

Processes to Prevent Polluted Water Entering the Water System

防止污染水進入水系統之程序

Portal question

Does your university as a body have processes to prevent polluted water entering the water system, including pollution caused by accidents and incidents at the university?

Institution-wide prevention and incident-response processes in place

Evidence statement

National Yunlin University of Science and Technology (YunTech) operates a layered pollution-prevention system covering source control, segregated drainage, wastewater treatment, compliance monitoring, and incident response. Hazardous laboratory waste is classified, labelled, securely stored and transferred through a controlled process; campus wastewater is collected through sewage pipelines and treated at the campus water purification plant; discharge is permitted only after water-quality testing; and toxic or concerned chemical incidents that may pollute the environment outside the operating boundary require immediate emergency prevention measures and notification to the Yunlin County Environmental Protection Bureau within 30 minutes. Incident investigation, corrective action, follow-up and record retention are also required.

佐證結論

雲科大以源頭管制、雨污水分流、污水處理、水質檢驗及事故應變構成校級污染防治機制。官方規範明定：毒性或具危害性之關注化學物質若因洩漏、化學反應或其他突發事故，有污染運作場所周界外環境之虞，使用單位須立即採取緊急防治措施，並於 30 分鐘內通報雲林縣環保局。該規範明確涵蓋校內事故與事件可能造成之環境污染風險。

Evidence period: public procedures and 2025 operating results verified on 10 September 2026.

1. Institution-wide control chain | 校級控制鏈

Each control is supported by an official YunTech procedure. The decisive original pages are reproduced in Appendices A–D, so external browsing is not required.

CONTROL STAGE	INSTITUTIONAL PROCESS	WHY IT PREVENTS POLLUTED WATER ENTRY
1 SOURCE CONTROL 源頭管制	Toxic/concerned chemicals require approval and monthly operating records. Laboratory hazardous waste must be classified by characteristics, labelled, properly stored, documented and transferred to licensed disposal. [S1, pp. 7, 10–11]	Prevents hazardous experimental liquids from entering ordinary drains or being disposed of without traceability.
2 PHYSICAL SEPARATION 物理分流	YunTech publicly states that separate rainwater and sewage collection pipelines were planned from the establishment of the campus. [S3, Water resources section]	Separates sewage from stormwater pathways and directs sewage to treatment.
3 COLLECTION & TREATMENT 收集處理	Wastewater from campus sources is collected by sewage pipelines and sent to the water purification plant. The official process diagram permits discharge only after a passing water-quality test; otherwise water is returned to activated-sludge treatment. [S1, pp. 13–14]	Creates a controlled treatment barrier before release to the receiving water system.
4 VERIFICATION 檢驗驗證	An environmental authority-accredited laboratory analyses raw wastewater, effluent and reclaimed water every quarter. Operations and test results are reported in January and July. [S1, p. 13]	Confirms treatment effectiveness before discharge and provides documented regulatory oversight.
5 INCIDENT RESPONSE 事故應變	For a toxic/concerned chemical leak, reaction or other sudden incident that may pollute beyond the operating boundary, the using unit must take immediate emergency prevention measures and notify the county environmental authority within 30 minutes. [S2, p. 2]	Directly addresses accidental pollution risk through immediate control and time-bound escalation.
6 LEARNING & CORRECTION 改善追蹤	Incidents are reported, investigated and analysed; corrective actions are documented and tracked by the Environmental Safety Technology Center, with records retained for three years. [S2, pp. 1–2]	Reduces recurrence and demonstrates an auditable management cycle.

Scope note

The cited procedures assign responsibility to YunTech units and apply across campus operations. This is evidence of a university-as-a-body process, not a one-off research project or individual initiative.

2. Operating evidence and incident procedure

2025 effluent monitoring results | 2025 年放流水檢測

Sampling date	COD (mg/L)	BOD (mg/L)	SS (mg/L)	Published result
2025-03-11	24.8	7.8	<1.5	Compliant / 合乎標準
2025-06-04	32.0	12.7	17.2	Compliant / 合乎標準
2025-09-23	42.8	15.3	<1.5	Compliant / 合乎標準
2025-12-17	36.4	10.9	15.0	Compliant / 合乎標準

Source: YunTech Sustainability website, Environmental Management—Water Resource Management and Wastewater/Reclaimed Water Treatment. [S3, published table]

Incident and accident response | 事故與事件程序

- 1** Identify & notify
A person discovering an incident immediately informs the responsible unit/supervisor and relevant campus response units, including the Environmental Safety Technology Center.
- 2** Control environmental risk
Where a toxic or hazardous concerned chemical incident may pollute outside the operating boundary, the using unit immediately takes emergency prevention measures.
- 3** Escalate within 30 minutes
The using unit notifies the Yunlin County Environmental Protection Bureau within 30 minutes when the specified environmental-risk conditions apply.
- 4** Investigate & correct
YunTech investigates and analyses the incident, records corrective action, tracks improvement and retains records for three years.

Verified wording from the official rule

「毒性化學物質及經中央主管機關指定公告具有危害性之關注化學物質.....因洩漏、化學反應或其他突發事故而有污染運作場所周界外之環境之虞」，使用單位應立即採取緊急防治措施，並於 30 分鐘內報知雲林縣環保局。 [S2, p. 2]

3. Embedded evidence register | 內嵌佐證清單

ID	OFFICIAL SOURCE	EMBEDDED EVIDENCE
S1	YunTech Environmental Safety Technology Center — Internal Control System Manual	Original p. 10: hazardous laboratory waste classification, labelling, storage and controlled transfer (Appendix B). Original pp. 13–14: water purification plant management and process flow (Appendices C–D).
S2	YunTech Regulations for Disaster Incident Investigation and Handling (revised 24 Mar 2025)	Original p. 2: immediate emergency prevention measures, 30-minute environmental-authority notification, investigation, corrective action and tracking (Appendix A).
S3	YunTech Sustainability Website — Environmental Management	Published 2025 effluent-monitoring table is transcribed on page 3. The underlying campus operating process is independently supported by S1 and reproduced in Appendices C–D.

Institutional process summary | 校級程序摘要

YunTech has institution-wide processes to prevent polluted water from entering the water system, including pollution caused by accidents and incidents. The controls include: (1) approval, recording, classification, labelling, secure storage and licensed disposal of toxic chemicals and laboratory hazardous waste; (2) separate rainwater and sewage collection pipelines; (3) collection and treatment of campus wastewater at the university water purification plant, with discharge only after passing water-quality tests and recirculation when it does not pass; (4) quarterly analysis of raw wastewater, effluent and reclaimed water by an environmental authority-accredited laboratory, together with periodic regulatory reporting; and (5) an incident procedure requiring immediate emergency prevention measures and notification to the Yunlin County Environmental Protection Bureau within 30 minutes when a toxic or hazardous concerned chemical leak, reaction or other sudden incident may pollute the environment beyond the operating boundary. Incidents are investigated, corrective actions are tracked, and records are retained for three years.

Document scope | 文件範圍

This evidence pack consolidates YunTech’s institutional controls for hazardous laboratory waste, wastewater collection and treatment, effluent verification, and environmental incident response. The relevant original policy pages are reproduced in Appendices A–D for direct review.

Appendix A | 事故緊急防治與通報

YunTech Regulations for Disaster Incident Investigation and Handling, original p. 2

Key evidence: immediate emergency prevention measures and notification to the Yunlin County Environmental Protection Bureau within 30 minutes where a toxic/concerned chemical incident may pollute outside the operating boundary.

五、作業內容：

(一) 災害事故通報

1. 人員發現災害事故發生時，應立即通報事故現場單位及發生事故人員之主管，並通報駐衛警隊、校安中心、學生事務處衛生教育組(以下簡稱衛教組)、環境安全科技中心(以下簡稱環科中心)等單位協處理事故。
2. 發生重大災害之單位應於 2 小時內通報環科中心，必要時，環科中心應於 8 小時內應通報中區職安衛中心。
3. 毒性化學物質及經中央主管機關指定公告具有危害性之關注化學物質，有下列情形之一者，使用單位應立即採取緊急防治措施，並 30 分鐘內，報知雲林縣環保局：
 - (1) 因洩漏、化學反應或其他突發事故而有污染運作場所周界外之環境之虞。
 - (2) 於運送過程中，發生突發事故而有污染環境或危害人體健康之虞。
4. 通報者應於 3 個工作日內填妥災害事故通報單暨訪談紀錄表 (附件 1)，環科中心進行相關人員訪談作業及災害事故原因分析，執行紀錄應填寫災害事故分析報告及改善報告 (附件 2)，前述相關附件正本由環科中心留存，並複印附件 2 送改善單位備查。

(二) 災害事故處理：

通報者應立即請求相關單位協助並進行初步搶救，必要時外送醫院實施救護。發生重大災害時，除非必要之急救、搶救外，任何人非經司法機關及檢察機構許可，不得移動或破壞現場。

(三) 災害調查及結果分析

1. 環科中心應與相關單位，進行災害事故調查及結果分析，倘災害事故屬職業災害時需會同勞工代表。
2. 環科中心應每季彙整校內災害事故分析及改善報告，並公告於中心網頁。

(四) 改善對策及追蹤

1. 改善單位得依據災害事故原因分析進行改善，而改善情形應詳細記錄在附件 2 中。
2. 環科中心依附件 2 追蹤改善情形。

(五) 記錄存查

本規範執行紀錄及相關表單應存查 3 年。

六、本要點經職業安全衛生委員會通過後實施，修正時亦同。

Appendix B | 實驗室有害廢棄物源頭管制

Environmental Safety Technology Center Internal Control System Manual, original p. 10

Key evidence: laboratory waste liquids are classified and labelled by chemical characteristics, properly stored, transferred with documentation and handled through licensed contractors.

環境安全科技中心作業程序說明表

項目編號	CCX003
項目名稱	廢棄物管理作業
承辦單位	環境安全科技中心-環保組
作業程序說明	<p>一、一般事業廢棄物</p> <p>(一) 依行政院環境保護署實施垃圾強制分類辦理，廢棄物於排出前應分類為資源、廚餘及垃圾等三大類。</p> <p>(二) 清運方式：本校自91年起實施垃圾不落地，並依固定路線定點收取(一般垃圾每週一至週六收取，資源回收每週一、三、五收取)。</p> <p>(三) 一般事業廢棄物每年依公開招標程序委外清運，並要求廠商依合約清運至合法處理機構處理。</p> <p>二、有害事業廢棄物</p> <p>(一) 實驗室人員因教學研究目的，進行實驗所產出之實驗廢液、廢棄藥品及廢棄玻璃等均屬之。</p> <p>(二) 清運方式：</p> <ol style="list-style-type: none"> 1. 各實驗室廢棄物交送處理前須依化合物特性確實分類並標示(例如：廢液成分或濃度)，且須妥善儲存。 2. 送往本校水質淨化場轉運站前，須填寫遞送聯單後並通知本中心(分機2839)排定進場時間。 3. 本校每年依規定委外請合法優良之清運廠商清運，並委託成功大學環境資源中心進行處理。
控制重點	<p>一、各單位所產生之廢棄物應確實依其類別、特性，自行分類收集存放。</p> <p>二、廢棄物之清除處理需經由行政院環境保護署核可之清運及處理廠進行清理。</p> <p>三、一般事業廢棄物及有害事業廢棄依規定分類。</p> <p>四、依行政院環境保護署規定上網申報產出量、儲存量及處理量(行政院環境保護署事業廢棄物管制中心網站)。</p>
法令依據	<p>一、依據行政院環境保護署廢棄物清理法第28條及其相關規定辦理。</p> <p>二、依地方環保局核准之「事業廢棄物清理計畫書」辦理。</p>
使用表單	<p>一、垃圾減量與資源回收管理要點</p> <p>二、校區垃圾不落地車輛停放時間地點</p> <p>三、實驗室廢棄物分類及說明</p> <p>四、實驗廢棄物分類表</p> <p>五、實驗廢液相容表及化學工作守則</p> <p>六、廢液桶標示</p> <p>七、廢液送往水質淨化場配合事項</p> <p>八、廢液記錄遞送聯單</p>

Appendix C | 水質淨化場管理作業

Environmental Safety Technology Center Internal Control System Manual, original p. 13

Key evidence: inflow, effluent and reclaimed-water volumes are recorded; accredited testing is performed quarterly; operating and test results are periodically reported.

環境安全科技中心作業程序說明表

項目編號	CCX004
項目名稱	水質淨化場管理作業
承辦單位	環境安全科技中心 環保組
作業程序說明	一、確實記錄進、放流量、回收量、用電量等及其它場內相關事項。 二、污泥視需要進行脫水作業。 三、每季委託行政院環境保護署認可之檢驗公司，進行原污水、放流水及回收水水質分析。 四、每年1月及7月底前至行政院環境保護署水污染管制資料管理系統申報。 五、每5年針對排放許可申請展延。
控制重點	一、依規定記錄進流水、放流水、回收水量及用電量。 二、每季委託行政院環境保護署認可之水質檢驗公司檢測水質各處理單元。 三、每年1月及7月上網申報水質淨化廠操作記錄及水質檢驗結果。
法令依據	一、依據行政院環境保護署水污染防治法第13條及其相關規定辦理。 二、依地方環保局核准之「水污染防治措施」辦理。
使用表單	一、工作日誌 二、事業或污水下水道系統廢(污)水檢測申報表

Appendix D | 污水處理與放流決策流程

Environmental Safety Technology Center Internal Control System Manual, original p. 14

Key evidence: wastewater is collected by sewage pipelines and treated; water that fails testing is returned to activated-sludge treatment, while only passing water proceeds to discharge or campus reuse.

環境全科技中心 水質淨化廠管理 作業流程圖

