Submission	
Submitter:	Mr Cormac Goulding
Organisation Name:	Inland Fisheries Ireland
Submission Title:	P1166 Inland Fisheries Ireland
Submission Reference No.:	S011109
Submission Received:	28 April 2023
Application	
Applicant:	Shanoon Resources Limited
Reg. No.:	P1166-01

See below for Submission details.

Attachments are displayed on the following page(s).

Iascach Intíre Éireann
Inland Fisheries Ireland

Environmental Licensing Programme,
Office of Environmental Sustainability,
Environmental Protection Agency,
Johnstown Castle,
Co. Wexford

28 April 2023

Ref. No. P1166-01 – Shanoon Resources Limited

Description: Extraction and processing of minerals within the meaning of the Minerals Development Acts, 1940 to 1999

Location: Garrylaun Mine, Galmoy, Kilkenny, E41 CH93

Submitted via submissions portal at
https://lema.epa.ie/Submissions/Submission.aspx?p1=P1166-01

To whom it may concern:

Inland Fisheries Ireland (IFI) is the statutory authority tasked under section 7(1) of the Inland Fisheries Act 2010 (No. 10 of 2010) with responsibility for the protection, management, and conservation of the inland fisheries resource. IFI has previously made submissions on the mine re-opening proposals to Kilkenny County Council (Ref. 21599), and subsequently appealed Kilkenny County Council's decision to An Bord Pleanála (Ref. ABP 314095-22). This appeal was withdrawn by IFI following direct engagement with the applicant.

In respect of the above application for an IPC Licence IFI wish to make the following observations:

1.0 Mineral Policy

IFI requests that the management of mining activities is aligned with the *Policy Statement for Mineral Exploration and Mining in Ireland* published by the Department for Environment, Climate and Communications (DECC) in December 2022, in particular with the themes of Robust and Stable Regulation and Sustainable Development.

IFI draws particular attention to principle C6 of the Policy Statement, which states:

> *"The long-term environmental sustainability of any activity should be assessed in relation to the impact on the status of fish species, their habitats, fisheries and/or the recreational angling or related commercial activities that may utilise these resources."*

Site activities should also comply with existing DECC guidelines for mineral exploration, including the *Guidance for Good Environmental Practice in Mineral Exploration* and the *Guidance on Discharge to Surface and Groundwater*.

IFI's main areas of concern regarding this application are outlined below.

2.0 Water Framework Directive

There are three surface water bodies in the immediate vicinity of the mine, all of which currently have an Ecological Status of *Poor*. These are the Goul_040, Baunballinlough_010 and the Rathdowney Stream_010. All are *At Risk* of not reaching Good Status in the current RBMP Cycle. The applicant must demonstrate that the proposed treatment systems are consistent with restoration of the above surface water bodies to not less than *Good Status*.

The proposed discharge point from the mine enters the Goul_040 upstream of Fertagh Bridge, which is also classified as *Poor,* having declined from *Moderate* in the most recent EPA Water Quality Report (2022). Among the significant issues on this waterbody is nutrient enrichment. The latest Q-value for the WFD Monitoring Point at Fertragh Bridge (Station Code: RS15G020300), downstream of the proposed MWTP discharge point is *Poor* (Q=3).

The Galmoy Mines were delisted as a significant pressure on the Goul_040 in March 2021. However the EPA has noted that *"there are legacy issues in relation to elevated metal concentrations (Zn/Cu/Cr/Ni/Pb/Cd) from SW1 which were detected at Fertagh Bridge."*

The northern side of this site extends into the Rathdowney Stream_010 (Glasha), a tributary of the Erkina River. The Rathdowney Stream_010 has an ecological status of *Poor*. According to the EPA's catchment assessment, the discharge from the tailings facility associated with the mine was formerly identified as a significant pressure on the Rathdowney Stream.

Article 28(2) Surface Water Regulations (SI 272 of 2009) states that a surface water body whose status is determined to be less than Good shall be restored to at least Good status. Article 5 requires that a public authority shall not knowingly cause or allow deterioration in the chemical or ecological status of a body of surface water.

Considering the *Poor* ecological status of the water bodies in the vicinity of the proposed development, the applicant should be obliged to mitigate any discharges in a manner consistent with the achievement of Good the Ecological Status in these surface water bodies. The environmental quality standards for licensed parameters in the receiving waters must comply with the requirements of the Surface Water Regulations.

3.0 Mine Water Treatment

Regarding the Mine Water Treatment Plant (MWTP) IFI require clarification on how ammonia will be treated. This concern is particularly acute given the potential for ammonia residue from explosives (ammonium nitrate), and the high background levels of ammonia in the receiving waters (Goul_040) acknowledged in the applicant's documents.

According to Table 4 of the original NIS submitted with the planning application to Kilkenny County Council (Planning Ref. 21599) , the proposed ammonia ELV in the discharge from the site would be 1.0mg/l, resulting in a downstream ammonia concentration in the Goul River of 0.24mg/l, almost four times the threshold for Good Water status in Schedule 5 the Surface Water Regulations (SI 272 of 2009). The applicant has since provided to An Bord Pleanála (ABP) an updated discharge quality for ammonia of 0.5mg/l (correspondence dated 15 September 2022). This results in a projected downstream concentration for ammonia of 0.11mg/l, 1.7 times the threshold for good water status as outlined in the Surface Water Regulations.

With regard to the treatment / removal of ammonia in the mine water, the applicant has met with IFI and suggested a number of possible treatment systems, including zeolite filters, reedbeds and air stripping. These were also referred to in the applicant's correspondence with ABP. IFI request that the EPA impose a condition to oblige the applicant to provide additional ammonia treatment of the mine water discharge prior to the commencement of blasting on the site.

4.0 Wastewater Treatment

IFI has concerns with respect to the sizing of the proposed domestic wastewater treatment system for the site. The applicant estimates an organic load of 20g of BOD per person per day and a hydraulic load of 30 litres per person per day for "staff eating and food preparation facilities". The EPA Wastewater Treatment Manual for an office/factory with canteen recommends an estimated organic load of 30g of BOD per person per day and a hydraulic load of 60 litres per person per day. For 90 FTE staff as indicated in the applicant documents, this would give a PE equal to 45, which would render the suggested treatment system undersized (PE = 41). A revised PE of 45 would also require a third module for tertiary treatment to meet the additional organic loading. Furthermore, the design effluent concentration for ammonium of 20mg/l is a concern given the elevated background levels in the Goul River.

In their correspondence to ABP, SRL have suggested that only basic kitchen facilities will be provided and that these do not constitute a canteen. IFI considers that the definition of canteen should be a matter of consideration for the EPA in its determination of the IPC licence for the site. IFI is unable to identify a definition in the EPA's Wastewater Treatment Manual, nor if this definition should be applied for a kitchen above a particular size threshold. This has consequences for the projected BOD and hydraulic loadings.

IFI also recommend the installation of a grease trap or interceptor to reduce the risk of fats, oils or greases impairing the wastewater treatment system. In Appendix 3.3 of the applicant's documents, the prospectus for the proposed treatment system recommends the installation of a grease trap if the influent is likely to contain large amounts of fats, oils and greases (FOG). IFI has concerns that the efficacy of the treatment system may be compromised otherwise, particularly given the expectation that there will be 90 FTE staff on site. The use of oil interceptors elsewhere on the site is noted.

5.0 Hydrological Impact

IFI also request clarification on the hydrological impact of the proposed volume of groundwater entering the Goul River from the MWTP. The maximum mine water discharge rates are proposed for the summer months, when flows in the receiving waters are likely to be low.

The estimated maximum flow from the conditioning pond is 24.7MLD, higher than the 95%ile flow in the Goul at 23MLD. IFI recommends that flow rates in the receiving waters and discharge waters be monitored so that the volume of the discharge should not impact the hydrological or thermal regime of these waters.

6.0 Monitoring Regime

6.1 Physico-Chemical Monitoring

With respect to the monitoring regime, IFI recommends that the full monitoring suite should include measurement for orthophosphate, cadmium and water hardness. Including water hardness enables comparison of values for metals with those listed in the Surface Water Regulations 2009 (as amended), the Environmental Quality Standards for which are contingent upon water hardness.

If an exceedance is observed in the full suite then this parameter should be tested as part of the indicator suite until levels drop below the permitted threshold. Any exceedance should be communicated to IFI within five working days.

IFI also notes that no allowance has been made for monitoring organic parameters in the monitoring suite. This is despite the wastewater from the kitchen / canteen being discharged into the Goul River above Fertagh Bridge.

6.2 Biological and Sediment Monitoring

IFI requests that physico-chemical monitoring is supplemented with biological quality monitoring downstream of the discharge point on the Goul River. IFI also recommends stream sediment sampling downstream of the outfall location on the Goul_040. IFI requests that biological quality monitoring and stream sediment sampling should be undertaken at least annually during the period 1 June to 30 September. The sediments should be analysed for the presence of metals as well as total phosphorus and organic matter.

7.0 Assimilative Capacity Calculations

IFI requires more detail regarding the calculation of mass balances and the assimilative capacity of the receiving waters of the Goul_040 as provided by the applicant in Table 4 of the Natura Impact Statement. This is the location of the proposed discharge from the MWTP and the wastewater from the washrooms / kitchens. IFI considers that the workings and assumptions used to calculate the parameter concentrations in the receiving waters should be outlined in full in the interests of transparency. The assumed flow rates of the receiving waters (i.e. mean or 95%ile values) should be clearly stated as well as the parameter thresholds used.

IFI requests that ELVs for all parameters ensure that downstream values for these parameters comply with the Environmental Quality Standards for Good Status for physico-chemical conditions as set out in the Surface Water Regulations, 2009 (as amended).

8.0 Surface Water Management

The applicant's surface water drainage management plan should attenuate any run-off of suspended solids or other deleterious matter from the site. The applicant should aim to reduce effluent discharge by maximizing wastewater recycling. In addition, the proposed conditioning pond should be lined, appropriately sized and maintained at regular intervals to ensure its effectiveness.

9.0 General Housekeeping

Heavy metals released by mining may migrate and accumulate in various media to directly or indirectly impact aquatic life. They reduce biodiversity, are bio-persistent and may also bioaccumulate in living organisms, disproportionately affecting those at the top of the food chain.

All mitigation measures, including the water quality commitments, identified in Sections 6.12 and 8.7.1.1 of the EIAR and Section 6.4 of the Nature Impact Statement must be implemented in full.

The storage, management and conveyance of materials on site must not permit any deleterious matter to reach adjacent surface water systems either directly or indirectly via groundwater. The existing course, bed, profile of any watercourse on, permitting access to or adjacent to the site must not be altered without the prior consent of Inland Fisheries Ireland.

There must be no run-off from the site, including run-off of fuels, oils, concrete or stockpiles of materials. Any fuels, oils or other hazardous substances on site must be stored in lockable bunded containers. Bunding capacity should be 110% of the capacity of the largest tank or drum within the bunded area, or 25% of the total storage volume, whichever is greater.

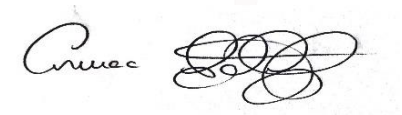
There should be no mixing of soiled water from yards and other hard surfaces with uncontaminated water from roofs or other sources. Only clean, uncontaminated waters should be discharged to soak-away systems or to surface water.

10.0 Oversight

IFI welcomes its inclusion on the proposed monitoring committee along with other relevant stakeholders and agencies. IFI request that appropriate records of all monitoring activities are kept, and that they be made available for inspection upon request to authorised persons as defined under the Local Government (Water Pollution) Acts.

Should you require any clarification on the above please do not hesitate to contact me. Future correspondence can be sent to cormac.goulding@fisheriesireland.ie or by post to the address above.

Yours sincerely,



Cormac Goulding
Fisheries Environmental Officer
South-Eastern River Basin District