

Environmental characteristics of sediments and industrial reuse options

In the second package of the project, the environmental constraints have been analyzed to determine whether a specific beneficial reuse of dredged material is possible without adverse impacts to the environment and public health. The French National Institute for Industrial Environment and Risks (INERIS) database of pollutants and corresponding concentrations in fine sediments (10,000 samples^[11]) was compared to the database of EDF (500 samples from hydropower reservoirs).

The environmental characteristics used are:

- the total content of contaminants (*i.e.* trace metals, organic contaminants and emerging contaminants), and
- the leaching behavior of the constituents of the material to determine whether the material exhibits the characteristics of hazardous wastes according to the Decree of October 28th 2010.

For each of the seven reuse options, the environmental requirements for potential reuse of the dredged material are related to both the regulatory and technical aspects. However, the

technical requirements are not always available. To fill this gap, stakeholders were contacted and the characteristics of materials usually incorporated into manufactured products were used.

A cross-analysis of the environmental characteristics and specific requirements was performed. This cross-analysis made it possible to estimate the proportion of potentially recoverable sediments for each of the seven end uses and to identify the most blocking chemical elements. Finally, it was found that based on both the EDF database and INERIS database, the sediments are mostly inert and not contaminated according to the criteria required by the seven envisaged reuse options.

Conclusions and perspectives

The EDF Group supports the use of reservoir dredged material as a valuable resource and works to prioritize beneficial reuse options over traditional dredged material placement methods. Past and current studies have shown that the mineral and agronomic characteristics of fine sediments meet the entry criteria for beneficial reuse in the industrial and agronomic sectors. From a technical point of view, the dredged fine sediments can be considered as raw materials. However, further work must be

performed to optimize the economic conditions to actually implement the reuse practices. This includes the drying process of sediments, the regulatory conditions so that sediments are no longer considered as waste, and the economic conditions for beneficial reuse near the source of the dredged material. ■

References

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IAHR General Members Assembly (GMA)

Venue: Riu Plaza Panama Hotel

Date: Thursday 5th September 2019

Time: 16:30 - 18:00 h.

AGENDA

1. Welcome and introductions
2. Recognition of retired Executive Director Christopher George and farewell presentation
3. Introduction of new Executive Director, Tom Soo
4. Announcement of results of ballot regarding revised Constitution and Bylaws
5. Highlights of IAHR
6. Presentation of Finances
7. Presentation of IAHR strategy framework and member consultation
8. Announcement of Council election results and introduction to the new Council Members and EC
9. Formal Handover
10. Meeting closure



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