added publication number and effective date.
4.02	25 July 2016	Added version history and publication numbers for referenced documents.
4.03	11 June 2018	Document rebranded to align with machinery of government changes

## **Appendix A – Scenarios involving TEL applications**

The following scenarios have been developed to be illustrative of particular nuances of information required for a TEL, or how a TEL application may be decided. For this reason none of these scenarios are complete, however, cumulatively they demonstrate the information required for a TEL application and examples of when a TEL may be granted. This is not an exhaustive list of potential scenarios and other activities and applicable events that occur may justify the approval of a TEL.

The information required for each scenario has been structured as per section 3.1. To ensure efficient and timely assessment, DES recommends applications submitted also use this structure.

### **Scenario 1 – Flooded sewage treatment plant**

A municipal sewage treatment plant (STP) for Small Town (population 7500) that disposes of effluent via irrigation to land has EA conditions that prohibit effluent disposal where wet weather will cause runoff. Conditions also require that if irrigation cannot be undertaken in accordance with the conditions of the approval, adequate storage and/or tankering off site must be undertaken.

Prolonged and heavy rainfall has resulted in all wet weather storage being full and tankering off site is not safe due to localised flooding. The operator is seeking a TEL to allow for land irrigation that is likely to result in runoff to Local Creek.

The following is a summary of the information supplied by the applicant to enable the administering authority to decide the application:

(a) Details of applicable event

A tropical low from an ex-cyclone has resulted in 300 millimetres (mm) of rain over the last 48 hours and heavy rain is expected to continue for at least the next 48 hours. Floodwaters associated with the heavy rainfall have been gradually rising for the previous 48 hours.

(b) Is the event an anticipated event?

Not relevant. The applicable event has already commenced and is therefore not an anticipated event.

(c) Impact of the applicable event

The applicable event is ongoing and to date has caused extensive flooding throughout Small Town. Roads in and around Small Town are closed to all traffic. The STP has not been able to dispose of effluent to the irrigation area for the last 48 hours, wet weather storage capacity is 85% full and expected to be 100% full within the next 24 hours. If treated effluent cannot be released the STP will be required to shut down resulting in backing up and surcharging of untreated effluent throughout Small Town.

(d) Conditions proposed to be overridden

Conditions<sup>3</sup> required to be overridden are those relating to:

- i. prohibition of effluent irrigation to land where wet weather will cause runoff
- ii. storage requirements and off-site tankering for effluent.

All monitoring conditions of the EA remain able to be complied with.

(e) Risk assessment

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<sup>3</sup> In a real life application the specific conditions would be transcribed in full including the extent to which they would be relaxed.

The EVs identified from schedule 1 of the Water EPP for Local Creek are: modified aquatic ecosystems, irrigation, stock water, primary recreation, secondary recreation, visual recreation and cultural and spiritual values.

The water quality objectives<sup>4</sup> to protect these EVs are: total nitrogen (TN) <350µg/L<sup>-1</sup>, total phosphorus (TP) <10µg/L<sup>-1</sup> and intestinal enterococci 95<sup>th</sup> percentile <40 organisms per 100mL.

**Risk of impacts without a TEL<sup>5</sup>**

As releases without a TEL will be uncontrolled surges of untreated sewage at multiple points throughout Small Town, available strategies to mitigate harm would be limited with the only ameliorating factor being dilution in flood waters. Further the impacts will not be constrained to Small Creek but will include flood water in Small Town itself.

**Table 1: Risk assessment without a TEL**

<b>Risk Source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed Risk</b>
Nutrient contamination (TN/TP)	Almost certain. Nutrients will be released into the floodwaters during surcharging	Major. Short-term impacts on Small Creek water quality from high levels of nutrients from untreated effluent	Extreme
Disease	Likely. There is a 50% to 95% chance of disease	Moderate. Illnesses (e.g. severe gastroenteritis) requiring multiple hospital admissions Cost to local health system estimated to be \$100,000 to \$1,000,000	High

<sup>4</sup> Note this is a limited set of WQOs for illustrative purposes only.

<sup>5</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.

**Risk of impacts with a TEL<sup>6</sup>**

Release under the proposed TEL would be more adaptable to mitigating strategies including: continued treatment of effluent in the STP, controlled area of release (irrigation area), additional treatment during overland flow, dilution in Small Creek flood flows and public signage at creek access points. It is also recognised that the conditions in the creek are not conducive to primary or secondary contact (due to in stream flow rates) and these uses of the creek are unlikely during the applicable event.

**Table 2: Risk assessment with a TEL**

<b>Risk source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed risk</b>
Nutrient contamination (TN/TP)	Unlikely Nutrients from already treated effluent will be further diluted by flood water after irrigation	Negligible Low nutrient concentrations will be further diluted by high flow rates in creek	Low
Disease	Rare Warning signs to be erected to not wade in affected waters High flow rates in creek will result in low levels of recreational contact After treatment, dilution and mitigation there is less than 0.1% chance of disease	Minor Illnesses (e.g. severe gastroenteritis) requiring a few hospital admissions Cost to local health system estimated to be less than \$25,000	Low

(g) Impact monitoring

Monitoring will consist of daily monitoring upstream and downstream of the release areas of all parameters associated with WQOs, these are<sup>7</sup>: Total Nitrogen, Total Phosphorus and enterococci.

(h) Other authorised releases

No other authorised releases are known in the immediate vicinity either upstream or downstream of the STP.

(i) Public interest

The matters of public interest are: the continued provision of a sewerage service, managing human health risks and the associated economic impacts on the local health system.

(j) Cease of release

Runoff from the irrigation area is likely to continue up to 7 days post the cessation of rainfall.

**Assessment by Administering Authority:**

A TEL would likely be granted in this scenario. The information supplied in the TEL application demonstrates that the risk of impact on EVs, human health and the local economy from the applicable event is extreme without a TEL. Operating under a TEL will change the risk profile to low. Proposed mitigating actions and monitoring requirements would be included as conditions of approval.

<sup>6</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.

<sup>7</sup> Note this is a limited set of parameters for illustrative purposes only. Monitoring locations should be indicated on a map to accompany the application.

## **Scenario 2 – Malfunction in regulated waste incineration facility**

A regulated waste incineration facility is located in an industrial estate that includes other noxious industries. The EA for the facility has emission limits for a number of contaminants including benzene that can only be met with modern oxygen enhanced burners and scrubbing technology which has been installed at the facility.

The oxygen enhanced burners on the incinerator have failed unexpectedly and a major overhaul is required which will take up to 3 weeks. The nearest alternative incineration facility is located interstate. While the facility is being repaired PCB waste requiring destruction will continue to backlog. The company applies for a TEL to suspend EA conditions related to emission limits while the repairs are undertaken.

The following is a summary of the information supplied by the applicant to enable the administering authority to decide the application<sup>8</sup>:

(a) Details of applicable event

An unexpected equipment malfunction resulting in backlog of noxious and hazardous waste pending high temperature destruction.

(c) Impact of the applicable event

The potential impacts of the equipment failure including:

- i. accumulation of noxious and hazardous waste at the facility requiring on site storage for up to 6 weeks while backlog is cleared
- ii. lost revenue to the operator
- iii. reduction in employment of casual staff at the facility.

(e) Conditions proposed to be overridden

Conditions<sup>9</sup> required to be overridden are those relating to:

- i. air emission limits
- ii. stack emission requirements
- iii. maximum storage allowance for PCB waste.

(f) Risk assessment

The EVs identified from section 7 of the Environmental Protection (Air) Policy 2009 (Air EPP) are:

- i. the qualities of the air environment that are conducive to protecting the health and biodiversity of ecosystems
- ii. the qualities of the air environment that are conducive to human health and wellbeing
- iii. the qualities of the air environment that are conducive to protecting the aesthetics of the environment, including the appearance of buildings, structures and other property
- iv. the qualities of the air environment that are conducive to protecting agricultural use of the environment.

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<sup>8</sup> For brevity this example in this scenario does not include the information that would have been supplied in regard to the following items from section 3.1: (b), (d), (h), (i) and (j).

<sup>9</sup> In a real life application the specific conditions would be transcribed in full and the extent to which they would be relaxed.

The air quality objectives (AQOs)<sup>10</sup> to protect these EVs include benzene of 10µg/m<sup>3</sup> over a one year period.

**Risk of impacts without TEL<sup>11</sup>**

Without a TEL highly toxic PCB waste would accumulate on site and be required to be stored. EA conditions require that no regulated wastes are stored on site for more than 48 hours. Alternatively, the waste would need to be transported interstate (New South Wales) for destruction at an alternative facility. The cost of transport and destruction would exceed the income for the waste destruction service.

**Table 3: Risk assessment without a TEL**

<b>Risk source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed risk</b>
PCBs	Possible.  Waste PCB could be release during an accident or unauthorised entry to the facility.	Major.  PCBs are extremely toxic to humans and the environment.	Extreme

**Risk of impacts with TEL<sup>12</sup>**

Mitigating strategies associated with the approval of TEL will include notification of nearby residents when benzene trigger levels are exceeded in the local air environment. If benzene levels persist for more than 24 hours affected residents will be voluntarily relocated.

**Table 4: Risk assessment with a TEL**

<b>Risk source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed risk</b>
Benzene	Almost certain.  High benzene concentrations will be emitted.	Minor.  The releases will only be for a 6 week period and averaged over 12 months these will not significantly affect the AQO for benzene.	High

(g) Impact monitoring

Monitoring will consist of daily monitoring of concentrations of benzene in the air environment 100m due north, south, east and west of the facility.

Assessment:

A TEL would not be approved in this scenario as:

- (a) the circumstances relating to the equipment malfunction do not constitute an applicable event. The

<sup>10</sup> Note this is a limited set of AQOs for illustrative purposes only.

<sup>11</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.

<sup>12</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.



causes of the malfunction are more likely related to an issue of maintenance

- (b) the risk assessment is considered to be inaccurate as the likelihood of a release of stored PCBs is unlikely or rare and therefore the overall risk remains high (that is there is not change to the risk profile by having a TEL)
- (c) a number of residents and businesses may need to be relocated due to the potential for health impacts resulting in a significant local economic impact
- (d) once the overhaul is completed the facility will be back to 100% capacity
- (e) the contaminants involved are extremely toxic (benzene is a carcinogen) and the risk of economic losses to the company would be over-ridden by the risk to human health.

The company could apply for a TEP to operate and/or store waste on site while the repairs are being conducted. Alternatively, the waste could be transported interstate to an alternative incineration facility.

### **Scenario 3 – Flooded metalliferous mine**

A large metalliferous mine is located next to the ephemeral Temp Creek in North West Queensland. During the wet season a significant volume of rainfall has fallen on the mine and surrounding catchment due to a low that has crossed the coast. The rain has resulted in flood waters upstream of the mine that could potentially inundate the mine as the water moves downstream.

The rain has also resulted in the Tailings Storage Facility (TSF) and other water storage locations nearing capacity. Without a discharge from these locations there is the possibility of a complete failure of the TSF. In addition, due to the large volumes of rain, safe access to a number of water storages cannot be obtained. Other options including pumping water to open or underground voids have been explored and are deemed not workable in the heavy rainfall conditions. The operator is seeking a TEL to discharge some mine affected water to Temp Creek.

The following is a summary of the information supplied by the applicant to enable the administering authority to decide the application<sup>13</sup>:

- (a) Details of applicable event  
A tropical low has crossed the coast with torrential rain flooding waters upstream from the mine. The floodwaters are currently moving towards the mine and expected to arrive within the next 48 hours and reach a maximum height of 4.9 metres.
- (b) Is the event an anticipated event?  
Advice from the Bureau of Meteorology is that the flood waters will arrive in Temp Creek within 2 days and are expected to reach 4.9 metres at the mine by 0300hrs, 28 January 2013 however at this stage the event is still expected.

The TEL described below will be required if flood levels reach 4.7 metres or more and this is expected to be reached at 1500hrs, 27 January 2013 (in 42 hours from now) and continue to rise to 4.9 metres. The TEL will cease to be required when flood levels fall back below 4.5 metres; this is expected early in the week beginning 3 February 2013. Therefore, it is requested that a TEL issued should be valid from when issued until 9 February 2013.

- (c) Impact of the applicable event  
The applicable event is anticipated and therefore the full impacts are not yet known. Heavy rainfall has, however, been experienced at the mine already and the TSF and ancillary water storages have less than 150mm free board remaining. Rainfall already accumulated in the pit is being pumped into the available storage dams. This strategy will see remaining dam capacity being exhausted in approximately 48 hours.
- (e) Risk assessment  
The EVs identified from schedule 1 of the Water EPP for Temp Creek are: modified aquatic ecosystems, irrigation, stock water, human consumer, primary recreation, secondary recreation, visual recreation, drinking water and cultural and spiritual values.

The water quality objectives<sup>14</sup> to protect these EVs are: electrical conductivity (EC) high flow <250 µS/cm, copper (short term trigger value) 2mg/L and zinc (short term trigger value) 8mg/L.

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<sup>13</sup> For brevity this example in this scenario does not include the information that would have been supplied in regard to the following items from section 3.1: (d) and (h).

<sup>14</sup> Note this is a limited set of WQOs for illustrative purposes only.

**Risk of impacts without a TEL<sup>15</sup>**

Storing accumulated flood water in the pit will cause a build-up of contaminants in the pit water. The accumulated water in the TSF may exceed the design limits of its structural integrity. Any requirements for future releases, e.g. under a TEP, may not be able to use dilution in post flood water flows.

**Table 5: Risk assessment without a TEL**

<b>Risk source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed risk</b>
Metal contamination (Cu/Ni)	Likely Metals will build up in pit water if water not removed	Moderate Elevated in stream levels will not move through when flows cease	High
Conductivity increase	Likely Salt will not build up in pit water if water not removed	Moderate Elevated in stream levels will not move through when flows cease	High
Dam wall collapse	Possible High water levels are more likely to cause a failure of the TSF	Catastrophic Highly contaminated water from the TSF will enter Temp Creek and may be trapped if failure occurs after flow in creek ceases	Extreme

**Risk of impacts with a TEL<sup>16</sup>**

Mitigating strategies include: pumping relatively uncontaminated water from pit and small dams to Temp Creek via release point RP1<sup>17</sup>. Excess water from the TSF will then be pumped to emptied small dams for temporary storage (once temporary storage dams receive water from TSF releases from these dams will cease). Reduced storage times will decrease the build-up of contaminants, e.g. salt and heavy metals, in dam and pit water and water with relatively low levels of contamination will be further diluted in flood waters. TSF water transferred to small dams will, over time, be transferred back to TSF for evaporation while, in the meantime, pressure on the structure of the TSF will be reduced.

Pit water releases from the mine are expected (based on predicted flood levels) to be less than 0.15% of total flows in Temp Creek. Cumulatively with known releases from other mines the total release from local mines is expected to be less than 0.5% of total flows in Temp Creek.

In stream monitoring of contaminants (electrical conductivity and pH) will trigger releases to be suspended if trigger levels are exceeded.

Ten downstream water users have been identified and they will be given at least 6 hours notification before any release to Temp Creek. Nine of these use Temp Creek for stock watering and may decide to temporarily exclude stock from Temp Creek during releases. The remaining user is the local council which uses water as a town drinking water supply. Water for the town is drawn off 120 kilometres downstream. Released mine water

<sup>15</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.

<sup>16</sup> The risk assessment examples here only use a subset of likely sources of risk for illustrative purposes. A real life application should include a full list of risk sources associated with the TEL applied for.

<sup>17</sup> Release point RP1 would be indicated on a map in an application.

will not reach this draw off point for an additional 18 hours post release, i.e. 24 hours after council is notified. If monitoring detects impacts to water quality that compromise water quality for drinking purposes the mine will arrange for water to be trucked to town from upstream of the release point until monitoring demonstrates the impacts from the release have passed the draw off point.

**Table 6: Risk assessment with a TEL**

<b>Risk source</b>	<b>Likelihood</b>	<b>Consequences</b>	<b>Assessed risk</b>
Metal contamination (Cu/Ni)	Unlikely Metals will not build up in pit water and will be diluted by flood water	Moderate Elevated in stream levels will be short term as flood waters move through system	Moderate
Conductivity increase	Rare Salt will not build up in pit water and will be diluted by flood water	Minor Elevated in stream levels will be short term as flood waters move through system	Low
Dam wall collapse	Rare Lower water levels mean the integrity of the TSF will be protected	Moderate Less water in the TSF will mean that a breach of the TSF will be less catastrophic	Moderate

- (f) **Impact monitoring**  
Monitoring will consist of real time monitoring both upstream and downstream of the release point for electrical conductivity ( $\mu\text{S}/\text{cm}$ ), pH and turbidity (NTU). Also daily samples will be taken for the analysis of copper and nickel<sup>18</sup>.
- (g) **Other authorised releases**  
There are 6 other mines located downstream of the mine. It is understood that at least 2 of these mines have also requested TELs for similar circumstances.
- (i) **Cease of release**  
The release of water to Temp Creek will cease under any of the following circumstances:
  - i. Flood levels fall below 4.5 metres
  - ii. In stream monitoring detects electrical conductivity levels above  $200\mu\text{S}/\text{cm}$  or pH below 6.5 in the flood waters.

**Assessment:**

The information supplied with the TEL application demonstrates flow rates in the creek, coupled with a cease release strategy if in-stream electrical conductivity drops below, or pH levels rise above, the nominated trigger levels, will enable a high rate of dilution that will minimise risks to EVs from extreme to moderate.

Without the TEL the output of the mine could be significantly reduced for a long period of time and as a main

<sup>18</sup> Note this is a limited set of parameters for illustrative purposes only. Monitoring locations should be indicated on a map to accompany the application.

employer in the local area this would have a severe local economic impact.

The TEL approval would include conditions which address:

- (a) contaminant releases e.g. release point location, source of releases (e.g. no release of water than has been in the TSF) etc.
- (b) monitoring requirements
- (c) cessation of release scenarios
- (d) notification to the administering authority of release events
- (e) notification to other water users of release events.

#### **Scenario 4 – Flooded coal mine**

A small open-cut coal mine is located in Central Queensland in an area which has significant groundwater resources. The mining operation is extracting coal from a coal seam beneath shallower groundwater aquifers. In order to mine the coal, significant aquifer dewatering is undertaken via dewatering bores to maintain a dry pit and coal seam. Water extracted during dewatering is stored on site in a large dam, and can only be released subject to conditions of the EA.

During the wet season, groundwater recharge has resulted in elevated rates of groundwater seepage into the pit. The additional dewatering required has resulted in larger volumes of water to be stored in the dam. As a result, the dam has filled, and seepage into the pit is now impacting mining operations. The mining company requires water stored in the mine dam to be discharged into a receiving watercourse to allow pit dewatering and mining operations to continue.

The following is a summary of the information supplied by the applicant to enable the administering authority to decide the application<sup>19</sup>:

- (a) Details of applicable event  
Heavy rainfall in the last few weeks has saturated the ground increasing groundwater levels.
- (b) Impact of the applicable event  
The applicable event is ongoing and to date has caused rise in groundwater levels in the surrounding area. The groundwater has entered the mine pit. Dewatering from the mine pit has filled the dam and cannot receive any more. The only way to continue mine operations is to dewater the pit directly to nearby Mine Creek.

#### **Assessment:**

In this situation, a TEL could not be used to discharge the mine water to the receiving environment, as there has been no applicable event or incident that would warrant the release. The accumulation of water in this instance is the result of insufficient storage capacity and an inadequate water management system to cope with seasonal variations in dewatering volumes. Discharge of this water would be subject to conditions of the environmental authority or a transitional environmental program. A TEL would not be granted in this scenario.

#### **Disclaimer**

While this document has been prepared with care, it contains general information and does not profess to offer legal, professional or commercial advice. The Queensland Government accepts no liability for any external decisions or actions taken on the basis of this document. Persons external to the Department of Environment and Science should satisfy themselves independently and by consulting their own professional advisors before embarking on any proposed course of action.

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<sup>19</sup> For brevity this example in this scenario does not include the information that would have been supplied in regard to the following items from section 3.1: (c), (d), (e), (f), (g), (h) and (i).