MINISTRY OF NATIONAL DEVELOPMENT PLANNING / NATIONAL DEVELOPMENT PLANNING AGENCY

BAPPENAS

Acceleration and Debottlenecking Dam Permit Operation in Indonesia

POLICY BRIEF

2021

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I. Urgency of Permit Operation in Indonesia

Dams are one of the most important water resource infrastructures in Indonesia to accommodate and conserve water. Based on data from the Dam Engineering Center, to date the number of dams in Indonesia (status December 2021) has reached 258 dams which are owned by the government and state-owned private companies. Currently, dams have been used for various purposes, the benefits of which can be felt by almost all dam stakeholders in Indonesia. These benefits include irrigation, flood control, sources of electrical energy, tourism, fisheries, raw water sources, sports, and other benefits. The latest in Indonesia is currently being prepared for the use of dams for electrical energy sources from Floating Solar Panels.

In addition to the benefits above, the existence of a dam also poses a big risk to the safety and security of the community around the dam if it is not managed properly. Some of these risks include flooding, catastrophic dam failure which can result in loss of property and even lives for the surrounding community. In addition, the quality of water and the environment in the dam and its surroundings will also greatly affect the quality of life of the surrounding community.

The importance of the benefits and the magnitude of the risk of the presence of a dam have prompted the government, in this case the Ministry of Public Works and Public Housing, to certify an operating permit as a condition for the feasibility of a shelter operation before the dam operates, both existing dams and new dams. Regarding the certification of this operating permit, it has been stated in the Regulation of the Minister of PUPR Number 27 of 2015 concerning Dams. Based on the ministerial regulation in Article 91 paragraph 1 it is stated that the implementation of the operation of the dam must be carried out based on the dam operation permit issued by the Minister. In the next paragraph, namely paragraph 3, it is stated that the operating permit is issued if it meets the administrative and technical requirements. For technical matters, it is stated in the next paragraph that the Minister shall appoint the Dam Safety Commission (KKB) to conduct an assessment before the operating permit is issued.

II. Issues in Dam Permit Operation

Key issues related to existing dam operating permits include:

a. Operating Permit Status

In the last ten years, the number of dams that already have a dam operating permit is still very minimal, namely only 44 dams out of a total of 244 dams in Indonesia.

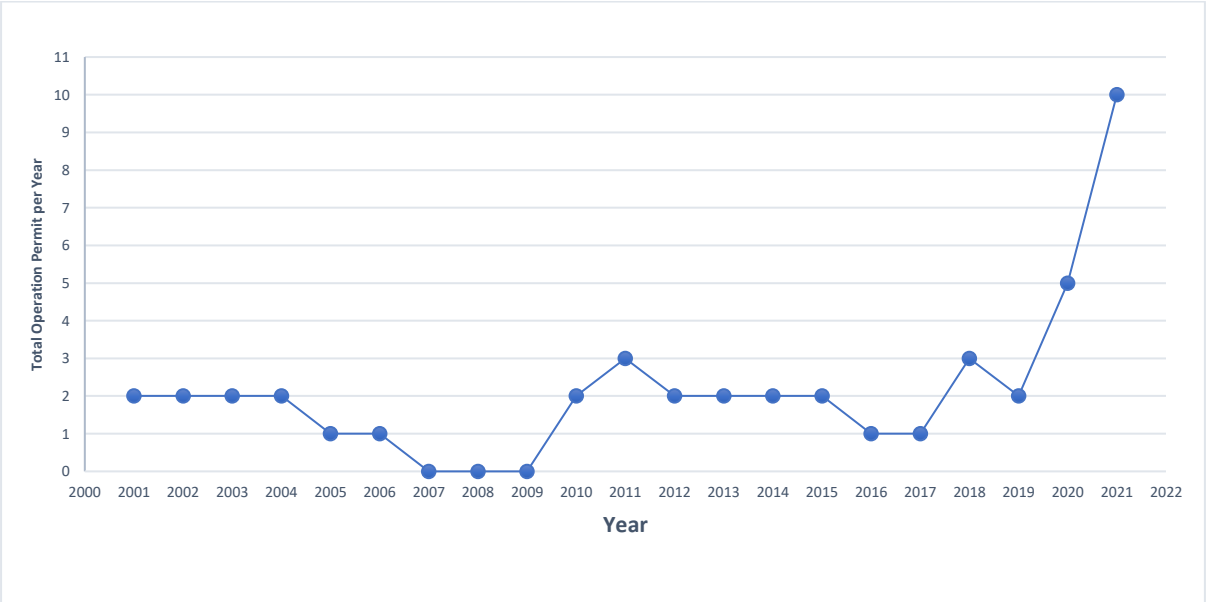

Figure 1. Dam Operating Permits per Year from 2001-2021

Below are details of 44 dams whose operating license certificates have been issued :

Table 1. List Of Dams That Have Operated Operating License
(Status: December, 2021)

No.	Name	Location	Dam Owner/Management	Dam Operation Permit		Regsitration Number
				Certificate Number	Date	
Government Owned Dams (Ministry of PUPR)						
1	Sermo	Kab. Kulon Progo, Prov. D.I. Yogyakarta	Kementerian PUPR/BBWS Serayu Opak	08/KB/Mn/2001	05 Oktober 2001	1019960132
2	Tilong	Kab. Kupang, Prov. Nusa Tenggara Timur	Kementerian PUPR/BWS Nusa Tenggara II	02/KB/Mn/2002	05 Agustus 2002	7020010167

No.	Name	Location	Dam Owner/Management	Dam Operation Permit		Regsitration Number
				Certificate Number	Date	
3	Wonorejo	Kab. Tulung Agung, Prov. Jawa Timur	Kementerian PUPR/BBWS Brantas	03/KB/Mn/2002	23 Oktober 2002	1019990164
4	Jatiluhur/Ir. Juanda	Kab. Purwakarta, Prov. Jawa Barat	Kementerian PUPR/Perum Jasa Tirta II	01/KB/Mn/2003	11 Februari 2003	1019670042
5	Batu Bulan	Kab. Sumbawa Besar, Prov. Nusa Tenggara Barat	Kementerian PUPR/BWS Nusa Tenggara I	02/KB/Mn/2003	05 November 2003	6020020169
6	Batutegi	Kab. Talang Padang, Prov. Lampung	Kementerian PUPR/BBWS Mesuji Sekampung	01/KB/Mn/2004	19 Februari 2004	2020020168
7	Sangiran	Kab. Ngawi, Prov. Jawa Timur	Kementerian PUPR/BBWS Bengawan Solo	02/KKB/m/2004	29 November 2004	1020000165
8	Tibu Kuning	Kab. Lombok Barat, Prov. Nusa Tenggara Barat	Kementerian PUPR/BWS Nusa Tenggara I	PR.01.04-Mn/10	13 Januari 2010	6020080190
9	Keuliling	Kab. Aceh Besar, Prov. Aceh	Kementerian PUPR/BWS Sumatera I	PR.01.04-Mn/21	17 Januari 2011	2020080187
10	Benel	Kab. Negara, Prov. Bali	Kementerian PUPR/BWS Bali Penida	PR.01.04-Mn/87	12 Februari 2013	5020090192
11	Grokgak	Kab. Singaraja, Prov. Bali	Kementerian PUPR/BWS Bali Penida	PR.01.04-Mn/67	12 Februari 2014	5019960124
12	Telaga Tunjung	Kab. Tabanan, Prov. Bali	Kementerian PUPR/BWS Bali Penida	PR.01.04-Mn/109	28 Februari 2014	5020070184
13	Jatibarang	Kota Semarang, Prov. Jawa Tengah	Kementerian PUPR/BBWSPemali Juana	PR.01.04-Mn/377	04 Mei 2015	1020140204
14	Lahor	Kab. Malang, Prov. Jawa Timur	Kementerian PUPR/Perum Jasa Tirta I	PR.01.04-Mn/291	08 Maret 2018	1019750046
15	Kalola	Kab. Enrekang, Prov. Sulawesi Selatan	Kementerian PUPR/BBWS Pompengan Jeneberang	PR.01.04-Mn/1563	19 Oktober 2018	4019950113
16	Sutami	Kab. Malang, Prov. Jawa Timur	Kementerian PUPR/Perum Jasa Tirta I	PR.01.04-Mn/1964	17 Desember 2018	1019730044

No.	Name	Location	Dam Owner/Management	Dam Operation Permit		Regsitration Number
				Certificate Number	Date	
17	Paya Seunara	Kota Sabang, Prov. Aceh	Kementerian PUPR/BWS Sumatera I	SA.04.03-Mn/1135	11 Juni 2019	2020130213
18	Bajulmati	Kab. Banyuwangi, Prov. Jawa Timur	Kementerian PUPR/BBWS Brantas	SA.04.03-Mn/1929	03 Oktober 2019	1020150210
19	Jatigede	Kab. Sumedang, Prov. Jawa Barat	Kementerian PUPR/BBWS Cimanuk Cisanggarung	SA.04.03-Mn/1610	08 September 2020	1020150208
20	Palasari	Kab. Jembrana, Prov. Bali	Kementerian PUPR/BWS Bali Penida	SA.04.03-Mn/2758	23 Desember 2020	5019890089
21	Selorejo	Kab. Malang, Prov. Jawa Timur	Kementerian PUPR/Perum Jasa Tirta I	SA.04.03-Mn/702	19 April 2021	1019700043
22	Sempor	Kab. Kebumen, Prov. Jawa Tengah	Kementerian PUPR/BBWS Serayu Opak	SA.04.03-Mn/798	30 April 2021	1019780053
23	Sengguruh	Kab. Malang, Prov. Jawa Timur	Kementerian PUPR/Perum Jasa Tirta I	SA.04.03-Mn/932	21 Mei 2021	1019880087
24	Wadaslintang	Kab. Kebumen, Prov. Jawa Tengah	Kementerian PUPR/BBWS Serayu Opak	SA.04.03-Mn/965	27 Mei 2021	1019870084
25	Panohan	Kab. Rembang, Prov. Jawa Tengah	Kementerian PUPR/BBWS Pemali Juana	SA.04.03-Mn/2076	03 Desember 2021	1020090194
26	Way Jepara	Kab. Lampung Timur, Prov. Lampung	Kementerian PUPR/BBWS Mesuji Sekampung	SA.04.03-Mn/2077	03 Desember 2021	2019780054
27	Way Rarem	Kab. Lampung Utara, Prov. Lampung	Kementerian PUPR/BBWS Mesuji Sekampung	SA.04.03-Mn/2174	15 Desember 2021	2019840077
28	Ponre-Ponre	Kab. Bone, Provinsi Sulawesi Selatan	Kementerian PUPR/BBWS Pompengan Jeneberang	SA.04.03-Mn/2319	29 Desember 2021	4020080189
29	Salomekko	Kab. Bone, Provinsi Sulawesi Selatan	Kementerian PUPR/BBWS Pompengan Jeneberang	SA.04.03-Mn/2320	29 Desember 2021	4019980151

No.	Name	Location	Dam Owner/Management	Dam Operation Permit		Regsitration Number
				Certificate Number	Date	
30	Lempake	Kota Samarinda, Prov. Kalimantan Timur	Kementerian PUPR/BWS Kalimantan IV	SA.04.03-Mn/2321	29 Desember 2021	3019790055
BUMN Owned Dams						
1	Balambano	Kab. Luwu Timur, Prov. Sulawesi Selatan	PT. Vale Indonesia/PT. Vale Indonesia	04/KB/Mn/2001	02 Juli 2001	4019990156
2	Sipansihaporas	Kab. Sibolga, Prov. Sumatera Utara	PT. PLN/PT.PLN	08/KKB/M/2005	25 Oktober 2005	2020040177
3	Cirata	Kab. Purwakarta, Prov. Jawa Barat	PT. PLN/PT. Pembangkitan Jawa Bali	04/KKB/m/2006	09 Agustus 2006	1019880085
4	Batubesi	Kab. Luwu Timur, Prov. Sulawesi Selatan	PT. Vale Indonesia/PT. Vale Indonesia	PR.01.04-Mn/139	10 Maret 2010	4019780052
5	Mrica/PB. Soedirman	Kab. Banjarnegara, Prov. Jawa Tengah	PT. PLN/PT.PLN	PR.01.04-Mn/17	13 Januari 2011	1019880086
6	Garung/Menjer	Kab. Wonosobo, Prov. Jawa Tengah	PT. PLN/PT.PLN	PR.01.04-Mn/18	13 Januari 2011	1019820064
7	Karebbe	Kab. Luwu Timur, Prov. Sulawesi Selatan	PT. Vale Indonesia/PT. Vale Indonesia	PR.01.04-Mn/58	08 Februari 2012	4020110199
8	Saguling	Kab. Bandung, Prov. Jawa Barat	PT. PLN/PT. Indonesia Power	PR.01.04-Mn/958	30 Mei 2013	1019840073
9	Banyu Urip	Kab. Bojonegoro, Prov. Jawa Timur	Mobile Cepu Ltd/Mobil Cepu Ltd	PR.01.04-Mn/1270	10 Desember 2015	1020140207
10	Wampu (PLTA)	Kab. Tanah Karo, Prov. Sumatera Utara	PT. Wampu Electric Power/PT. Wampu Electric Power	PR.01.04-Mn/933	03 Oktober 2016	2020150211
11	Nadra Krenceng	Kota Cilegon, Prov. Banten	PT. Krakatau Tirta Industri/PT. Krakatau Tirta Industri	PR.01.04-Mn/13	10 Januari 2017	1019770049
12	Siruar	Kab. Toba Samosir, Prov. Sumatera Utara	PT. Inalum/PT. Inalum	SA.04.03-Mn/14	03 Januari 2020	2019830068
13	Siguragura	Kab. Toba Samosir, Prov. Sumatera Utara	PT. Inalum/PT. Inalum	SA.04.03-Mn/15	03 Januari 2020	2019810060

No.	Name	Location	Dam Owner/Management	Dam Operation Permit		Regsitration Number
				Certificate Number	Date	
14	Tangga	Kab. Asahan, Prov. Sumatera Utara	PT. Inalum/PT. Inalum	SA.04.03-Mn/16	03 Januari 2020	2019830069

Based on the ownership of the dam, the following is a comparison of dams that already have an operating permit certificate:

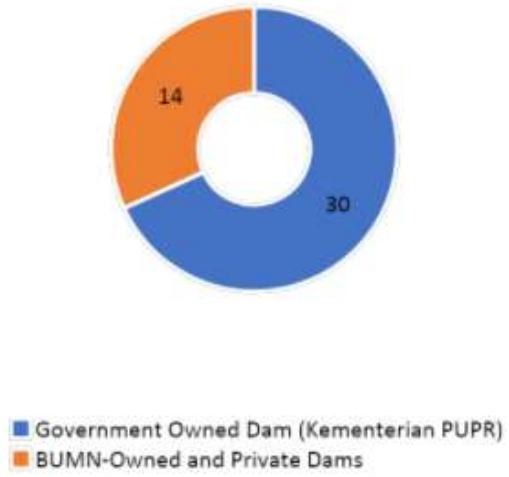

Figure 2. Total Dams Permit Operation

b. Operation Permit Process

Based on the Regulation of the Minister of PUPR Number 27/2015 regarding the dam and the procedure for submitting and issuing a dam operating permit certificate.

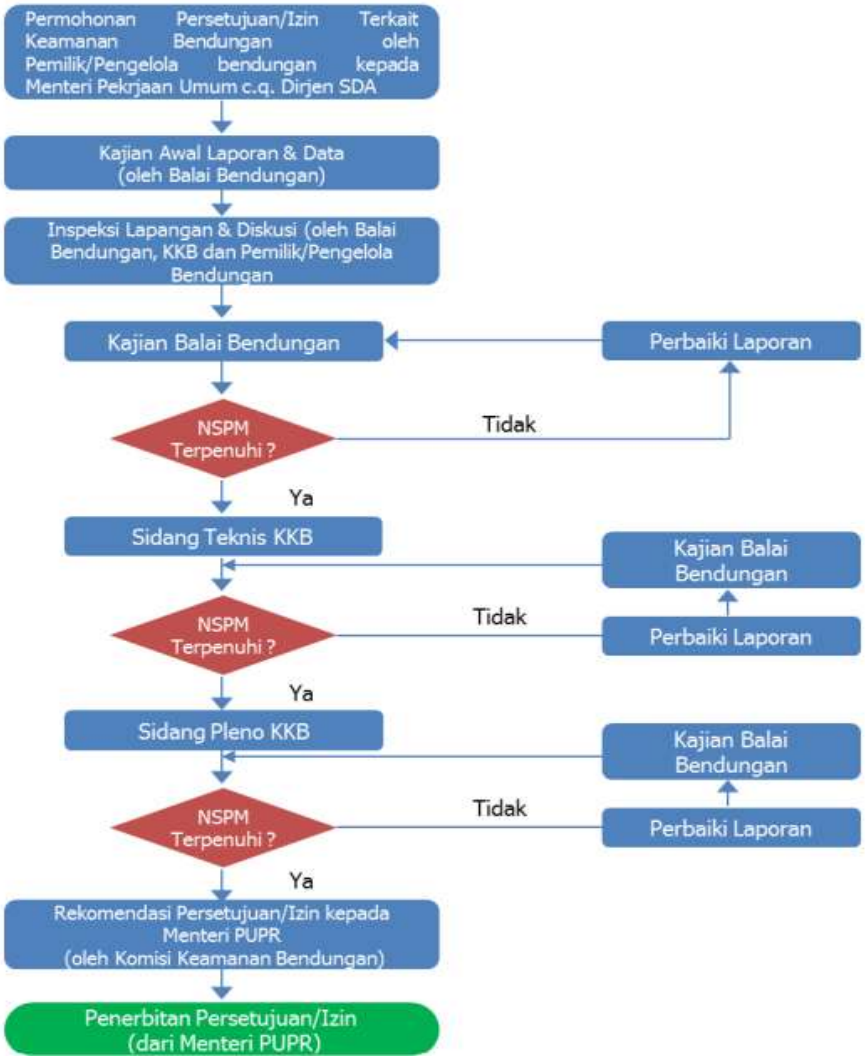

Figure 3. Dam Operation Permit Flowchart

Based on the above procedure, it can be seen that the process of obtaining a dam operating permit is a long procedure and the consequences will take a long time for each dam. For now, the condition will get worse, because the number of dams that apply for operating permits is very large, namely more than 200 dams. This is because the existing dam and the new dam simultaneously apply for an operating permit.

III. Several obstacles that cause delays in the issuance of operating licenses include:

a. The lack of quantity and quality of human resources in BBWS/BWS as dam managers, especially regarding technical mastery of dam management

b. The lack of quality and quantity of consultants and experts who handle the preparation and application for dam operation permits.
c. The lack of human resources at the Dam Engineering Center as an institution that facilitates the process of submitting and issuing dam operation permits.
d. The lack of human resources in KKB is due to the limited number of dam experts in Indonesia. Currently, generally the dam experts of KKB members are elderly, so their performance cannot be optimal.
e. The age of the existing dam that is proposed to obtain an operating permit is generally between 30-50 years and even more than 50 years. This condition requires a deeper assessment of the dam. Moreover, so far the dam does not have an operating permit and the management of the dam has not been carried out optimally due to various human resource and budgetary constraints. This condition is further exacerbated by the lack of available data on the dam.
f. The process of handling operating permits that involves many experts, but they often cannot coordinate at the same time, or change personnel who handle one dam, especially in KKB during the testing session, which has caused many changes to documents and their substance which have repeatedly caused delays in handling operating permits for each dam.

IV. Recommendation

a. Fulfillment of minimal personal needs at BBWS/BWS, Dam Balai, and KKB who have dam management expertise from various aspects of the required expertise. This is needed not only to speed up the process of issuing dam operating permits, but also to optimize dam management towards optimizing dam benefits and minimizing dam safety risks.
b. Increasing the quantity and quality of dam experts in Indonesia from various technical aspects needed through skill training that is neatly organized, systematic and sustainable.
c. Conduct various technical trainings on dams from various technical aspects needed, especially for the younger generation to support the regeneration of dam experts in Indonesia.
d. Building a flashlight technology dam as a center for dam management technology laboratories in Indonesia to make it easier for dam managers to carry out various technical tests of dams in Indonesia.

e. Upgrading of dam management technology through technology adaptation from the best practice of developed countries managing dams.
f. Improve the effectiveness and efficiency of coordination between government agencies managing dams to accelerate the issuance of certificates for dam operation permits.
g. Increase the government budget for dam management in Indonesia, especially for increasing the quantity and quality of human resources for dam managers.
h. Looking for alternative funding other than the APBN to increase funding for dam management.