सत्यमेव जयते

(For Office Use Only)

Government of Maharashtra
Water Resources Department

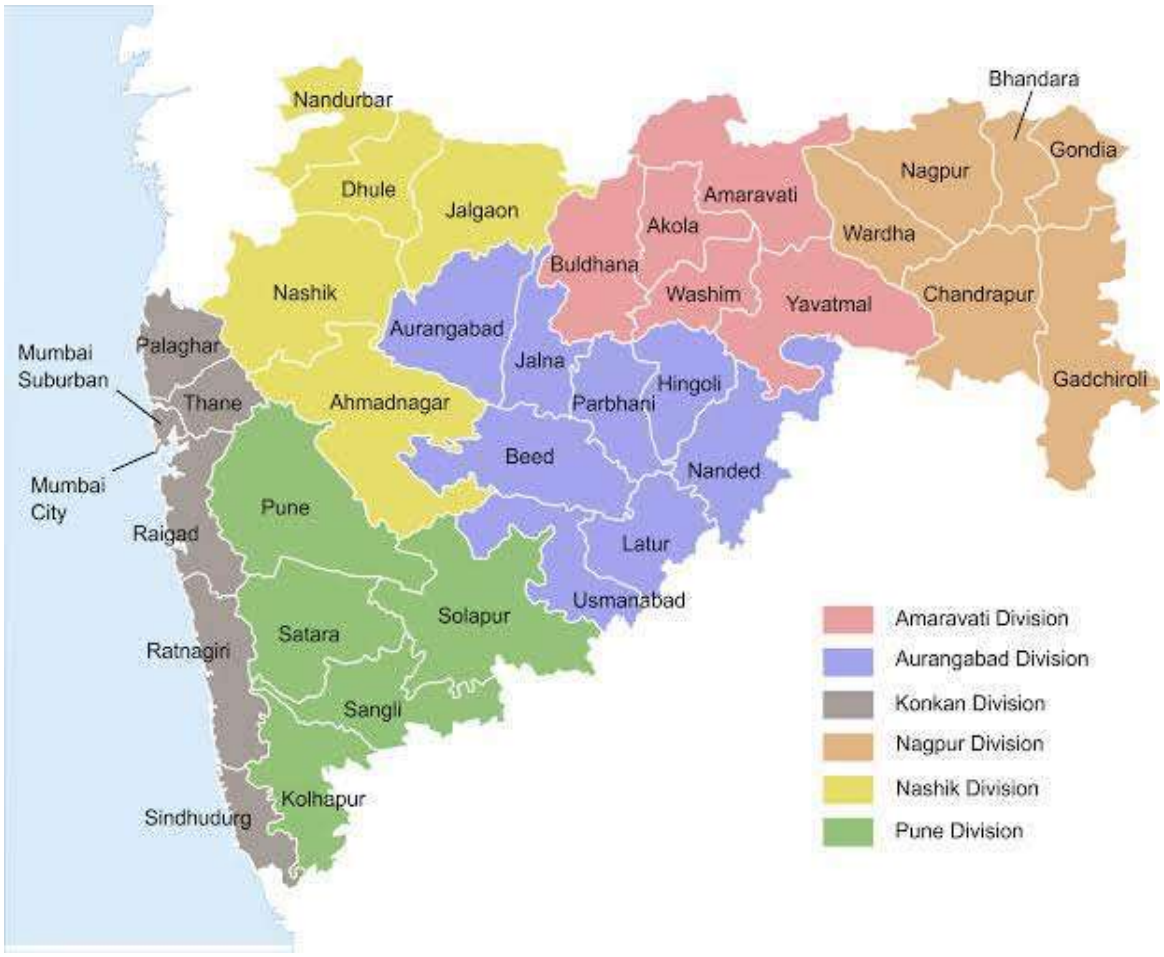
Annual Dam Health Status Report
2020-21
(Marathwada Region)

Shivna Takli Dam

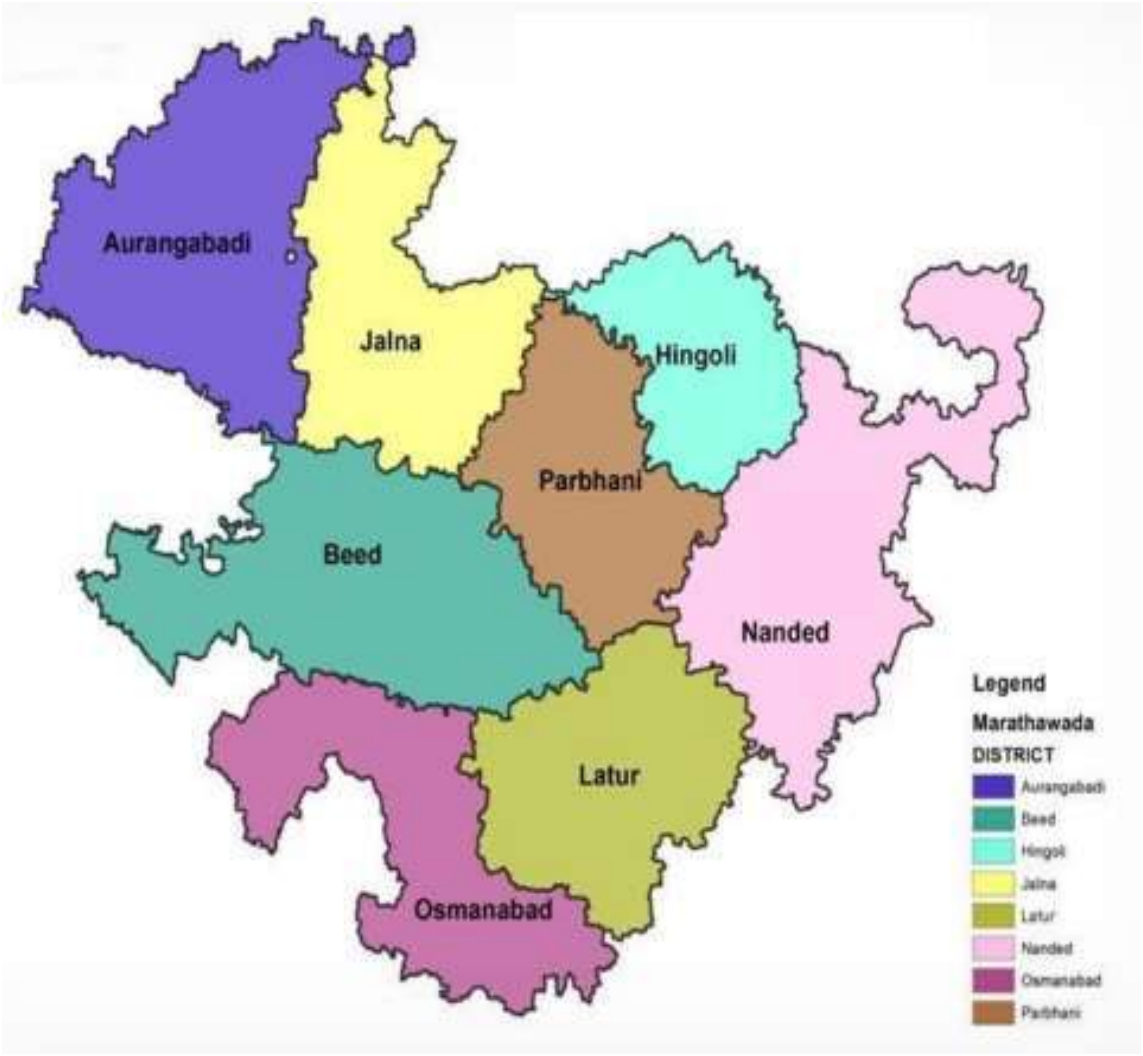
Superintending Engineer
Dam Safety Organisation
Nashik

Chief Engineer
Hydrology & Dam Safety
Nashik

Director General
Design, Training, Hydrology, Research and Safety,
MERI, Nashik



Maharashtra State



Marathwada Region

Prevention is better than cure

"Regular Inspections along with safe maintenance and operation of dams and spillways thereof, assumes vital importance to avoid probable danger to life and property on the downstream."

Superintending Engineer
Dam Safety Organisation
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महाराष्ट्र शासन
जलसंपदा विभाग

GOVERNMENT OF MAHARASHTRA
WATER RESOURCES DEPARTMENT

अधीक्षक अभियंता
धरण सुरक्षितता संघटना,
दिंडोरी रोड, नाशिक- ४२२००४
दूरध्वनी (ऑ) : ०२५३-२५३००३०
फॅक्स : ०२५३-२५३००३०
ई-मेल : se.damsafety@gmail.com

जा.क्र./धसुविक्र.३/ मराठवाडा/धरण स्थिती अहवाल २०२० -२१ /२५१/२०२१ दिनांक : २५/०६/२०२१

प्रति,

मा. कार्यकारी संचालक,
गोदावरी मराठवाडा विकास महामंडळ,
सिंचन भवन, जालना रोड,
आकाशवाणी केंद्राच्या बाजूला,
औरंगाबाद-४३१००५

विषय :- धरण स्थिती अहवाल २०२०-२१ (मराठवाडा प्रदेश)
संदर्भ :- १) शासन, पाटबंधारे विभागाचे पत्र क्र .पा .वि.१०७७ / २४०२/ १८६७/२ दिनांक- १९/०१/१९८२
२) शासन ,जलसंपदा विभागाचे पत्र क्र. संकीर्ण २०१४ /(२२०/२०१४)/सिं.व्य. (कामे) दि. ९/१०/२०१५

संदर्भिय शासन पत्र क्र. १ अन्वये आपले अधिनस्त अधीक्षक अभियंता व कार्यकारी अभियंत्याकडून या कार्यालयास प्राप्त झालेल्या मराठवाडा विभागातील पर्जन्य पूर्व व पर्जन्य उत्तर २०२० धरण निरिक्षण अहवालांची छाननी तसेच धरण सुरक्षितता संघटनेकडुन करण्यात आलेल्या Test Inspection नुसार सन २०२०-२१ वर्षाचा धरण स्थिती अहवाल संदर्भ पत्र क्र. २ अन्वये प्राप्त निर्देशा नुसार मा. महासंचालक, संप्रजसंवसु, मेरी, नाशिक यांचेकडुन प्रकाशीत करण्यात आलेला आहे.

मा. महासंचालक, संप्रजसंवसु, मेरी, नाशिक यांचे निर्देशानुसार

१) उपरोक्त प्रकाशीत धरण स्थिती अहवालातील प्रस्तावनेच्या अनुषंगाने मुद्येनिहाय अनुपालन अहवाल या कार्यालयास दि. ३१ ऑगष्ट २०२१ पर्यंत पाठविण्याचे संबंधित अधीक्षक अभियंता यांना आपल्या स्तरावरुन निर्देश देण्यात यावेत.

२) सदरचा अहवाल दरवर्षी एप्रिल महिन्यात प्रकाशीत करण्यासंबंधी धरण सुरक्षा देखरेख संचालनालय, केंद्रिय जल आयोग, नवी दिल्ली यांचे निर्देश आहेत. तथापि संबंधित अधीक्षक अभियंता व कार्यकारी अभियंता यांच्याकडुन पर्जन्य पुर्व व पर्जन्य उत्तर पाहणी अहवाल तसेच अधीक्षक अभियंता मार्फत प्राप्त होणारे त्रुटी पुर्तता अहवाल विहीत कालावधीत प्राप्त होत नसल्याने सदरचा धरण स्थिती अहवाल प्रकाशीत करण्यास विलंब झालेला आहे. यास्तव पाहणी व त्रुटी पुर्तता अहवाल विहीत कालावधीत पाठविण्यात यावेत. याबाबत आपल्या स्तरावरुन निर्देश देण्याची विनंती आहे.

३) आपल्या स्तरावरुन त्रुटी दूर करण्यासाठी आवश्यक निधी उपलब्ध करुन देण्याची व आवश्यकतेनुरुप सनियंत्रण करण्याची विनंती आहे. जेणेकरुन धरण सुरक्षित ठेवण्यास मदत होईल.

४) शासन निर्णयानुसार संकीर्ण. २०१६ (८८/१६)) / आयएम (डब्ल्यू) दि.९/५/२०१६, देखभाल व दुरुस्ती कामाच्या प्रापण सुचीस मंजुरी आणि कामाच्या अंमलबजावणीचा प्राधान्यक्रम आणि त्याची अंमलबजावणीची जबाबदारी अधीक्षक अभियंत्यांकडे सोपविण्यात आली आहे. पुनर्विलोकनाची आणि सनियंत्रणाची जबाबदारी मुख्य अभियंत्यांकडे सोपविण्यात आली आहे.हया बाबींचाही आढावा घेण्याची विनंती आहे.

यास्तव अधीक्षक अभियंत्यांनी प्रकल्पाच्या देखभाल व दुरुस्ती कामांच्या प्रापण सुची मंजूर करतांना धरण स्थिती अहवालामध्ये दर्शविलेल्या त्रुटी दूर करण्यासाठीची कामे प्रस्तावित केली आहे किंवा कसे ? याची खातरजमा करण्याची विनंती आहे.

५) धरणांची तपासणी केली जाते व धरण स्थिती अहवाल प्रकाशित केला जातो तरी देखभाल व दुरुस्ती अंतर्गत खर्च होवुन ही त्रुटी पुर्तता अत्यंतीक कमी आहे. ही बाब निदर्शनास येत आहे. त्यामुळे क्षेत्रिय अधिका-यांनी या बाबींची गंभीर दखल घ्यावी.

६) धरण सुरक्षितता धरण स्थिती अहवालातील त्रुटी पुर्तता अहवाल व पर्जन्य पुर्व व पर्जन्य उत्तर पाहणी अहवाल विहीत कालावधीत धरण सुरक्षितता संघटना, नाशिक येथे प्राप्त होणेच्या अनुषंगाने संबंधित अधीक्षक अभियंता (वर्ग-१) व कार्यकारी अभियंता (वर्ग-२) धरणांच्या बाबती आपल्या स्तरावरुन अधीक्षक अभियंता व कार्यकारी अभियंता यांना आदेशित करण्यात यावे.

७) मुख्य अभियंता यांनी अधीक्षक अभियंता (वर्ग-१) व कार्यकारी अभियंता (वर्ग-२) यांनी पर्जन्य पुर्व व पर्जन्य उत्तर पाहणी अहवाल

विहीत कालावधीत धरण सुरक्षितता संघटना, नाशिक येथे प्राप्त होणेच्या अनुषंगाने प्रादेशिक आढावा बैठकीत सदर मुद्या अंर्तभूत करुन सनियंत्रण करण्याची विनंती आहे.

८) मराठवाडा विभागाचा एकत्रित धरणस्थिती अहवाल - २०२०-२१ चे अवलोकन केले असतां वर्ग-१ चे ८ व वर्ग-२ चे ६ पावसाळापूर्व २०२० व पावसाळोत्तर २०२० धरण निरिक्षण अहवाल प्राप्त झाले नाहीत. (संदर्भ टेबल क्र. ३.२) म्हणजेच या धरणांचे निरीक्षण (Inspection) वर्षातून एकदा सुद्धा झालेले नाही. ही बाब गंभीर असून मा. महासंचालक यांनी याविषयी तिव्र शब्दात नाराजी व्यक्त केलेली आहे. सदर धरणास भविष्यात धोका उत्पन्न झाल्यास संबंधीत अधीक्षक अभियंता/ कार्यकारी अभियंता यांना जबाबदार धरण्यात येईल. याची संबंधीतांना जाणीव करून द्यावी ही विनंती.

९) मा. महासंचालक मेरी, नाशिक यांचे वर्ग-१ व वर्ग-२ धरणांचे पावसाळा पुर्व व उत्तर तपासणी अहवालासोबत धरणांवरील विशेष त्रुटीबाबतचे प्रपत्र (संदर्भ परिच्छेद क्र. १.११) तांत्रिक परिपत्रक जा. क्र. सं.प्र.ज.सं व सु/म अ सं सं/प्रशा/अधि/८८/सन २०२०, दि. २१/७/२०२० वर्ग-१ व वर्ग-२ धरणांचे पावसाळा पुर्व व उत्तर अहवालासोबत धरणांवरील विशेष त्रुटीबाबतचे प्रपत्र सादर करण्याबाबत सर्व संबंधीतांना आपले स्तरावर सूचना देण्यात याव्यात ही विनंती.

हे आपले माहितीस्तव व पुढील कार्यवाहीसाठी सादर.

सहपत्र : धरण स्थिती अहवाल २०२०-२१ (मराठवाडा प्रदेश)

(य. का. भदाणे) 25/06/2021
अधीक्षक अभियंता,
धरण सुरक्षितता संघटना,
नाशिक

प्रत -

१. मा. सचिव (जसंव्य व लाक्षेवि), जलसंपदा विभाग, मंत्रालय, मुंबई-३२ यांना अहवालासह माहितीस्तव सादर.

२. मा. महासंचालक, संकल्पन, प्रशिक्षण, जलविज्ञान, संशोधन व सुरक्षितता, मेरी, नासिक यांना अहवालासह माहितीस्तव सादर.

३. मा.मुख्य अभियंता, जलविज्ञान व धरण सुरक्षितता, नाशिक यांना अहवालासह माहितीकरीता सादर.

४. मा.मुख्य अभियंता, (यांत्रिकी), त्रंबक रोड , नाशिक

५. मा. मुख्य अभियंता व मुख्य प्रशासक, लाभक्षेत्र विकास प्राधिकरण, सिंचन भवन, गारखेडा परिसर, औरंगाबाद.-४३१००५

६. मा. मुख्य अभियंता, जलसंपदा विभाग, सिंचन भवन,आकाशवाणी जवळ, जालना रोड, औरंगाबाद- ४३१००५

७. मा. आयुक्त, महानगरपालिका, औरंगाबाद.

८. मुख्य कार्यकारी अधिकारी, नगरपरिषद जालना.

९. मुख्य कार्यकारी अधिकारी, नगरपरिषद उदगीर, जि. लातूर.

यांना अहवालासह माहितीसाठी सादर.

सहपत्र- प्रत्येकी अहवालाची एक प्रत.

प्रत -

१. उपसचिव (सिंचन व्यवस्थापन),जलसंपदा विभाग, मंत्रालय, मुंबई-३२

२. अधीक्षक अभियंता, (धरण), मध्यवर्ती संकल्पचित्र संघटना, दिंडोरी रोड, नाशिक ४२२००४.

३. अधीक्षक अभियंता, (दरवाजे), मध्यवर्ती संकल्पचित्र संघटना, दिंडोरी रोड, नाशिक ४२२००४.

४. अधीक्षक अभियंता, (यांत्रिकी), (द्वार निरीक्षण समन्वय अधिकारी), यांत्रिकी मंडळ, नाशिक

५. अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण,गारखेडा परिसर, औरंगाबाद.- ४३१००५

६. अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, जायकवाडी वसाहत, नगर रोड, बीड.

७. अधीक्षक अभियंता, बीड पाटबंधारे प्रकल्प मंडळ, सिंचन भवन, अंबेजोगाई रोड,परळी वैजनाथ, जि.बीड.

८. अधीक्षक अभियंता, औरंगाबाद पाटबंधारे प्रकल्प मंडळ, जुन्या हायकोर्टाच्या पाठीमागे, अदालत रोड ,स्नेहनगर ,औरंगाबाद -४३१००५.

९. अधीक्षक अभियंता, नांदेड पाटबंधारे मंडळ, सिंचन भवन, नांदेड -४३१६०५.

१०. अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिकरण, लातूर.

यांचे माहितीसाठी व पुढील योग्य त्या कार्यवाही साठी अहवालासह सस्नेह अग्रेषित.

सहपत्र :- प्रत्येकी अहवालाची एक प्रत.

यांना माहितीसाठी व पुढील योग्य त्या कार्यवाहीसाठी अहवालासह सस्नेह अग्रेषित.

२/- कृपया वरील अहवालाची प्रत मिळाल्याची पोहच या कार्यालयास पाठवावी हि विनंती.

प्रत -

१. कार्यकारी अभियंता, जायकवाडी पाटबंधारे विभाग, नाथनगर (उत्तर) पैठण ,जि.औरंगाबाद.
२. कार्यकारी अभियंता, औरंगाबाद पाटबंधारे विभाग, औरंगाबाद .
३. कार्यकारी अभियंता, लातूर पाटबंधारे विभाग क्रं.२ लातूर
४ कार्यकारी अभियंता, जायकवाडी पाटबंधारे विभाग क्रं.३,बीड
५ कार्यकारी अभियंता, माजलगांव पाटबंधारे विभाग, परळी वैजनाथ, जि.बीड.
६. कार्यकारी अभियंता, उस्मानाबाद पाटबंधारे विभाग-१, उस्मानाबाद
७.कार्यकारी अभियंता, उस्मानाबाद पाटबंधारे विभाग-२, उमरगा, जि. उस्मानाबाद
८. कार्यकारी अभियंता,बीड लघु पाटबंधारे विभाग, अंबाजोगाई,, जि.बीड.
९. कार्यकारी अभियंता, लघु पाटबंधारे विभाग, लातूर
१०. कार्यकारी अभियंता, मध्यम प्रकल्प विभाग, लातूर
११.कार्यकारी अभियंता, लघु पाटबंधारे विभाग क्रं.१ ,औरंगाबाद..
१२.कार्यकारी अभियंता, उर्ध्व पेनगंगा प्रकल्प विभाग क्रं. १ ,नांदेड
१३.कार्यकारी अभियंता, नांदेड पाटबंधारे विभाग (उत्तर),नांदेड .
१४. कार्यकारी अभियंता, नांदेड पाटबंधारे विभाग (दक्षिण),नांदेड .
१५.कार्यकारी अभियंता, नांदेड मध्यम प्रकल्प विभाग ,नांदेड .
१६.कार्यकारी अभियंता, लघु पाटबंधारे विभाग, नांदेड
१७.कार्यकारी अभियंता, पूर्णा पाटबंधारे विभाग , बसमतनगर ,जि. हिंगोली
१८.कार्यकारी अभियंता, जायकवाडी पाटबंधारे विभाग क्रं.२ परभणी
१९.कार्यकारी अभियंता, जालना पाटबंधारे विभाग, जालना
२०. कार्यकारी अभियंता, लातूर पाटबंधारे विभाग क्रं.१ लातूर
२१. कार्यकारी अभियंता, नांदूर मध्यमेश्वर पाटबंधारे वाभाग, वैजापूर, जि. औरंगाबाद
२२. कार्यकारी अभियंता, बीड पाटबंधारे विभाग, बीड
२३. कार्यकारी अभियंता, लेंडी प्रकल्प विभाग, देगलूर जि. लातूर
२४. कार्यकारी अभियंता, जालना लघु पाटबंधारे विभाग, जालना
२५.कार्यकारी अभियंता, पाणी पुरवठा विभाग,महानगरपालिका औरंगाबाद .
२६.कार्यकारी अभियंता, पाणी पुरवठा विभाग, नगर परिषद, जालना.
२७.कार्यकारी अभियंता, पाणी पुरवठा विभाग, नगर परिषद, उदगीर.

दोष व त्रुटी बद्दल त्वरीत कार्यवाही करुन अनुपालन/पुर्तता अहवाल या कार्यालयास त्वरीत पाठवावा ही विनंती.

२/- **सदर अहवालाची प्रत मंडळ कार्यालयाकडून प्राप्त करुन घ्यावी.**

प्रत - कार्यकारी अभियंता, धरण सुरक्षा विभाग क्र. १/२, कालवा सुरक्षा विभाग,दिंडोरी रोड, नाशिक ४
प्रत- संशोधन अधिकारी, उपकरणे संशोधन विभाग, धरण सुरक्षितता संघटना, नाशिक ४ यांना माहितीसाठी अग्रेषित.
सहपत्र :- प्रत्येकी अहवालाची एक प्रत.

प्रत- ग्रंथालय, धरण सुरक्षा विभाग क्र. ३, नाशिक
सहपत्र :- अहवालाची दोन प्रती

प्रत - ग्रंथालय, मध्यवर्ती संकल्पचित्र संघटना, नाशिक
सहपत्र :- अहवालाची एक प्रत.

FOREWORD

1.0 The Annual Health Status Report of Identified Large Dams i.e. Large Dams Class-I and Large Dams Class-II in Marathwada Region for the Year 2020-21 is prepared, based on the Inspection Reports (Pre and Post Monsoon 2020) received from field officers and the test inspections carried out by this Organisation during year 2020-21. The period of the report is from April 2020 to March 2021

2.0 This Report comprises of following Parts.

Part	Description
Part-1	General Information
Part-2	Action Taken Report (ATR)
Part-3	Annual Dam Health Status Report (ADHSR) of Pre & Post Monsoon 2020
Part-4	Annual Performance Report of Dam Instruments
Part-5	Annual Performance Report of Meteorological Instruments
Part-6	National Committee on Dam Safety (NCDS) Documents
Part-7	Dam Health and Rehabilitation Monitoring Application (DHARMA)
Part-8	Health Status of Gated Dam (As per Mechanical Organisation)

Part-1 & Part-6 to 8 are envisaged by DSO, Nashik & Part-2 to 5 are in the format provided by Dam Safety Monitoring Directorate, Central Water Commission, New Delhi vide letter No. 3/19/NCDS/HS/DSM/2001/627-56 Dated 28/08/2002.

2.1 Part-1: Covers General Information viz. Time schedule of Inspection, Classification of Dams, Inspection Authorities, Preparation of ADHSR for Class-I & Class-II Dams, Categorization and Standardization of Deficiencies, NRLD updation, which will be helpful to field officers. Inspecting officers are requested to follow the suggestion given in 'Part-1' while carrying out forthcoming Pre/Post Monsoon inspections of dams.

2.2 Part-2: Covers Action Taken Report (ATR) on Deficiencies pointed out in last Years ADHSR 2019-20 & Status of poor efforts taken by field office.

2.3 Part-3: Covers provides condensed summary of dam deficiencies noticed during inspection carried out by field officer and Dam safety Organisation in the Year 2020-21.

2.4 Part-4: Covers details of Instrumentation provided in or on Dams & its Functionality. Prepared by Instrumentation and Research Division, Nashik.

2.5 Part-5: Covers details of Metrological Instrumentation provided at Dam Site & its Functionality. Prepared by Instrumentation and Research Division, Nashik.

2.6 Part-6: Covers status of Documents (EAP, ROS & GOS, Data Book, O & M Manual, Record Drawing, Completion Report) recommended by National Committee on Dam Safety.

2.7 Part-7: Covers Progress of updation of Dam Information filled in DHARMA Web Portal.

2.8 Part-8: Covers status of Action Taken Report on Deficiencies pointed out in ADHSR- 2019-20 & Deficiencies observed in ADHSR- 2020 of Mechanical Organisation for Gated Dams.

3.0 This report covers Dam Health Status of 37 Class-I & 243 Class-II Dams owned by WRD and also covers NIL Class-I & 4 Class-II Private Owned Dams inspected by DSO twice in the year.

4.0. There are total 284 Dams in this Region. Out of 568 expected Inspection Reports, this ADHSR is based on 527 Inspection Reports received in DSO, Nashik.

Status of Receipt of Inspection Reports 2020-21 (Ref. table 3.1 & 3.3)

Dam owner	Expected Inspection Reports in DSO			Inspection Reports Received in DSO			Inspection Reports Not Received in DSO		
	Class I	Class II	Total	Class I	Class II	Total	Class I	Class II	Total
WRD	74	486	560	58	465	523	16	21	37
Private	0	8	8	0	4	4	0	4	4
Total	**74**	**494**	**568**	**58**	**469**	**527**	**16**	**25**	**41**

Dams having Deficiencies
(Ref. Table- 3.6)

Dam owner	Year	Number of dams								
		Class of Dam		Total	Class-I dams having Deficiencies			Class-II dams having Deficiencies		
		I	II		Cat-I	Cat-II	Cat-III	Cat-I	Cat-II	Cat-III
W.R.D	2019-20	37	243	280	0	05	26	0	27	235
	2020-21	37	243	280	0	05	29	0	31	237
Private	2019-20	0	04	04	0	0	0	0	04	04
	2020-21	0	04	04	0	0	0	0	04	04
Total	**2019-20**	**37**	**247**	**284**	**0**	**05**	**26**	**0**	**31**	**239**
	2020-21	**37**	**247**	**284**	**0**	**05**	**29**	**0**	**35**	**241**

Category wise Deficiencies
(Ref. Table- 3.7)

Dam owner	Year	Number of Deficiencies								
		Category–I			Category–II			Category-III		
		Class of Dam		Total	Class of Dam		Total	Class of Dam		Total
		I	II		I	II		I	II	
W.R.D	2019-20	0	0	0	19	83	102	281	952	1233
	2020-21	0	0	0	24	88	112	329	1007	1336
Private	2019-20	0	0	0	0	14	14	0	33	33
	2020-21	0	0	0	0	14	14	0	33	33
Total	2019-20	**0**	0	**0**	**19**	**97**	**116**	**281**	**985**	**1266**
	2020-21	**0**	**0**	**0**	**24**	**102**	**126**	**329**	**1040**	**1369**

Deficiencies in Gated Dams (Class-I) (As per Mechanical Organization) (Ref. Table- 8.1)						
Dam owner	Year	Number of Gated Dams	No. of dams inspected	Number of Deficiencies		
				Category		
				Category-I	Category-II	Category-III
W.R.D	2019-20	54	48	0	490	2786
	2020-21	54	44	0	516	2880
Private	2019-20	04	03	0	81	64
	2020-21	04	03	0	45	64
Total	2019-20	**58**	**51**	**0**	**571**	**2850**
	2020-21	**58**	**47**	**0**	**561**	**2944**

5.0 The responsibility of Health and Safety Monitoring of Class-III dams lies with the respective Chief Engineers. Hence for Class-III Dams based on periodical inspection reports, Annual Dam Health Status Report should be prepared & published by concerned Field Chief Engineers with submission to Government & forwarded to DSO, Nashik for record.

6.0 The deficiencies shown in the present report are based on the Pre/ Post Monsoon Inspections of the Dams carried out by the field officers and reports of them received by this organization. As such, the deficiencies and action taken thereof is the sole responsibility of the field officers.

7.0 ***Conclusions*** *:*

Government Owned Class-I Dams :

7.01 : Category-1 Deficiency is Not noticed in all 29 Dams.

7.02 : 24 No. of Category-2 Deficiencies in 5 out of total 29 No. of Dams are noticed.

7.03 : 329 No. of Category-3 Deficiencies in total 29 Dams are noticed.

7.04: Out of ATR expected for 19 No. of Category-2 Deficiencies, field action for removal of Deficiencies is noticed for NIL Deficiencies only.

Government Owned Class-II Dams :

7.05 : Category-1 Deficiency is Not noticed in all 237 Dams.

7.06 : 88 No. of Category-2 Deficiencies in 31 out of total 237 No. of Dams are noticed.

7.07 : 1007 No. of Category-3 Deficiencies in total 237 Dams are noticed.

7.08 : Out of ATR expected for 83 No. of Category-2 Deficiencies, field action for removal of Deficiencies is noticed for 2 Deficiencies only.

Private Owned Class-I Dams :

7.09: NIL No. of Category-1 Deficiencies in NIL Dam are noticed.

7.10 : NIL No. of Category-2 Deficiencies in NIL Dam are noticed.

7.11 : NIL No. of Category-3 Deficiencies in NIL Dam are noticed.

7.12 :Out of ATR expected for NIL No. of Category-2 Deficiencies, No field action is noticed for removal of Deficiencies.

Private Owned Class-II Dams :

7.13 : Category-1 Deficiency is Not noticed in any Dams.

7.14 : 14 No. of Category-2 Deficiencies in total 4 Dams are noticed.

7.15 : 33 No. of Category-3 Deficiencies in total 4 Dams are noticed.

7.16 : Out of ATR expected for 14 No. of Category-2 Deficiencies, No field action is noticed for removal of Deficiencies.

8. ***Points of Attention :***

8.01: It is mandatory that Pre Monsoon Inspection Report must be submitted to DSO, Nashik by 30th June & Post Monsoon Inspection Report must be submitted to DSO, Nashik by 31st December every Year.

8.02: As per Dam Safety Monitoring Directorate, Central Water Commission, New Delhi Annual Dam Health Status Report (ADHSR) must be submitted in the month April every Year.

8.03: It is highly regretted that only out of 560 Pre & Post Monsoon Reports NIL (0%) Reports received in stipulated period & 523 (93.39%) reports received only after rigorous follow up by DSO officials & 37 (6.61%) reports were not received at all.

8.04: ATR expected for 32 No. of Dams (102 Cat-2 Deficiencies). However ATR was received for 31 No. (99 Cat-2 Deficiencies) of Dams i.e. 97.06% of Cat-2 Deficiencies fully addressed.

8.05: Concerned Chief Engineer should monitor and instruct field Superintending Engineer & Executive Engineer regarding submission of ATR to DSO, Nashik to reflect exact status of Dam Safety works.

8.06: The Chief Engineers should compel all Superintending Engineer & Executive Engineer of concerned Dams to carry out periodic inspections and submit report to D.S.O. in time.
Brain storming of field officer regarding Dam Safety aspect must otherwise the whole exercise done by Dam Safety Organisation tends to become futile.

8.07: In case of Mechanical Organisation inspections, Out of ATR expected for 561 No. of Category-2 Deficiencies, No Action Taken Report (ATR) from field for removal of Deficiencies

8.08: High level review of Painting of structural steel to avoid further deterioration where ever required is to be done & particular attention for uprooting of trees on the earthen embankment to keep Dam embankment in safe condition is must.

8.09: Being the dam owner, safety of the dam is the prime responsibility of the concerned field Executive Engineer. In order to ensure safety of dam/dams in his jurisdiction, he shall initiate The procedures for removal of deficiencies noticed in the Pre-Post Monsoon Inspection as well as pointed out in this ADHSR by following due procedure of approval.

8.10: Higher authorities i.e. Superintending Engineer and Chief Engineer shall accord timely sanction to most economical and sustainable technical work required for Deficiency removal.

8.11:Executive Director of the corporation are requested to make required funds available to the Deficiency removal and monitor the progress periodically. This will help in keeping the Dam safe.

8.12: As per Marathi Government Resolution Misc. 2016/(88/16)/IM(W) Dtd.- 09/05/2016, Responsibility of Approval of M & R Work's Procurement List & Prioritisation of execution of work & its implementation is entrusted to Superintending Engineers. And Responsibility of Review & monitoring is entrusted to Chief Engineers.

8.13: Hence, It is expected that Superintending Engineers should verify whether Works of removal of Deficiencies are proposed to address Deficiencies pointed in ADHSR while approving Procurement List of the M & R works of the Project.

8.14: Gist of report point out that though inspection of Dams are carried out & Reports are published however status of ATR depict that despite of M & R expenditure extreme poor performance of removal deficiency is observed. Field officers should take serious note of this.

I hope this report will serve desired expectations expressed by Dam Safety Monitoring Directorate of C.W.C. New Delhi. Any error, discrepancies omissions if any may please kindly by brought to the notice. So that it can be taken into consideration in the next report.
The efforts taken by the Superintending Engineer, Dam Safety Organisation, Nashik and his team, for completion of this report are highly appreciated.

Place: Nashik

Date: 25 /06/ 2021

(A.P. Kohirkar)
Director General
Design, Training, Hydrology,
Research and Safety,
MERI, Nashik

INDEX

Part-1

General Information

Part-1 General

1.01 Introduction :

As per National Register of Large Dam (NRLD) published by CWC, New Delhi, Maharashtra has the distinction of having largest numbers of dams in the country.

A separate Organisation called Dam Safety Inspectorate, Nashik was functioning in the State since 20/10/1980. Its status is upgraded as Dam Safety Organisation, Nashik from 01/05/1985. The organization consists of a circle level unit headed by Superintending Engineer under which Executive Engineer, Dam Safety Division No.3, Nashik looks after Marathwada Region.

1.02 Inspection of Dams :

The Government of Maharashtra has delegated powers of Pre and Post Monsoon Inspection to competent authority for Pre and Post Monsoon Inspection of the Dams vide G.R Dtd.23/08/1998.

Dam Safety Organization, Nashik carries out scrutiny of the inspection reports received from field offices for Class-I & II Dams. Significant & Serious deficiencies observed during scrutiny are immediately intimated to Field Offices to carry out Remedial Measures.

The “Annual Dam Inspection Programme” is sanctioned by Director General, DTHRS MERI Nashik. Test inspections are carried out by Dam Safety Organization as a third party inspection to crosscheck the inspections carried out by Field Offices.

Marathwada Region comprising 567 Government owned Completed Dams (includes 2 National Important Dams & 47 Dams under Construction Dams) & 4 private Dams

DSO, Nashik monitors all Government Dams from safety point of view. In addition to this DSO, Nashik carried out detailed inspections of 4 Private Dams (2 owned by AMC, Aurangabad and 1 by Jalna Municipal Council & 1 by Udgir Municipal Council) on Consultancy basis.

1.03 District wise and class wise break up of number of Dams :

District	No. Of Class- I Dams	No. Of Class- II Dams	No. Of Class- III Dams	Grand Total
AURANGABAD	5	33	51	89
JALNA	4	16	23	43
PARBHANI	5	6	10	21
HINGOLI	1	4	11	16
BEED	3	65	58	126
LATUR	10	57	38	105
NANDED	6	28	48	82
OSMANABAD	2	34	44	80
YEOTMAL	1	0	0	1
TOTAL	**37**	**243**	**283**	**563**
PRIVATE	0	4	0	4
GRAND TOTAL	**37**	**247**	**283**	**567**

1.04 Time Schedule of Inspections :

The Government of Maharashtra has designed systematic approach for monitoring each and every dam. The periodical inspection of dams must be completed as per following schedule.

Type of Inspection	Last dates for	
	Completion of Inspection	Sending of Inspection reports to concerned authorities.
(1) Pre Monsoon	15th May	30th June
(2) Post Monsoon	30th November	31st December
(3) Special inspection before the first filling (Report need not be sent to Dam safety Organization)	30th April	31st May
(4) Special inspection after the first filling	Within one week after the lake attains the intended storage level.	Within one week from the date of inspection.
(5) Special inspection after a severe distressing event or accident or incident.	Immediately after the event is noted.	Within one week form the date of inspection?

1.05 Classification of Dams :

The dams are categorized into three types based on their component and features as below.

SR No	Type of Dam	Height from general level of deepest foundation in m.	Impounded gross storage capacity Up to FRL in M Cum	Spillway capacity	Type of spillway
1	2	3	4	5	6
1	Class-I Dam	Above 30 m	Above 60 M Cum	Above 3,000 Cumecs	Gated Spillway
2	Class-II Dam	15 m to 30 m	15 M Cum upto 60 MCum	2,000 to 3,000 Cumecs	Ungated Spillway
3	Class-III Dam	10 m.to15m	1.0 M Cum upto 15 MCum	2,000 to 3,000 Cumecs	Ungated Spillway

Note :

1) All dams more than 15 meters in height will be classified under “Large Dam” Irrespective of other parameters.

2) All dams less than 10 meters in height will be classified as “Small Dam” irrespective of other parameters.

3) In order to determine the exact category of “Large Dam” following procedure shall be followed. The category of dam as per (I) Height (II) Storage Capacity & (III) Spillway Capacity shall be worked out individually. The highest of category shall be

appropriate category of dam

4) Apart from above following additional parameters shall be considered for deciding

the category of the dams between 10 to 15 m. in height.

a) Dams having length of crest more than 2000 m. OR

b) Dams having specially difficult foundation problems OR

c) Dams with unusual design shall be classified under “Large Dams (Class-II)”

d) Dams having length of crest more than 500 meters but less than 2000 meters Shall be classified as “Large Dams (Class-III)”

1.06 Field Inspection Authorities :

The designated inspection authority for periodical inspection of dam depending upon the classification of type of dam is as below

Sr. No.	Type of Dam	Inspection authority	Inspection Reports to be sent to	Test Inspection
1	2	7	8	9
1	Class-I Dam	Superintending Engineer/ Administrator	1) Chief Engineer 2) Superintending Engineer Dam Safety Organization.	Test Inspection by the Regional Chief Engineer/ Chief Administrator for the dams having height more than 60 m or storage capacity more than 1000 MCum or spillway capacity 10000 Cumecs or more
2	Class-II Dam	Executive Engineer	1) Superintending Engineer/ Administrator 2) Superintending Engineer, Dam safety Organization	
3	Class-III Dam	Deputy Engineer	1)Superintending Engineer/ Administrator 2) Executive Engineer	

1.07 Preparation Of Annual Dam Health Status Reports Of Class-I & class-II Dams :

Dam safety Organization carried out scrutiny of the periodical inspection reports of Class-I & Class-II dams received from field offices and significant deficiencies are immediately communicated to concern authorities to carry out remedial measures.

Based on all periodical inspection reports from Field Offices and Test Inspections carried out by DSO, Nashik, Region wise Annual Dam Health Status Report is published by

DG, DTHRS, MERI, Nashik and submitted to Government, CWC and circulated to all concerned Field Offices.

1.08 Preparation of Annual Dam Health Status Report of Class-III Dams :

The responsibility of Health and Safety Monitoring of Class-III dams lies with the respective Chief Engineer. Hence for Class-III Dams based on periodical inspection reports, Annual Health Status Report of Class-III dams should be prepared by concern Field Chief Engineers and forwarded to DSO, Nashik for record.

1.09 Guidelines Regarding Preparation of Annual Dam Health Status Report :

ADHSR is prepared in DSO, Nashik as per Central Water Commission New Delhi's guidelines received vide letter Dtd. 28/08/2002. As per this letter it is intimated that all States / Organizations should submit the Annual Dam Health Status Report (ADHSR) in the month of 'April' every year.

1.09.1 Categorization of Deficiencies

The deficiencies observed are categorized as per CWC, New Delhi's letter Dtd. 28/08/2002 as below

Category	Action to be taken
Category-1	Dams with Major deficiencies which may lead to dam failure.
Category-2	Dams with Major rectifiable deficiencies needing immediate attention.
Category-3	Dams having Minor/ No deficiencies.

For further detailing of deficiencies based on the nature and priority of deficiency, DSO, Nashik has standardized all the three types of deficiencies.
These standardized deficiencies are as follows

1.09.2 Category – 1 Standard Deficiencies :

Sr. No.	Deficiencies	Category identifier
1 E -	**Earthen Dam.**	
1	Seepage water has created an open pathway or pipe through dam, which may lead to failure of dam by piping.	1E.1
2	Heavy seepage with muddy or turbid water is observed through any part of dam.	1E.2
3	Seepage water flooding from a boil in the foundation or from relief well on downstream side of dam.	1E.3
4	Outlet well / Head regulator well and hoisting structure is collapsed/completely damaged.	1E.4
5	Outlet pipe in the body of the dam is damaged/failed and uncontrolled outlet-releases eroding Toe of dam.	1E.5
6	Debris stuck under gate or gate leaf is cracked / failed resulting uncontrolled flow through outlet.	1E.6
1 M	**Masonry Dam**	
1	Downstream movement or tilting of dam.	1M.1

2	Differential movement of dam blocks/monoliths.	1M.2
3	Vertical Displacement with visible cracking in the body of dam.	1M.3
4	Spillway gate damaged / not working.	1 M.4

1.09.3 Category-2 Standard Deficiencies :

Deficiency Cat II (A)	Deficiency Cat II (B)
Earthen Dam	
A.1: Boil/leakage/ seepage/ wet patches/ slushiness in Earthen Dam.	**B 1:** Dam section is not as per design
A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	**B 2:** Cross and toe drains not working properly/ drains silted or vegetated causing stagnant pool of water.
A 3 : Leakages in vicinity of junction between earthen dam & masonry dam portion.	**B 3:** Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slops, bulging/concavity of slopes.
A 4 : Major leakages through outlet conduit/pipe joints/Gates.	**B 4**: Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam.
A 5 ; Relief wells not functioning properly./ Abnormal rise in water level in wells.	**B 5:** Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)
A 6 : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.	**B 6:** Approach to dam through all weather road not constructed/maintained properly.
A 7 : Retrogression /scouring in tail channel.	**B 7:** Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir.
Masonry / Concrete Dam	
A 8 : Drainage gallery inaccessible/No adequate lighting./ No dewatering arrangement or failure.	**B 8:** Pointing on U/S face of dam not in good condition./deterioration spalling of concrete surface.
A 9 : Foundation drains / holes/ porous pipes/chocked/ no seepage through foundation drain holes.	**B 9:** Instruments not in working condition.
A 10 : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.	**B 10:** Leakages through River sluice.
A 11 : Sweating / seepages through D/S of masonry dam	
A 12 : Excessive considerable leaching from seepage water.	
A 13 : Swelling / minor cracking observed on body of dam.	
A 14 : EDA / Stilling basin damaged/Hydraulic performance not good.	
A 15 : Leakages through spillway /piers//junction of flank wall.	
A 16: Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls.	
A 17 :End weir not in good condition / scouring	

Deficiency Cat II (A)	Deficiency Cat II (B)
noticed on immediate D/S.	
Spillway gates	
A 18 :Wire ropes of hoist not in good condition/hoisting structure damaged/cracked.	**B 11**: Surface paint/steel surface of spillway gates deteriorated.
A 19 : Alternative power system Generator for gate operation not working properly.	**B 12** : Damage to Rubber seals/ considerable Leakages through gates.
A 20 : Operation of gates not smooth needs repair.	
Other structures	
	B 13 : Heavy vegetation/big trees on embankment top/slope making dam portion not accessible.
	B 14 : Deck bridge slab/ pier / damaged cracked/ alignment disturbed.
	B 15 :Major portion of Pitching damaged/washed away.

1.09.4 Category-3 Standard Deficiencies :

Sr. No.	Deficiencies	Category identifier
1	Profuse growth of bushes and trees over dam portion.	3.1
2	Guard stones/ chainage stones and parapet wall not provided /damaged.	3.2
3	Growth of aquatic weeds in reservoir of dam is observed.	3.3
4	Ant hills or crab holes/holes made by rodents/animals**.**	3.4
5	Minor undulation/ settlement/slightly less top width/ Rain cuts / pot holes observed on dam top & slopes.	3.5
6	Access road**/**Dam top road surface/ slab joints damaged needs repair.	3.6
7	Pitching on embankment of dam is dislocated /disturbed at some places.	3.7
8	Breaching section is not accessible/ Instruction board showing operation of breaching section is not available.	3.8
9	Section of Toe drain/cross drain/ out fall drain/rock toe damaged at some places. Pitching of drains disturbed. Some weed, vegetation growth/ siltation in nalla/drains. Nalla needs regradation.	3.9
10	Surface drain/ Catch water drains for berms are silted /damaged	3.10
11	Electric cable & wiring are damaged/not in good condition.	3.11
12	Minor leaching in the gallery/ body of dam.	3.12
13	V – notches/ measuring devices are not in working condition/ silted /damaged/ not provided.	3.13
14	Mosquito net door is to be provided to avoid entry of reptiles in the gallery.	3.14
15	Damage to natural slope protection works,guniting damaged/washed out. Wire mesh exposed.	3.15
16	Guide wall/Divide wall/Guide bund/End Sill wall damaged/ Pointing is not in good condition/weep holes not functioning. At some places w.w bar/coping is damaged.	3.16
17	Provision of access to stilling basin/ladder not provided.	3.17
18	EDA ponding with water not possible to Inspect.	3.18
19	Minor erosion/ Scouring/Retrogression/ pot holes in tail channel. Ponding,	3.19

Sr. No.	Deficiencies	Category identifier
	standing Water in EDA / Tail channel.	
20	Lubrication/painting/minor repairs required for parts of Gates / hoisting Structure/Rubber seal damaged/ replacement.	3.20
21	Approach bridge to intake well / spillway gates railing /flooring plates damaged / need repairs. Need of ladder for inspection well/EDA.	3.21
22	Minor leakages through river sluice/outlet/ gates.	3.22
23	Air vent not periodically cleaned./damaged/closed.	3.23
24	EAP / ROS /GOS /Record drawings/ not provided / not prepared at dam site.	3.24
25	The record of periodical measurements of leakage discharge from dam / relief well is not maintained.	3.25
26	Street light on dam top is not provided/not working.	3.26
27	Security / CC TV camera/entry gate not provided/not working.	3.27
28	Sufficient staff arrangement is not available for security ,instrument readings and measurements and maintenance on dam site.	3.28
29	Fencing around dam is not provided/ damaged due to which unauthorized trespassers are seen.	3.29
30	Communication facilities like mobile wireless, warning devices, telephone is not available at dam site.	3.30
31	Sufficient stock of spares/stationary required is not available at dam site. Storage arrangement not provided at site.	3.31
32	Minor leakages through masonary/ concrete dam body/gallery of dam/outlet well.	3.32
33	Security cabin at dam entrance/Irrigation outlets not provided/damaged/needs repair.	3.33
34	Approach channel silted.Trash rack need to be cleaned/ damaged/not provided.	3.34
35	Minor damages to spillway / masonary/ concrete portion of dam/outlet well.	3.35
36	Porous pipes/foundation drains / holes not periodically cleaned.	3.36

1.10 Standard Procedure For Confirmation And Removal of Category-1 Deficiency of Dams

A systematic approach and working methodology is very essential to monitor the safety aspects of the dams.

During the scrutiny of Pre and Post Monsoon report or during DSO test Inspection whenever it is found that the deficiency is of Category-I, it will be immediately communicated to concern SE and CE.

Concerned SE /CE should immediately visit the dam and should satisfy himself that the deficiency pointed out is a major deficiency which may lead to failure of dam and should confirm to the DSO, Nashik regarding the classification of deficiency as per his opinion.

After conformation from Field Chief Engineer it will appear in ADHSR.

Remedial Measures for Category-I deficiency removal shall be undertaken immediately. And after completion of physical work of deficiency removal, Concern Chief Engineer should communicate status to DSO, Nashik immediately.

1.11 Special Deficiencies

Director general, DTHRS, Nashik has circulated a circular of special deficiencies dated 21/07/202 (सं.प्रा.ज.सं.सु./म.अ.सं.सं./प्रशा/अधि/८८/सन २०२०) to all field offices to attend the below special deficiencies along with periodical inspection report

Statement No-1

Special Attention Deficiencies (Civil), Attached with Pre- Post monsoon Inspection Reports

(Availability of Compulsory Manpower & Documents at dam Site)

Deficiency category	Deficiency	Present Status, Details.
Sp-1	Whether Emergency Action Plan is kept at dam site or	
Sp-2	Whether Approved Reservoir Operation Schedule is kept	
Sp-3	Whether Latest approved gate Operation Schedule is to	
Sp-4	Whether Record Drawings sets are kept at dam site /	
Sp-5	Whether Standard Operating Procedure copy with Updated contact numbers of all concerned authorities are	
Sp-6	Whether Chart showing location of rain gauges / river gauges on U/s catchment & approximate travel time of	
Sp-7	If CCTV is established, how observations are done round the clock & who is responsible person to observe these.	
Sp-8	Whether Sufficient arrangement of staff is available or not. Engineers / Operators / Electrician / Watchmen / Security etc. and also staff for instrument reading, measurement & maintenance.They may be Govt. employee or through outsourcing. This staff is especially compulsory during monsoon period.	
Sp-9	Whether Communication facilities like mobile, wireless, warning devices, telephone are available at dam site, or	
Sp-10	Whether The record of periodical measurements of leakage discharge from dam / relief well etc. is	
Sp-11	Is there any profuse growth of bushes or trees over any	

Statement No-2

Special Attention Deficiencies (Mech & Elect), Attached with Pre- Post monsoon Inspection Reports

(Compulsory Minimum repairs, For Spillway Gates & Gallery)

Deficiency category	Deficiency	Present Status, Details.
Sp-12	Whether Wire ropes of hoist are in good condition/hoisting structure damaged/cracked ?.	
Sp-13	Whether Alternative power system- Stand by two Generators for gate operation are working properly or not ?	
Sp-14	Whether the **o**peration of all gates is smooth or needs repair ?.	
Sp-15	Whether Lubrication/ painting/ minor repairs for parts of Spillway Gates and Hoisting structure are carried out or not ?.	
Sp-16	Whether Rubber seals of gates are damaged or needs replacement ?.	
Sp-17	Due date of painting of each part should be displayed on dam site as per mechanical maintenance schedule	
Sp-18	Whether Electric cable / wiring / lights etc are in working condition are not ?	
Sp-19	Whether gallery is having excessive leakages ?	

1.12 National Register of Large Dams (NRLD) :

Dams having Height above 10 meter are classified as per the norms of International Commission on Large Dams (ICOLD).

NRLD is consists of information of Large Dams as per 20 columns proforma covering information regarding salient features.

NRLD is updated in every January. Hence Field offices need to submit the information of new dams every year to DSO by December to incorporate it in NRLD. The response regarding submission of NRLD information from field offices is very poor, it is always observed that DSO officials has to take rigorous follow up to obtain requisite information.

1.13 Points of attention :

General	Details
Inspection details	1) The periodical inspection reports of all the dams shall be sent in original instead of carbon or xerox copy. (Signed copy shall be emailed in advance to DSO. 2) Ambiguous or incomplete replies shall be avoided. It is necessary to check point wise replies, which should clear and self explanatory. 3) The deficiencies observed frequently since long shall be deleted after verification of rectification work. 4)The inspecting officer is advised to write the word "special attention" in inspection report against all such items wherever immediate attention is necessary from concerned field officer in charge of dam from safety point of dams and life & property on the downstream & would be useful for identifying categorization of deficiencies in Dam Safety Organization, Nashik. 5) The information in Appendix II (Performance of meteorological instruments installed) and Appendix III (performance of taking observation of instruments installed in large dams) shall be filled properly and complete. 6) The compliance of rectification work of deficiencies of each dam mentioned in status report shall be communicated to Dam Safety Organization, Nashik every year so that this can be included in the Action Taken Report Part-I of status report.
Salient features	1) Due care shall be taken while filling the salient features of dam and information regarding N.C.D.S. documents. 2) Date of inspections is not mentioned in some Pre / Post Inspection Reports. This is mandatory since it will reflect in the Annual health status report.
Dam and Dam reach (Embankment)	1) If the existing dam section is found under section as compared to the design section during inspection then the work of re-sectioning shall be carried out and opinion of inspecting officer shall be stated in inspection report. 2) The extent of embankment settlement shall be furnished with its measurement & Reduced Distance (R.D.) and it shall be with compared designed cross section.
Gallery / Shaft Drainage (Concrete / Masonry)	The monolith wise quantum of leaching in galleries and all type of leakages in dam shall be noted in inspection report.
Spillway and Energy Dissipation Structure	The quantum of retrogression/scouring in tail channel shall be given in inspection report.

General	Details
Hydro-Mechanical Component and Turbine/Pump	The trial of spillway gates shall be carried out before monsoon every year & observed condition shall be mentioned in inspection report.
Instrumentation	It is observed that the information regarding number of instruments installed does not tally for pre & post monsoon inspection report of the same dam. In some cases it is observed that the list of instruments given in previous year do not appears in the current year. These discrepancies should be avoided.

Part-2

Action Taken Report

Part-2: Action Taken Report (ATR) :

2.1 General :

Annual Dam Health Status Reports (ADHSR) of Dams for Year 2019-20 was published by Director General, DTHRS, MERI, Nashik in May 2020 and submitted to Govt. of Maharashtra and also circulated to all Field Offices ranging from Divisions to Corporations for information and carrying out remedial measures.

It is expected that Field Officers should go through the Status Report scrupulously and attend remedial measures on priority basis and submit Action Taken Report (ATR) for reflecting necessary repairs & attention given for maintaining safety of Dams in the ADHSR.

2.2 ATR Submitted by Field Offices :

In this region there are Government owned 37 Class-I & 243 Class-II Dams & Private owned 4 Class-II Dams

. As per ADHSR 2019-20 Action Taken Report was expected from Government owned 5 Class-I & 27 Class-II Dams & Private owned 4 Class-II Dams.

However Action Taken Report were received from Government owned 5 Class-I & 26 Class-II Dams & Private owned NIL Class-II Dams. [Ref. Table 2.1, 2.2 & 2.3]

2.3 Action Taken Report of Class-I & Class-II Dams (Government owned)

2.3.1 Action Taken Report (ATR) on Category-1 Deficiency of Class-I Dam

No such Deficiency was reported *[Ref. Table 2.1 & 2.4]*

2.3.2 Action Taken Report (ATR) on Category-2 Deficiency of Class-I Dam

In 5 Dams 19 Category-2 Deficiencies were reported. Out of that all 5 Dams ATR were received which shows only NIL Deficiencies complied against 19. [Ref. Table 2.2 & 2.5]

2.3.3 Action Taken Report (ATR) on Category-1 Deficiency of Class-II Dam

No such Deficiency was reported *[Ref. Table 2.1 & 2.6]*

2.3.4 Action Taken Report (ATR) on Category-2 Deficiency of Class-II Dam

In 27 Dams 83 Category-2 Deficiencies were reported. Out of that 26 Dams ATR were received which shows only 1 dam Deficiencies complied against 26. [Ref. Table 2.2 & 2.7]

2.4 Action Taken Report of Class-I & Class-II Dams (Private owned)

2.4.1 Action Taken Report (ATR) on Category-1 Deficiency of Class-I Dam

No such Deficiency was reported *[Ref. Table 2.1 & 2.8]*

2.4.2 Action Taken Report (ATR) on Category-2 Deficiency of Class-I Dam

No such Deficiency was reported [Ref. Table 2.2 & 2.9]

2.4.3 Action Taken Report (ATR) on Category-1 Deficiency of Class-II Dam

No such Deficiency was reported *[Ref. Table 2.1 & 2.10]*

2.4.4 Action Taken Report (ATR) on Category-2 Deficiency of Class-II Dam

In 4 Dams 14 Category-2 Deficiencies were reported. Out of that NIL Dams ATR were received which shows no Deficiencies complied against 14. [Ref. Table 2.2 & 2.11]

2.5 Conclusions :

As 32 out of 1 ATR is not received in DSO.

2.6 Points of Attention:

1. ***After rigorous follow up by DSO officials 31 No. of ATR (96.88%) received & till 1 No. of ATR (3.12%) were not received. It shows lack of seriousness from field officers regarding Dam safety issues.***
2. ***ATR expected for 32 No. of Dams (102 Cat-2 Deficiencies). However ATR was received for 31 No. (Out of 102 Cat-2 Deficiencies 2 deficiencies is fully complied) of Dams i.e. only 1.94 % of Cat-2 Deficiencies fully addressed.***
3. ***ATR expected for 32 No. of Dams (102 Cat-2 Deficiencies). However ATR was received for 31 No. (99 Cat-2 Deficiencies) of Dams i.e. only 97.06 % of Cat-2 Deficiencies Partly addressed.***
4. ***Concerned Chief Engineer should monitoring field Superintending Engineer & Executive Engineer regarding submission of ATR to DSO, Nashik to reflect exact status of Dam Safety works. Otherwise whole execercise of publishing AHSR will be futile***

Table - 2.1

Consolidated Abstract of Status of Compliance of Category-1 Deficiencies in ADHSR-2019-20

Sr.No	Agency	Dams & Deficiencies						Status of Deficiencies removal as per compliance report received in DSO, Nashik																					
		Class-I Dam		Class-II Dam		Total		Physically fully completed						Physically partly completed						Administrative action initiated						Compliance report not received in DSO					
								Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total	
		No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1	No. Of Dams	No. of Def. Cat -1
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
----------NIL----------																															

Table - 2.2

Consolidated Abstract of Status of Compliance of Category-2 Deficiencies in ADHSR-2019-20

Sr. No	Agency	Dams & Deficiencies						Status of Deficiencies removal as per compliance report received in DSO, Nashik																					
		Class-I Dam		Class-II Dam		Total		Physically fully completed						Physically partly completed						Administrative action initiated						Compliance report not received in DSO					
								Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total	
		No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
A) Chief Engineer, Water Resources Department, Aurangabad																															
1	NIC, Nanded	03	09	01	02	04	**11**	0	0	0	0	**0**	**0**	1	2	1	2	**2**	**4**	2	7	0	0	**2**	**7**	0	0	0	0	**0**	0
2	AIC, Aurangabad	01	06	00	00	01	**06**	0	0	0	0	**0**	**0**	0	0	0	0	**0**	**0**	1	6	0	0	**1**	**6**	0	0	0	0	**0**	0
3	BIPC, Parali (V)	00	00	01	03	01	**03**	0	0	0	0	**0**	**0**	0	0	0	0	**0**	**0**	0	0	0	0	**0**	**0**	0	0	1	3	**1**	3
Total (A)		**04**	**15**	**02**	**05**	**06**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**2**	**2**	**4**	**3**	**13**	**0**	**0**	**3**	**13**	**0**	**0**	**1**	**3**	**1**	**3**
B) Chief Engineer, CADA, Aurangabad																															
1	CADA Aurangabad	00	00	10	35	10	**35**	0	0	1	2	**1**	**2**	0	0	2	9	**2**	**9**	0	0	7	24	**7**	**24**	0	0	0	0	**0**	0
2	CADA, Beed	00	00	06	20	06	**20**	0	0	0	0	**0**	**0**	0	0	0	0	**0**	**0**	0	0	6	20	**6**	**20**	0	0	0	0	**0**	0
3	CADA,Latur	01	04	09	23	10	**27**	0	0	0	0	**0**	**0**	0	0	1	3	**1**	**3**	1	4	8	20	**9**	**24**	0	0	0	0	**0**	0
Total (B)		**01**	**04**	**25**	**78**	**26**	**82**	**0**	**0**	**1**	**2**	**1**	**2**	**0**	**0**	**3**	**12**	**3**	**12**	**1**	**4**	**21**	**64**	**22**	**68**	**0**	0	0	0	0	**0**
Government Total (A+B)		**5**	**19**	**27**	**83**	**32**	**102**	**0**	**0**	**1**	**2**	**1**	**2**	**1**	**2**	**4**	**14**	**5**	**16**	**4**	**17**	**21**	**64**	**25**	**81**	**0**	0	1	3	1	**3**

Sr. No	Agency	Dams & Deficiencies						Status of Deficiencies removal as per compliance report received in DSO, Nashik																							
		Class-I Dam		Class-II Dam		Total		Physically fully completed						Physically partly completed						Administrative action initiated						Compliance report not received in DSO					
								Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total		Class-I Dam		Class-II Dam		Total	
		No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2	No. Of Dams	No. of Def. Cat -2
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Private																															
1	AMC, Aurangabad	0	0	02	06	02	06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	0	0	2	6	2	6
2	JMC, Jalna	0	0	01	05	01	05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	0	0	1	5	1	5
3	UMC, Udgir, Dist.Latur	0	0	01	03	01	03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**	0	0	1	3	1	3
	Private Total	**0**	**0**	**04**	**14**	**04**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**14**	**4**	14
	Grand Total	**05**	**19**	**31**	**97**	**30**	**116**	**0**	**0**	**1**	**2**	**1**	**2**	**1**	**2**	**4**	**14**	**5**	**16**	**4**	**17**	**21**	**64**	**25**	**81**	**0**	**0**	**5**	**17**	**5**	17

Table - 2.3

Dams for which Compliance Report not received in DSO, Nashik

Sr. No.	Compliance Report not received	Total Number of Dam	Sr. No.	Compliance Report Not Received	Total Number of Dam
1	2	3	4	5	6
Class-I Dams				**Class-II Dams**	
A) Chief Engineer, Water Resources Department, Aurangabad					
I) Superintending Engineer, BIPC, Parali(V), Beed					
				1) Executive Engineer, LMID, Latur	
			1	1. Ghonshi MI Tank	1
Total		**0**	**Total**		**1**

Table 2.4

ATR on Category-1 Deficiency in Class-I Dams

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
---------- NIL ----------						

Table 2.5

ATR on Category-2 Deficiency in Class-I Dams

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
A) Chief Engineer, CADA, Aurangabad						
I) Superintending Engineer & Administrator, C.A.D.A., Latur						
1) Executive Engineer, Latur Irrigation-1, Latur						
1	Name :- **MANJRA** Year of completion :- 1980 Location : - Longitude :- 76^0 15' 00" Latitude :- 18^0 55' 00" Height :- 30 m Gross capacity :- 22.40 Mm^3 Design Spillway capacity :- 8370 Cumecs S.N. in National regi. of large Dams 2009 :- MH09MH1585	16/5/2019 23/11/2019	Foundation	Considerable leaching from the seepage water and deposition of lime near the seepage exit spots. (A12)	Leaching material should be tested from MERI, Nashik & repair work should be taken in hand accordingly.	Leaching material sent to MERI
				Leakage through guide wall is observed. (A15)	Necessary repairs should be carried out to stop the seepage	Work is proposed under DRIP-II Scheme
			Body Wall Spillway Structural performance	Emergency gate or wire rope, guide tees are rusted.	Repairs should be carried out.	(Ltr No. 416 dated 8/3/2021)
				Gates end Arm holes are missing. Gates both side wire rope rusted. Gates hoists and gear train covsers are very heavy to open & close. (A18)	Repairs should be carried out with the help of Mechanical organization	(Ltr No. 416 dated 8/3/2021)

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
B) Chief Engineer, Water Resources, Aurangabad						
I) Superintending Engineer, NIC, Nanded						
1) Executive Engineer, NID(South), Nanded						
2	Name :- **LOWER MANAR** Year of completion :- 1964 Location : - Longitude :- 76° 45' 00" Latitude :- 19° 4' 30" Height :- 27 m Gross capacity :-139 Mm3 Design Spillway capacity :- 8778 Cumecs Sr. No. in National Register Of large Dams - MH09MH0170	NA 13/11/2019	W.W. Bar & TC	Scouring is observed at spillway D/s chainage 110-240 m. (A7)	Repairs at the scoured section should be carried out.	Administrative action is in progress
			Outlet	Conduit is not structurally sound and not reasonably leak proof. (A4)	Amount and exact location of leakage should be ascertained and necessary repairs should be carried out.	Administrative action is in progress (Ltr No. 1469 dated 24/3/2021)
2) Executive Engineer, PID, Basmatnagar, Dist. Hingoli						
3	Name :- **YELDARI** Year of completion :- 1962 Location : - Longitude :- 76° 45' 00" Latitude :- 19° 4' 30" Height :- 51.23 m Gross capacity :-934.440 Mm3 Design Spillway capacity :-10477 Cmecs Sr. No. in National Register Of large Dams - MH09HH0171	20/5/2019 4/11/2019	Relief Wells	Relief wells @ch. 299.90, 303.10, 305.00, 306, 306.50, 307.00, 308.50 are not in good condition.(A5)	Relief well should be surged & cleaned periodically.	Work is proposed under DRIP-II scheme
			Foundation	Repairing to lighting arrangement of Drainage Gallery is essential.(A8)	Adequate LED lighting with water proofing PVC pipe casing should be provided.	Yet not attended

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
				Seepage water spring is observed above 50% capacity on Left flank of NOF @ Ch.40 & 60 m and level @ 450 & 200 and 451.500 m (A1) Sweating observed on D/s face of dam. (A11)	Location of spring with reference to the water level in dam & gallery should be monitored. Necessary repairs should be carried out	Work is proposed under DRIP-II scheme
			Body Wall End weir	End weir is not accessible. Scouring below end weir is noticed.	Location & causes of sweating should be examined & necessary repairs should be carried out by using water proofing compound.	Work is proposed under DRIP-II scheme
				Standing pool of water on d/s of end weir. (A17)	Access to end weir should be provided. Necessary repairs to stop scouring should be carried out. Dewatering should be carried out.	Yet not attended (Ltr No. 1469, dated 24/3/2021)
4	Name :- **SIDDHESHWAR** Year of completion :- 1968 Location : - Longitude :- 75° 05' 30" Latitude :- 19° 0' 20" Height :- 38.10 m Gross capacity :-250.85 Mm3 Design Spillway capacity :-10789 Cumecs Sr. No. in National Register Of large Dams MH09HH0172	20/5/2019 25/11/2019	Earthen Dam D/s Drainage	Standing pool of water is observed in the d/s of the dam. (A2)	The D/S area of W. W. bar at least up to 200m, from bar shall be free from standing pool. Dewatering should also be carried out	Attended Work completed in October-2019
			Spillway gates	All wire ropes need to be altered/replaced. (A18)	All wire ropes needs to be replaced / repaired with the help of Mechanical Organisation.	Work in progress (Ltr No. 1469, dated 24/3/2021)

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
B) Chief Engineer, Water Resources, Aurangabad						
II) Superintending Engineer, AIC, Aurangabad						
1) Executive Engineer, MID-1, Aurangabad						
5	Name :- **SHIVANA TAKLI** Year of completion :- 2005 Location : - Longitude :- 75° 05' 30" Latitude :- 20° 07' 52" Height :- 20.40 m Gross capacity :- 39.36 Mm3 Design Spillway capacity :- 3271 Cumecs Sr. No. in National regi. Of large Dams 2009:- **MH09MH1651**	12/5/2019 11/12/2019	U/S Slope	Dam section is not as per design section (B1)	Restore the dam section as per design section.	Yet to be attended Administrative action is in progress(Ltr No. 1388 dated 9/4/2021
			Crest of dam	Crest profile is not as per proper elevation. (B1)	Restore the crest profile as per design section.	Yet to be attended
			Gallery	Heavy leakages in right and left side of gallery. Electrification is damaged. (A8,A10)	Dewatering shall be done .Reason for heavy leakages shall be find out and leakages should be reduced by providing proper treatment.	Seeking Guidance from CDO/CWPRS Ltr No. 1388 dated 9/4/2021
			Spillway	Sweating is seen on spillway. (A11)	Necessary remedial measures should be carried out.	Yet to be attended
				Rubber seals shows sign of weathering need to be repaired (B12)	Rubber seals should be repaired or replaced.	Brought in notice to Mechanical Wing Ltr No. 1388 dated 9/4/2021
			Spillway gates Outlet gates	Operation of outlet gates are not smooth (B5)	Necessary repairs should be carried out with the help of Mechanical Organisation.	

Table 2.6

ATR on Category-1 Deficiency in Class-II Dams

Sr. No.	Dam Features	Date Of Inspection	Main Component Of Dam	Observation / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
---------- NIL ----------						

Table 2.7

ATR on Category-2 Deficiency in Class-II Dams

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
A) Chief Engineer, CADA, Aurangabad						
I) Superintending Engineer & Administrator, CADA, Aurangabad						
1) Executive Engineer, Jalna Irrigation Division, Jalna						
1	Name : **DHOKSAL** Date of completion :1964 Location : Longitude : 75° 21' 00" Latitude : 20° 44" 00" Gross Capacity :10.73 Mm3 Height : 17.70 m. Design spillway Capacity 219 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0755**	10/5/2019 NA 7/1/2020	Earthen embankment	E/W and pitching required for full length (B3)	Pitching should be provided.	Work order for Rs.42 lakhs is issued to contractor. Due to Covid-19 issue actual execution of work not yet started. Work will be completed in June-2021 (Letter No. 1344 dated 26/03/2021)
			W.W. Bar.& T/C.	W.W. Masonry of body wall is heavily disturbed. Leakage extent to 2 to 3 cusecs noticed. (B7)	Necessary repairs should be carried out. Necessary treatment in the affected area shall be carried out to stop/minimize leakage.	
				Coping damaged through full length of w.w. bar.(B7)	Coping work should be carried out to full length of w.w. bar.	
				Apron is fully disturbed. (A14)	Necessary repairs should be carried out.	
				EDA heavily damage.(A14)	Necessary repairs should be carried out.	
				Scouring to d/s is observed. (A7)	Provide necessary work / arrangement to prevent scouring.	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
2	Name : **DHAMNA** Date of completion :1974-75 Location : Longitude : 76 º 50' 00" Latitude : 20 º 27'00" Gross Capacity : 10.72 Mm3 Height : 13.45 m. Design spillway Capacity - 1388 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09LH0450**	12/5/2019 NA 9/7/2019	Earthen Embankment	Relief wells not functioning properly. (A5)	Necessary repairs should be carried out for proper functioning of relief wells..	Administrative work in progress. Rs.38 lakhs is issued to contractor. Due to Covid-19 issue actual execution of work not yet started. (Letter No. 1344 dated 26/03/2021)
			W.W Bar &T.C..	Leakage to the tune of 1 cusecs observed. Pointing disturbed.(B7)	Necessary repairs should be carried out to stop the leakages & provide pointing.	
				Scouring is noticed at TC (A7)	Necessary repairs should be carried out to stop scouring	
3	Name : **KALYAN GIRIJA** Date of completion :1972 Location : Longitude : 76 º 10' 40" Latitude : 19 º 50' 00" Gross Capacity : 10.16 Mm3 Height : 22.07 m. Design spillway Capacity - 1310 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH310	14/5/2019 NA	W.W Bar &T.C..	Excessive leakages are observed through masonry as well as foundation of w.w. bar. (B7)	Necessary repairs should be carried out to stop leakages.	Attended
				Scouring is noticed due to heavy leage through w.w. bar. (B7)	Necessary repairs should be carried out to stop scouring	Attended (Letter No. 1344 dated 26/03/2021)

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
2) Executive Engineer, Aurangabad Irrigation Division, Aurangabad						
4	Name : **SOYEGAON** Date of completion : 1967 Location : Longitude : 75º35'00' Latitude : 20º33'00'' Gross Capacity : 2.54 Mm3 Height : 17.50m. Design spillway Capacity 480 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0148**	16/5/2019 NA	Outlet	Outlet gate does not open/close smoothly. (B5)	Necessary repairs should be carried out.	Yet not attended Administrative work in progress. (Letter No. 13448 dated 26/03/2021)
			W.W.Bar& TC	Stilling basin is damaged slightly. (A14)	Necessary repairs should be carried out	
				Guide bund is damaged at some portion (A16)	Necessary repairs should be carried out.	
5	Name : **BANOTI** Date of completion : 1968 Location : Longitude : 75º20'00' Latitude : 19º56'50'' Gross Capacity : 3.22 Mm3 Height : 19.50m. Design spillway Capacity 525 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0165**	16/5/2019 NA	Outlet	Outlet well & gate are damaged and needs complete renovation (A6)	Necessary repairs should be carried out with the help of Mechanical Organisation.	Yet not attended Administrative work in progress. (Letter No. 1344 dated 26/03/2021)
			W.W.Bar & TC	Masonry of w.w. bar is not in good condition.. (B7)	Necessary repairs should be carried out	
				Heavy leakages noticed near spillway bar in masonry flank wall. (A15)	Necessary repairs should be carried out to stop the leakagess.	
				Retrogression/scouring is noticed in tail channel. (A7)	Necessary repairs should be carried out	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
6	Name : **AMBADI** Date of completion : 1975 Location : Longitude : 75º6'00' Latitude : 20º56 '00'' Gross Capacity : 12 Mm3 Height : 20 m. Design spillway Capacity 1412 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0737**	29/5/2019 NA	Earthen Embankment	Settlement observed at RD 700 to 1200 m (B3)	Restore the dam section to design section.	Work is in progress & will complete in end of March-2021
			W.W Bar &T.C..	Standing pool of water are seen on d/s of dam at RD 100 m (A2)	Necessary repairs should be carried out	Yet not attended
				Retrogression / scouring is noticed on d/s of bar at 1.5 m deep and 3 m long. (A7)	Provide necessary work / arrangement to prevent scouring.	Yet not attended (Letter No. 1344 dated 26/03/2021)
7	Name : **KALDARI** Date of completion : 2000 Location : Longitude : 75º15' 30' Latitude : 20º29'00'' Gross Capacity : 30.90 Mm3 Height : 17.70m. Design spillway Capacity 360 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0880**	16/5/2019 NA	Earthen Embankment	Dam is under section throughout the length. (B1)	Restore the dam section to design section. .	Administrative work in progress.
				Guide wall is damaged due to heavy flood. (A16)	Necessary arrangements to guide the flood should be provided.	Yet not attended
			W.W Bar &T.C..	Leakages observed through masonry components. (B7)	Necessary arrangements to stop leakage should be provided	Survey has done. Administrative work in progress. (Letter No. 1344 dated 26/03/2021)

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
8	Name : **NIMBHORA** Date of completion : 1981 Location : Longitude : 75º12'00' Latitude : 20º19'00'' Gross Capacity :1.56 Mm3 Height : 17.60m. Design spillway Capacity 211 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0897**	1/6/2019 NA	Outlet	Outlet well not in good condition, u/s masonry collapsed. (A6)	Necessary repairs should be carried out	Administrative work in progress.
			W.W.Bar& TC	Spillway bar is not in good condition. (B7)	Necessary repairs should be carried out	Yet not attended (Letter No. 1344 dated 26/03/2021)
9	Name : **SANJUL** Date of completion : 1967 Location : Longitude : 75º25'00' Latitude : 20º07'00'' Gross Capacity : 3.08 Mm3 Height : 210m. Design spillway Capacity 542 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0149**	1/6/2019 NA	Earthen Embankment	Crest profile not at proper elevation. (B1)	Restore the dam section to design section.	Yet not attended Administrative work in progress. (Letter No. 1344 dated 26/03/2021)
			Outlet	Outlet gate not functioning properly. Unusual noise noticed. (B5)	Necessary repairs should be carried out with the help of Mechanical organisation.	
				Outlet well is silted up and damaged. Well is closed by blocking stones. (A6)	Necessary repairs should be carried out	
			W.W Bar &T.C..	W.W.bar is not in good condition.Cracks in the masonry and holes to d/s are noticed. (B7)	Necessary repairs should be carried out	
				Right side guide bund is damaged. (A7)	Necessary repairs should be carried out	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
10	Name : **AJANTA ANDHARI** Date of completion : 1982 Location : Longitude : 75º46'00' Latitude : 20º31'00'' Gross Capacity :7.53 Mm3 Height : 21 m. Design spillway Capacity 781 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0941**	9/7/2019	Earthen Embankment	Sand boiling noticed at Ch.550 m in toe drain area. (A1)	Necessary repairs to stop boling should be carried out immediately. .	Yet not attended Administrative work in progress. (Letter No. 1344 dated 26/03/2021)
			Outlet	Junction of embankment and outlet well is not intact. (A16)	Necessary repairs should be carried out	
				A pit having approx. diameter 1 m having ht. 1.25 m is noticed.	Necessary repairs should be carried out	
			W.W. bar & TC	Leakage through foundation of w.w. bar is observed. (B7)	To stop leakage, RCC jacketing to W.W. bar should be provided	
II) Superintending Engineer & Administrator, CADA, Beed						
1) Executive Engineer, Jayakwadi Irrigation Division-3, Beed						
11	Name :- **BINDUSURA** Date of completion :- 1955 Location : - Longitude :- 75° 44' 30" Latitude :- 18° 45' 45" Height :- 18.00 m Gross capacity :- 9.57Mm^3 Design Spillway capacity :- 1654 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0072**	1/5/2019 1/11/2019	E/DAM	There is standing pool of water at ch. 371 m. (A2)	The D/S area of W. W. bar at least up to 200m, from bar shall be free from standing pool. Dewatering should also be carried out.	Yet not attended Work is proposed in DRIP-II scheme (Ltr No. 950 dated 17/3/2021)
			W.W. Bar. & T/C.	Masonry of Spillway bar damaged in some portion.There is leakage in some portion. (B7)	Masonry of Spillway bar should be repaired. Repair work to prevent leakages should be carried out.	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
12	Name :- **LOKARWADI** Date of completion :- 2001 Location : - Longitude :- 75° 54' 00" Latitude :- 18° 54' 00" Height :- 23.91 m Gross capacity :- 2.23 Mm^3 Design Spillway capacity :- 341 m3/sec. Sr. No. in National regi. Of large Dams 2009:- -- **MH09MH2280**	7/5/2019 12/11/2019	E / Dam.	There are standing pool of water observed at d/s of gorge portion at nalla level. (A2)	The D/S area of W. W. bar at least up to 200m, from bar shall be free from standing pool. Dewatering should also be carried out.	Yet not attended Work is proposed in DRIP-II scheme (Ltr No. 950 dated 17/3/2021)
				Leakage is observed at nalla level (Discharge 0.25 cusecs) (A3)	Necessary repairs should be carried out to prevent leakages	
			Outlet	Leakage through gate observed (o.30 cusecs) (B12)	Necessary repairs should be carried out to prevent leakages	
				Leakage through H.R and E/W joint (B5)	Provide necessary arrangement to prevent standing leakage at joint of HR & E/W	
			W.W. Bar. & T/C.	Leakages through d/s of w.w. bar in tail channel from direction of wing wall &w.w. body wall joint observed. (B7)	Necessary repairs should be carried out to prevent leakages	
1) Executive Engineer, Majalgaon Irrigation Division, Parali (V), Beed						
13	Name :- **KASARI** Date of completion :- 1988 Location : - Longitude :- 75° 04' 30" Latitude :- 18° 45' 00" Height :- 15.52 m Gross capacity :- 0.872 Mm^3 Design Spillway capacity :- 142.80 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0854**	13/5/2019 22/11/2019 13/7/2019	Earthen Embankment	Leakage through casing zone. (A1)	Necessary arrangement should be provided to stop leakage.	Administrative action is in progress (Ltr No. 950 dated 17/3/2021)
			Outlet	Outlet well not in good condition (A6)	Necessary repairs should be carried out.	
				Outlet well is collapsed.(A6)	Necessary repairs should be carried out.	
				Leakages through junction of outlet well & embankment (A3)	Necessary arrangement should be provided to stop leakage	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
14	Name :- **LIMBACHIWADI-1** Date of completion :- 2005 Location : - Longitude :- 76° 5' 2" Latitude :- 18° 50' 58" Height :- 20.08 m Gross capacity :- 1.414 Mm^3 Design Spillway capacity :- 273 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2087**	11/5/2019 7/11/2019 13/7/2019	Earthen Embankment	Leakage through earthen embankment (A1)	Necessary arrangement should be provided to stop leakage.	Administrative action is in progress (Ltr No. 950 dated 17/3/2021)
			W.W. bar & TC	Leakage through foundation and masonry of w.w. bar.(B7)	Necessary arrangement should be provided to stop leakage	
				Leakage through guide wall (3.16)	Necessary arrangement should be provided to stop leakage.	
15	Name :- **LIMBACHIWADI-2** Date of completion :- 2006 Location : - Longitude :- 76° 06' 03" Latitude :- 18° 04' 41" Height :- 17.95 m Gross capacity :- 1.40 Mm^3 Design Spillway capacity :- 661.50 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2088**	11/5/2019 7/11/2019 13/7/2019	Earthen Embankment	Minor Leakage through earthen embankment at middle portion (A1)	Necessary arrangement should be provided to stop leakage.	Administrative action is in progress (Ltr No. 950 dated 17/3/2021)
			\W.W. bar & TC	Leakage through foundation and masonry of w.w. bar. (B7)	Necessary arrangement should be provided to stop leakage.	
				Guide wall is collapsed. (3.16)	Necessary repairs should be carried out	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
16	Name :- **DETHEWADI** Date of completion :- 2005 Location : - Longitude :- 75° 58' 51" Latitude :- 18° 52' 48" Height :- 21.88 m Gross capacity :- 1.409 Mm^3 Design Spillway capacity :- 236.80 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1649**	11/5/2019 7/11/2019 12/7/2019	Earthen Embankment	Leakage through earthen embankment (A1)	Necessary arrangement should be provided to stop leakage. .	Administrative action is in progress (Ltr No. 950 dated 17/3/2021)
			Outlet	Leakage through junction of outlet & embankment.(A3)	Necessary arrangement should be provided to stop leakage. From junction	
			W.W. bar & TC	Leakage through foundation of w.w. bar. (B7)	Necessary arrangement should be provided to stop leakage from foundation	
				W.W. bar damaged (B7)	W.W. bar should be constructed	
III) Superintending Engineer & Administrator, CADA, Latur						
1) Executive Engineer, Latur Irrigation Division-2, Latur						
17	Name :- **ANANDWADI (ST)** Date of completion :- 2002 Longitude :- 76° 49' 15" Latitude :- 18° 22' 30" Height :- 18.80 m Gross capacity :- 2.026 Mm^3 Design Spillway capacity :- 256.84 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1607**	**2/4/2019** **30/1/2019**	Earthen Embankment	Settlement of 0.50 to 0.60 m observed between Ch.150 to 210 m. (B3)	Restore the dam section to designed section.	Administrative action is in progress (Ltr No. 416 dated 8/3/2021)
			W.W Bar &T.C..	Scouring at D/s side of w.w. bar up to foundation level noticed (A7)	Provide necessary work / arrangement to prevent scouring.	
				Damages observed at guide wall/divide wall needs repairs at ch. 27 to 40 m & 48 to 73 m. (A16)	Appropriate measures or repairs should be carried out.	
				Retrogression/scouring in tail channel noticed. (A7)	Overburdens should be removed to make the effective flow of water in tail channel	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
18	Name :- K**ENDREWADI** Date of completion :- 2013 Longitude :- 76º44'15'' Latitude :- 18º37'00'' Height :- 15.80m Gross capacity :- 2.258Mm^3 Design Spillway capacity :- 305.344 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2278**	**2/4/2019** **6/11/2019**	W.W Bar & T.C.	Guide bund is washed out / damaged and the material is spread out in nearby field & river portion (A16)	Appropriate measures or repairs should be carried out.	Work proposed in DRIP-II & III Scheme (Ltr No. 416 dated 8/3/2021)
				Right side guide bund damaged due to heavy rain in 9/2016	Necessary repairs should be carried out.	
19	Name :- **HALAD WADHONA (ST)** Date of completion :- 2001 Longitude :- 77º13'55'' Latitude :- 18º36'35'' Height :- 19.15m Gross capacity :- 3.693 Mm^3 Design Spillway capacity :- 442.28 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09LH1510**	**11/4/2019** **12/12/2019**	W.W.Bar& TC	32 m long and 0.90 m in height of w.w. bar not constructed.(B7)	Balance work should be completed immediately.	Yet to be attended (Ltr No. 416 dated 8/3/2021)
				Guide wall is broken in 4 patches and protection bund in 10 m length (A16)	Necessary repairs should be carried out.	
				Guide bund is broken in some patches. (A16)	Necessary repairs should be carried out.	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
20	Name :- **SONALA(ST)** Date of completion :- 2006 Longitude :- 77º08'10'' Latitude :- 18º35'16'' Height :- 16.3m Gross capacity :- 5.491Mm^3 Design Spillway capacity :- 1119 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2289**	**4/4/2019** **12/12/2019**	Earthen Embankment	Few quantity of Standing water observed at junction of guide wall & embankment noticed. (A2)	Leakage should be located, monitored & necessary repair work should be carried out to prevent leakages.	Administrative action is in progress (Ltr No. 416 dated 8/3/2021)
			W.W.Bar & TC	Scouring at D/s side of w.w. bar up to foundation level noticed (A7)	Provide necessary work / arrangement to prevent scouring.	
				At Ch.50 to 150 m, guide divide wall is damaged. (A16)	Appropriate measures or repairs should be carried out.	
21	Name :- **HALLI (KH)** Date of completion :- 2008 Longitude :- 76º51'30'' Latitude :- 18º08'00'' Height :- 21.00m Gross capacity :- 1.467Mm^3 Design Spillway capacity :- 138.854 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2274**	**2/4/2019** **6/11/2019**	W.W.Bar & TC	Scouring on d/s side of bar. (A7)	Provide necessary work / arrangement to prevent scouring.	Administrative action is in progress (Ltr No. 416 dated 8/3/2021)
				EDA is not in good condition (A14)	Necessary repairs should be carried out.	
				Guide bund is totally washed away (A16)	Necessary repairs / reconstruction of guide wall should be carried out.	
				Retrogression / souring in tail channel noticed. (A7)	Overburdens should be removed to make the effective flow of water in tail channel	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
22	Name :- **TIRU** Date of completion :- 1976 Longitude :- 77º04'06'' Latitude :- 18º25'22'' Height :- 21.00m Gross capacity :- 23.32Mm^3 Design Spillway capacity :- 1994 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0595**	4/4/2019 3/12/2019	W.W.Bar& TC	Automatic gates - 71 nos. are not operated automatically and not working properly. (A20)	Repairs to automatic gates should be carried out with the help of Mechanical Organisation.	Yet to be attended (Ltr No. 416 dated 8/3/2021)
2) Executive Engineer,Osmanabad Irrigation Division-1, Osmanabad						
23	Name : **TINTRAJ** Date of completion :1985 Location : Longitude : 75° 31' 00" Latitude : 18° 36' 00" Gross Capacity: 1.393 Mm3 Height : 15.55 m. Design spillway Capacity 429.76m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH093**	22/1/20b20	E/dam	Longitudinal cracks observed from Ch.260 to 280 m (B4)	Necessary repairs should be carried out.	Work will be completed upto June-2021 Administrative process is in progress (Letter No. 416 dated 8/3/2021)
			Outlet	Outlet well is not in good condition.(A6)	Necessary repairs should be carried out.	
			W.W.Bar & TC	Heavy damages to tail channel & apron was noticed. (A7,A14)	Necessary repairs should be carried out	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
3) Executive Engineer,Osmanabad Irrigation Division-2, Omerga						
24	Name : **SINDGAON ST** Date of completion :1997 Location : Longitude : 76° 08' 00" Latitude : 17° 50' 00" Gross Capacity: 3.282Mm3 Height : 16.3m. Design spillway Capacity 318 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH1631**	27/5/2019 27/11/2019	Outlet	Outlet well is totally damaged. All the assembly of outlet well and gate isin collapsed condition. (A6)	Necessary repairs should be carried out.with the help iof mechanical organisation.	Administrative process is in progress (Letter No. 416 dated 8/3/2021)
25	Name : **KUNSAWALI ST** Date of completion :1998 Location : Longitude : 74° 50' 00" Latitude : 18° 45' 00" Gross Capacity: 1.165 Mm3 Height : 15.04 m. Design spillway Capacity 113.08 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0107**	27/5/2019 27/11/2019	Outlet	Cavity of embankment near outlet well noticed. (B3)	Necessary repairs should be carried out. .	Administrative process is in progress (Letter No. 416 dated 8/3/2021)
			W.W.Bar & TC	W.W. bar is damaged at several places & masonry is exposed. Pointing & coping damaged. (B7)	Necessary repairs should be carried out.	

SR. NO	DAM FEATURES	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
B) Chief Engineer, WRD, Aurangabad						
I) Superintending Engineer, Nanded Irrigation Circle, Nanded						
1) Executive Engineer, Nanded Irrigation Division (North), Nanded						
26	Name : **PALAIGUDA** Date of completion : 1999. Location : Longitude : 78° 04' 44" Latitude : 19° 04' 40" Gross Capacity :5.87Mm3 Height : 19.85 m. Design spillway Capacity 193.10 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH1513		Outlet	Major cracks to the UCR masonry of outlet well near girder portion. (A6)	Necessary repairs should be carried out	Work will be completed in March-2022
				Junction of well & embankment is settled down (B3)	Necessary repairs should be carried out	Yet not attended (Ltr No. 1469, dated 24/3/2021)
II) Superintending Engineer, Beed Irrigtion Project Circle, Parali (V), Beed						
1) Executive Engineer, Nanded Irrigation Division (North), Nanded						
27	Name : **GHONSHI M.I.Tank** Date of completion : 1991 Location : Longitude : 77° 09' 20" Latitude : 18° 31' 45" Gross Capacity :1.247 Mm3 Height : 19.85 m. Design spillway Capacity 494.08 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09LH1226**	31/5/2019 30/11/2019	E/Dam	Settlement is noticed. Dam top is shrinked 1.0 to 1.50 m depth in chainage 90 m to 840 m. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly	Yet not attended
				Wet patches at d/s of dam at THL level from RD 270 m to 390 m (A1)	Necessary repairs should be carried out to prevent wet patches and leakages.	Yet not attended
			Outlet	Outlet gate are not open & close smoothly.(B5)	Necessary repairs should be carried out with the help of Mechanical Organisation.	Yet not attended

Table 2.8

ATR on Category-1 Deficiency in Class-I Dams (Private Owned)

SR.NO.	NAME OF DAM	DATE OF INSPECTION	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED	REMEDIAL MEASURES SUGGESTED	IMPLEMENTATION STATUS
1	2	3	4	5	6	7
---------- NIL----------						

Table 2.9

ATR on Category-2 Deficiency in Class-I Dams (Private owned)

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
---------- NIL----------						

Table 2.10

ATR on Category-1 Deficiency in Class-II Dams (Private Owned)

Sr.No.	Name of Dam	Date of Inspection	Main component of Dam	Significant Deficiencies Noticed	Remedial Measures Suggested	Implimentation Status
1	2	3	4	5	6	7
---------- NIL----------						

Table 2.11

ATR on Category-2 Deficiency in Private Class-II Dams

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
A) EXECUTIVE ENGINEER,WATER SUPPLY AURANGABAD MUNICIPAL CORPORATION, AURANGABAD.						
1	Name : **KHAM (SANGVI)** Date of completion : 1968. Location : Longitude: 75° 21' 247" Latitude : 19° 56' 17" Gross Capacity :29.70 Mm3 Height : 10.20 m. Design spillway Capacity N.A. m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0175**	8/1/2020	Drains	Drains are not free from silt & vegetation (B2)	The tail end of C-drains shall be open & cleaned and shall be kept free flowing. .	Yet not attended
			Outlet	Slab of outlet well is damaged & railing and planks are absent. (B5)	Necessary repairs may be carried out.	Yet not attended
				Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection	Yet not attended
2	Name : **OVER (HARSUL)** Date of completion : 1964 Location : Longitude : 75° 19' 56" Latitude : 19° 50' 32" Gross Capacity : N.A.. Mm3 Height : 16.0 m. Design spillway Capacity N.A..m3/sec. Sr.No.in National Register of Large Dams 2009 : **MH09MH0101**	8/1/2020	E / Dam.	Undulation on top of dam observed.(B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.	Yet not attended
			Drains	Drains are not free from silt & Vegetation (B2)	The tail end of C-drains shall be open & cleaned & shall be kept free flowing.	Yet not attended
				Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection.	Yet not attended

Sr. No	Dam Features	Date of Inspection	Main component of Dam	Observations / Significant Deficiencies Noticed	Remedial Measures Suggested	Implementation Status
1	2	3	4	5	6	7
B) EXCUTIVE ENGINEER, (WATER SUPPLY), JALNA NAGAR PARISHAD, JALNA						
3	Name : **GHANEWADI** Date of completion : 1975. Location : Longitude: 75° 51' 03" Latitude : 19° 54' 42" Gross Capacity :14.44 Mm3 Height : 16.00 m. Design spillway Capacity N.A..m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0053**	7/1/2020	E / Dam	Section of dam is not as per design Section. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.	Yet not attended
				Longitudinal cracks is observed. (B4)	Cracks should be filled with appropriate casing material.	Yet not attended
			Drains	Toe drains are not free from silt & vegetation (B3)	The d/s area at least up to above 200m. from toe, shall be free from Stagnation. The area should be well drained.	Yet not attended
			W.W. bar & TC	Various Components of right side w.w. bar is heavily damaged. (B7)	Necessary repairs should be carried out on priority.	Yet not attended
				Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection.	Yet not attended
C) CITY ENGINEER, (WATER SUPPLY), UDGIR NAGAR PARISHAD, UDGIR, DIST. LATUR						
4	Name : **BANSHELKI** Date of completion : 1968. Location : Longitude: 77° 05' 32" Latitude: 18° 21' 53" Gross Capacity :NA Mm3 Height : 23.00 m. Design spillway Capacity N.A..m3/sec. Sr No in National Register of Large Dams 2009 : **NA**	18/9/2019	E/Dam	Dam section is not as per design. Undulations are noticed. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.	Yet not attended
				Pitching is disturbed throughout the dam length. (B3)	Pitching should be relayed /replaced	Yet not attended
			W.W. bar & TC	Scouring is noticed at d/s side of w.w. bar. (3.19)	Necessary arrangements should be provided to stop scouring.	Yet not attended

Part-3

Dam Health Status Report of Pre & Post Monsoon 2020

Part-3: Dam Health Status Report of Pre & Post Monsoon 2020

3.1 General:

Dam Safety Division No. 3 under Dam Safety Organization, Nashik exercies compilation of Annual Pre & Post Inspection Reports of Dams submitted by Field Offices as well as Test Inspection Reports of Selected Dams carried out by Dam Safety Organization, Nashik in the form of Annual Dam Health Status Report (ADHSR).

3.2 Inspection Reports submitted by Field Offices :

In all there are 280 Government owned Dams & 4 Private owned Dams are monitored by Dam Safety Organization, Nashik from safety point of view.

280 Government owned Dams constitute 37 Class-I & 243 Class-II Dams. Private owned Dams constitute 4 Class-II Dams.

Government owned Dams : Pre Monsoon Reports were received for 266 Dams. However, out of 280 Dams, Post Monsoon Reports were received from 266 Dams. 14 Class-I & class-II Dams Reports were not received in DSO. *[Ref. Table 3.1 & 3.2]*

3.3 Test Dam Inspection by Dam Safety Organisation :

Test Inspection Programme for Test Inspection of selected Dams is approved by Director General, DTHRS, MERI, Nashik.

As per approved Annual Test Dam Inspection Programme, Class-I Dams are inspected by SE, DSO along with EE, DSD & Class-II Dams are inspected by EE, DSD, Nashik.

On similar lines in case of Private owned Dams,full fledged inspection of Class-I Dam is carried out by SE, DSO along with EE, DSD & Class-II Dam is carried out by EE, DSD, Nashik.

Government owned Dams : Despite of Covid-19 pandemic 100% Dams (6 Class-I, 26 Class-II & 1 Class-III) as proposed for test inspection were inspected by team of Dam Safety Organization, Nashik. *[Ref. Table 3.5]*

Private owned Dams : Due to Covid-19 pandemic Pre monsoon inspection of Private owned dams were not carried out & Post Monsoon Inspections for all 4 Dams were carried out by DSO. *[Ref. Table 3.3 & 3.4]*

Following team of officers have inspected targeted Dams in Marathwada region

1) Shri Y.K. Bhadane, Superintending Engineer Dam Safety Organization, Nashik
2) Shri C.T.Mondhe, Sub Divisional Engineer, Dam Safety Division No.3, Nashik
3) Shri. V.P.Bildikar, Sectional Engineer, Dam Safety Division No.3, Nashik

And Following team of officers have taken efforts to prepare this report.

1) Shri Y.K. Bhadane, Superintending Engineer Dam Safety Organization, Nashik
2) Shri C.T.Mondhe, Executive Engineer, Dam Safety Division No.3, Nashik (A.C.)
3) Shri C.T.Mondhe, Sub Divisional Engineer, Dam Safety Division No.3, Nashik
4) Shri. V.P.Bildikar, Sectional Engineer, Dam Safety Division No.3, Nashik
5) *Shri S.A.Hire, Research Scientific Assistant, Dam Safety Division No.3, Nashik*

3.4 Health Status of Class-I & Class-II Dams (Government owned)

This report excerpts details of Deficiencies received from Pre & Post Monsoon Inspections Reports based on detailed inspections carried out by concerned field Superintending Engineer for Class-I Dams & Executive Engineer for Class-II Dams.

And it also covers test inspection carried out by team of officers from Dam Safety Organization, Nashik.

3.4.1 Class-I Dams with Category-1 Deficiency

For 37 dams, Pre & Post monsoon reports of 29 dams are received in DSO. There are no Category-1 Deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.4.2 Class-I Dams with Category-2 Deficiency.

For 37 dams, Pre & Post monsoon reports of 29 dams are received in DSO. There are 5 dams having Category-2 Deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.4.3 Class-I Dams with Category-3 Deficiency

For 37 dams, Pre & Post monsoon reports of 29 dams are received in DSO. There are 29 dams having Category-3 Deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.4.4 Class-II Dams with Category-1 Deficiency

For 243 dams, Pre & Post Post Monsoon Reports of 237 dams are received in DSO. There are no Category-1 Deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.4.5 Class-II Dams with Category-2 Deficiency

For 243 dams, Pre & Post Post Monsoon Reports of 237 dams are received in DSO There are 31 dams having Category-2 Deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.4.6 Class-II Dams with Category-3 Deficiency

For 243 dams, Pre & Post Post Monsoon Reports of 237 dams are received in DSO There are 237 Dams having Category-3 Deficiancies. Based on that Table 3.7 & 3.8 are prepared.

3.5 Health Status of Class-I & Class-II Dams (Private)

This report excerpts details of Deficiencies extracted from Pre & Post Monsoon Inspections Reports based on detailed inspections carried out by Superintending Engineer along with Executive Engineer, DSD-3, Nashik for Class-I Dams & Executive Engineer, DSD-3, Nashik for Class-II Dams from Dam safety Organisation, Nashik.

3.5.1 Class-I Dams with Category-1 Deficiency

There is no Class-I type private owned dam. There are no Category-1 Deficiencies. Based on that Table 3.6 & 3.7 is prepared.

3.5.2 Class-I Dams with Category-2 Deficiency.

There is no Class-I type private owned dam. There are no Category-2 Deficiencies. Based on that Table 3.6 & 3.7 is prepared.

3.5.3 Class-I Dams with Category-3 Deficiency

There is no Class-I type private owned dam. There are no Category-3 Deficiencies. Based on that Table 3.6 & 3.7 is prepared.

3.5.4 Class-II Dams with Category-1 Deficiency

For 4 dams, Both Pre & Post Monsoon Inspections are carried out. There are no Category-1 Deficiencies. Based on that Table 3.6 & 3.7 is prepared.

3.5.5 Class-II Dams with Category-2 Deficiency

For 4 dams, Both Pre & Post Monsoon Inspections are carried out. There are 4 dams having Category-2 deficiencies. Based on that Table 3.6 & 3.7 are prepared.

3.5.6 Class-II Dams with Category-3 Deficiency

For 4 dams, Both Pre & Post Monsoon Inspections are carried out. There are 4 dams having Category-3 deficiencies. Based on that Table 3.6 & 3.7 is prepared.

3.6 A Graphical Representation of Deficiencies attended, Submission of Pre/Post Monsoon Reports, Category wise Deficiencies, Class wise of Deficiencies is appended in Annexure I.

3.7 Selected Snapshots of DSO Test inspection. Test Inspections are complied in Annexure -II

3.8 : Conclusions :

3.8.1 Frequent deficiencies Class-I Dams

1. **A 18** :Wire ropes of hoist not in good condition/hoisting structure damaged/cracked – (02 Dam)
2. **A 12** : Excesssive considerable leaching from seepage water. (02 Dam)
3. **A-11** : Sweating/seepages through downstream of masonry dams. (02 Dams)
4. **A.1**: Boil leakage/ seepage/ wet patches/ slushiness in Earthen Dam – (02 Dam)
5. **A 2**: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam – (01 Dam)

3.8.2 Frequent deficiencies Class-II Dams

1. **B 7**: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir. (15 Dam)
2. **A 7** : Retrogression /scouring in tail channel – (07 Dam)
3. **A-16** Damages/foundation erosion/scouring / undermining observed in vicinity of flank walls/guide walls / junction wall / return valves (07 Nos)
4. **A 14** : EDA / Stilling basin damaged/Hydraulic performance not good - (04 Dam)
5. **A-1**: Boil leakage/ seepage/ wet patches/ slushiness in Earthen Dam – (04 Dam)

3.9 Points of Attention

1) This overview provides condensed summary of deficiencies noticed in the Pre & Post Monsoon Inspection Report Received in DSO & also during test inspection conducted by DSO Officials to which field officers / owners of the Dams are required to pay attention to maintain Dams in Safe condition.

2) It is also noticed that out of 280 Pre & Post Monsoon Reports NIL (0%) Reports received in stipulated period & 266 (95%) reports received only after rigorous follow up by DSO officials & 14 (5%) reports were not received at all. It shows lack of seriousness from field officers regarding Dam safety issues.

3) The Chief Engineers are requested to flag this issue and compel all Superintending Engineer & Executive Engineer of concerned Dams to carry out periodic inspections and submit report to D.S.O. in time. Otherwise the whole exercise done by Dam Safety Organisation tends to become futile.

Table 3.1

Status of Receipt of Pre & Post Monsoon Inspection Reports 2020

Sr. No.	Name of Office	Expected Inspection Report in DSO			Pre Monsoon Inspection Report Received in time (By 30th June)			Pre Monsoon Inspection Report Not Received in time (By 30th June)			Pre Monsoon Inspection Report Not Received			Post Monsoon Inspection Report Received in time (By 31st Dec)			Post Monsoon Inspection Report Not Received in time (By 31st Dec)			Post Monsoon Inspection Report Not Received		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	A) Chief Engineer & Chief Administrator, CADA, Aurangabad																					
1	SE,CADA, Aurangabad	09	44	53	0	0	**0**	9	39	**48**	0	5	**5**	0	0	**0**	9	39	**48**	0	5	**5**
2	SE,CADA, Beed	01	59	60	0	0	**0**	1	59	**60**	0	0	**0**	0	0	**0**	1	59	**60**	0	0	**0**
3	SE, CADA, Latur	13	89	102	0	0	**0**	5	87	**92**	8	2	**10**	0	0	**0**	5	87	**92**	8	2	**10**
	B) Chief Engineer, Water Resources, Aurangabad																					
4	SE,BIPC, Parali (V)	01	08	09	0	0	**0**	1	2	**3**	0	6	**6**	0	0	**0**	1	8	**9**	0	0	**0**
5	SE,AIC, Aurangabad	01	11	12	0	0	**0**	1	10	**11**	0	1	**1**	0	0	**0**	1	11	**12**	0	0	**0**
6	SE, NIC, Nanded	12	32	44	0	0	**0**	12	32	**44**	0	0	**0**	0	0	**0**	12	32	**44**	0	0	**0**
	Total	**37**	**243**	**280**	0	0	**0**	**29**	**229**	**258**	**8**	**14**	**22**	0	0	**0**	**29**	**236**	**265**	**8**	**7**	**15**

Table 3.2
Dams for which Inspection Report of 2020 is Not Received in DSO

Sr. No.	Pre & Post Monsoon Report Not Received (Both)		Either Pre or Post Inspection Not Report			
			Pre Monsoon		Post Monsoon	
	Class-I	Class-II	Class-I	Class-II	Class-I	Class-II
1	2	3	4	5	6	7
	A) Chief Engineer & Chief Administrator, CADA,Aurangabad					
	I) Superintending Engineer & Administrator , C.A.D.A, Aurangabad					
	1) Executive Engineer, Nandur Madhmeshwar Irrigation Dn., Vaijapur, Dist.Aurangabad					
1	---	Bhilawani	---	Bhilawani	Jayakwadi	Bhilawani
2	---	Manyad	---	Manyad	Apegaon HL Barrage	Manyad
3	---	Tembhapuri	---	Tembhapuri	Mangrul HL Barrage	Tembhapuri
4	---	---	---	---	Rajatakli HL Barrage	---
5	---	---	---	---	Jogladevi HL Barrage	---
6	---	---	---	---	Loni Savangi HL Barrage	---
7	---	---	---	---	Bordahegaon	---
8	---	---	---	---	Narangi	---
	2) Executive Engineer, Jayakwadi Irrigation Dn.-2, Parbhani					
9	---	Pimpaldari	---	Pimpaldari	----	Pimpaldari
10				Bhoshi		Tandulwadi (Palam)
Note - SE,CADA, Aurangabad Post monsoon reports of 8 Class-I Projects are received late, are not scrutinized by DSO. So that these dams HSR is prepared on the basis of scrutiny of Pre monsson inspection reports.						
	II) Superintending Engineer , CADA, Latur					
	1) Executive Engineer, Latur Irrigation Dn.-1, Latur					
11	Khulgapur HL Barrage	Bhusni LL Barrage	Khulgapur HL Barrage	Bhusni LL Barrage	Khulgapur HL Barrage	Bhusni LL Barrage
12	Bindgihal LT Barrage	---	Bindgihal LT Barrage	---	Bindgihal LT Barrage	---

Sr. No.	Pre & Post Monsoon Report Not Received (Both)		Either Pre or Post Inspection Not Report			
			Pre Monsoon		Post Monsoon	
	Class-I	Class-II	Class-I	Class-II	Class-I	Class-II
1	2	3	4	5	6	7
13	Sai HL Barrage	---	Sai HL Barrage	---	Sai HL Barrage	---
14	Takalgaon Devla HL Barrage	---	Takalgaon Devla HL Barrage	---	Takalgaon Devla HL Barrage	---
15	Shivni HL Barrage	---	Shivni HL Barrage	---	Shivni HL Barrage	---
16	Hosur Barrage	---	Hosur Barrage	---	Hosur Barrage	---
17	Dhanegaon HL Barrage	---	Dhanegaon HL Barrage	---	Dhanegaon HL Barrage	---
18	Karsa Pohregaon Barrage	---	Karsa Pohregaon Barrage	---	Karsa Pohregaon Barrage	---
	2) Executive Engineer, Latur Irrigation Dn.-2, Latur					
19	---	Panharwadi MI Tank	---	Panharwadi MI Tank	---	Panharwadi MI Tank
	A) Chief Engineer, WR, Aurangabad					
	I) Superintending Engineer, AIC, Aurangabad					
	1) Executive Engineer, Minor Irrigation Dn.-1, Aurangabad					
20	---	---	---	Kolwadi MI Tank	---	---
	I) Superintending Engineer, BIPC, Parali (V). Dist.Beed					
	1) Executive Engineer, Beed Irrigation Dn, Beed					
21	---	---	---	Nandgaul ST	---	---
22	---	---	---	Chanai ST-2	---	---
23	---	---	---	Sarfarajpur ST	---	---
24	---	---	---	Sakud ST-2	---	---
25	---	---	---	Surnerwadi ST	---	---
26	---	---	---	Morphali	---	---

Table 3.3

Status of Receipt of Pre & Post Monsoon Inspection 2020 by DSO (Private)

Sr. No.	Name of Office	To be Inspected by DSO			Pre Monsoon Inspection in time (By 30th June)			Pre Monsoon Inspection Not in time (By 30th June)			Pre Monsoon Not Inspected by DSO			Post Monsoon Inspection in time (By 31st Dec)			Post Monsoon Inspection Not in time (By 31st Dec)			Post Monsoon Not Inspected by DSO		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Commissioner, Aurangabad Municipal Corporation, Aurangabad	0	2	**2**	0	2	**2**	0	0	**0**	0	0	**0**	0	2	**2**	0	0	**0**	0	0	**0**
2	Jalna Municipal Council, Jalna	0	1	**1**	0	1	**1**	0	0	**0**	0	0	**0**	0	1	**1**	0	0	**0**	0	0	**0**
3	Udgir Municipal Council, Udgir, Dist. Latur	0	1	**1**	0	0	**0**	0	0	**0**	0	1	**1**	0	1	**1**	0	0	**0**	0	0	**0**

Table 3.4

Dams for which Inspection Not carried out DSO (Private)

Sr. No.	Pre & Post Monsoon Report Not Received (Both)		Either Pre or Post Inspection Not Report			
			Pre Monsoon		Post Monsoon	
	Class-I	Class-II	Class-I	Class-II	Class-I	Class-II
1	3	3	4	5	6	7
1	Udgir Municipal Council, Udgir, Dist. Latur	0	0	1	0	0

Table 3.5

Dams inspected by Dam Safety Organization, Nashik (2020-21)

Sr. No.	Name of Dam	Date of Inspection	Sr. No.	Name of Dam	Date of Inspection
1	2	3	4	5	6
Class-I Dams			**Class-II Dams**		
A) Chief Engineer & Chief Administrator, CADA, Aurangabad					
I) Superintending Engineer & Administrator , C.A.D.A, Aurangabad					
1) Executive Engineer, JID, Jalna			**1) Executive Engineer, JID, Jalna**		
1	Lower Dudhna	9/12/2020	1	Galhati	3/11/2020
2) Executive Engineer, NMID, Vaijapur					
1	Narangi	14/10/2020	1	Manyad	14/10/2020
3) Executive Engineer, JID, Nathnagar (North), Paithan					
1	Jayakwadi	24/9/2020			
II) Superintending Engineer, CADA, Beed					
1) Executive Engineer, MID, Parali(V), Beed					
			1	Kundalika	18/1/2021
			2	Chanai	19/1/2021

Sr. No.	Name of Dam	Date of Inspection	Sr. No.	Name of Dam	Date of Inspection
1	2	4	5	6	7
III) Superintending Engineer, CADA, Latur					
1) Executive Engineer, OID-1, Osmanabad					
			1	Jakapur (Cl-III)	10/2/2021
			2	Ramganga	8/2/2021
			3	Wakawad	8/2/2021
			4	Khandeshwar	1/10/2020
1) Executive Engineer, LID-2, Latur					
			1	Anandwadi	9/2/2021
			2	Nagzari ST (Ahmadpur)	9/2/2021
			3	Dongargaon ST (Jalkot)	9/2/2021
			4	Devarjan	10/2/2021
			5	Dhorsangvi	9/2/2021
B) Chief Engineer, WR, AGourangabad					
I) Superintending Engineer, AIC, Aurangabad					
1) Executive Engineer, MID-1, Aurangabad					
1	Shivna Takali	14/10/2021	1	Rawala	13/10/2020
			2	Nimkhedi	13/10/2020

Sr. No.	Name of Dam	Date of Inspection	Sr. No.	Name of Dam	Date of Inspection
1	2	4	5	6	7
1) Executive Engineer, JMID, Jalna					
			1	Chandai Ekko	2/11/2020
			2	Banegaon LMP	2/11/2020
			3	Palaskheda LMP	2/11/2020
			4	Taltondi MI	3/11/2020
			5	Pimpalwadi ST	3/11/2020
II) Superintending Engineer, BIPC, Paralai (V)					
1) Executive Engineer, LMID, Latur					
			1	Ghonshi MI Tank	10/2/2021
III) Superintending Engineer, NIC, Nanded					
1) Executive Engineer, UPPD-1, Nanded					
1	Isapur	9/12/2020			
1) Executive Engineer, NID(North), Nanded					
			1	Hudi	20/1/2021
			2	Jaldhara	20/1/2021
			3	Sindagi	20/1/2021
1) Executive Engineer, NID(South), Nanded					
1	Upper Manar	10/12/2020	1	Ghagardara	19/1/2021
			2	Kundrala	19/1/2021
			3	Sonpethwadi	19/1/2021

Sr. No.	Name of Dam	Date of Inspection	Sr. No.	Name of Dam	Date of Inspection
1	2	4	5	6	7
Private Dams					
Class-I Dams			**Class-II Dams**		
Aurangabad Municipal Corporation, Aurangabad			1	Kham	11/9/2020
			2	Harsul	11/9/2020
Jalna Municipal Council, Jalna			1	Ghanewadi	11/9/2020
Udgir Municipal Council, Udgir, Dist.Latur			1	Banshelki	10/2/2021

Table 3.6

Deficiency Classification (No. of Dam wise)

Sr. No	Authority	Total Number of Dams			Number of Dams (Class-I)			Number of Dams (Class-II)		
		Class-I	Class-II	Total	Def. Cat-1	Def.Cat-2	Def. Cat-3	Cat-1	Cat-2	Cat-3
	Water Resources Department Dams									
A	**CE, CADA, Aurangabad**	**23**	**192**	**215**	**0**	**1**	**15**	**0**	**27**	**186**
I	**SE, CADA, Aurangabad**	**9**	**44**	**53**	**0**	**0**	**9**	**0**	**10**	**40**
1	EE,JID (North), Paithan	6	0	6	0	0	6	0	0	0
2	EE, AID, Aurangabad	0	24	24	0	0	0	0	6	24
3	EE, NMID, Vaijapur, Dist.Aurangabad	2	3	5	0	0	2	0	0	0
4	EE, JID, Jalna	1	11	12	0	0	1	0	4	11
5	EE, JID-2, Parbhani	0	6	6	0	0	0	0	0	5
II	**SE,CADA, Beed**	**1**	**59**	**60**	**0**	**0**	**1**	**0**	**7**	**59**
6	EE, MID, Parali(V), Beed	1	28	29	0	0	1	0	4	28
7	EE, JID-3, Beed	0	31	31	0	0	0	0	3	31
III	**SE, CADA, Latur**	**13**	**89**	**102**	**0**	**0**	**5**	**0**	**10**	**87**
8	EE, OID-1, Osmanabad	0	20	20	0	0	0	0	2	20
9	EE, OID-2, Omerga	0	14	14	0	0	0	0	0	14
10	EE, LID-1, Latur	13	3	16	0	1	5	0	0	2
11	EE, LID-2, Latur	0	52	52	0	0	0	0	8	51
B	**CE, WR, Aurangabad**	**14**	**51**	**65**	**0**	**4**	**14**	**0**	**4**	**51**
I	**SE,AIC, Aurangabad**	**1**	**11**	**12**	**0**	**1**	**1**	**0**	**0**	**11**
12	EE,MID-1,Aurangabad	1	6	7	0	1	1	0	0	6
13	EE,JMID, Jalna	0	5	5	0	0	0	0	0	5
II	**SE,BIPC,Parali(V), Beed**	**1**	**8**	**9**	**0**	**0**	**1**	**0**	**1**	**8**
14	EE, LMID, Latur	0	2	2	0	0	0	0	1	2
15	EE, BID, Beed	1	6	7	0	0	1	0	0	6
III	**SE, NIC, Nanded**	**12**	**32**	**44**	**0**	**3**	**12**	**0**	**3**	**32**
16	EE, NIC(North), Nanded	5	13	18	0	0	5	0	1	13

Sr. No	Authority	Total Number of Dams			Number of Dams (Class-I)			Number of Dams (Class-II)		
		Class-I	Class-II	Total	Def. Cat-1	Def.Cat-2	Def. Cat-3	Cat-1	Cat-2	Cat-3
17	EE, NIC(South), Nanded	2	13	15	0	1	2	0	2	13
18	EE,UPPD-1, Nanded	1	0	1		0	1	0	0	0
19	EE,LPD, Degloor	0	2	2	0	0	0	0	0	2
20	EE,PID, Basmatnagar	2	4	6	0	2	2	0	0	4
21	EE,MID,Parbhani	2	0	2	0	0	2	0	0	0
	WRD Total	**37**	**243**	**280**	**0**	**5**	**29**	**0**	**31**	**237**
C	**Private Dams**									
1	Aurangabad Municipal Corporation, Aurangabad	0	2	**2**	0	0	0	0	2	2
2	Jalna Municipal Council, Jalna	0	1	**1**	0	0	0	0	1	1
3	Udgir Municipal Council, Udgir, Dist.Latur	0	1	**1**	0	0	0	0	1	1
	Private Total	0	4	4	0	0	0	0	4	4
	Grand Total	**37**	**247**	**284**	**0**	**5**	**29**	**0**	**35**	**241**

Table 3.7

Deficiency Classification (No. of Deficiency wise)

Sr. No	Authority	Total Number of Dams			Number of Deficiencies								
					Category–1			Category–2			Category–3		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
	Water Resources Department Dams												
A	**CE, CADA, Aurangabad**	**23**	**192**	**215**	0	**0**	**0**	**7**	**76**	**83**	**163**	**803**	**966**
I	**SE, CADA, Aurangabad**	**9**	**44**	**53**	0	**0**	**0**	**0**	**29**	**29**	**87**	**173**	**260**
1	EE,JID (North), Paithan	6	0	6	0	**0**	**0**	**0**	**0**	0	**41**	**0**	**41**
2	EE, AID, Aurangabad	0	24	24	0	**0**	**0**	**0**	**17**	17	**0**	**95**	**95**
3	EE, NMID, Vaijapur, Dist.Aurangabad	2	3	5	0	**0**	**0**	**0**	**0**	0	**26**	**0**	**26**
4	EE, JID, Jalna	1	11	12	0	**0**	**0**	**0**	**12**	**12**	**20**	**54**	**74**
5	EE, JID-2, Parbhani	0	6	6	0	**0**	**0**	**0**	**0**	0	**0**	**24**	**24**
II	**SE,CADA, Beed**	**1**	**59**	**60**	0	**0**	**0**	**0**	**15**	**15**	**13**	**175**	**188**
6	EE, MID, Parali(V), Beed	1	28	29	0	**0**	**0**	**0**	**7**	7	**13**	**91**	**104**
7	EE, JID-3, Beed	0	31	31	0	**0**	**0**	**0**	**8**	8	**0**	**84**	**84**
III	**SE, CADA, Latur**	**13**	**89**	**102**	0	**0**	**0**	**7**	**32**	**39**	**63**	**455**	**518**
8	EE, OID-1, Osmanabad	0	20	20	0	**0**	**0**	**0**	**12**	12	**0**	**102**	**102**
9	EE, OID-2, Omerga	0	14	14	0	**0**	**0**	**0**	**0**	0	**0**	**76**	**76**
10	EE, LID-1, Latur	13	3	16	0	**0**	**0**	**7**	**0**	7	**63**	**13**	**76**
11	EE, LID-2, Latur	0	52	52	0	**0**	**0**	**0**	**20**	20	**0**	**264**	**264**
B	**CE, WR, Aurangabad**	**14**	**51**	**65**	0	**0**	**0**	**17**	**12**	**29**	**166**	**228**	**394**
I	**SE,AIC, Aurangabad**	**1**	**11**	**12**	0	**0**	**0**	**8**	**0**	**8**	**25**	**44**	**69**
12	EE,MID-1,Aurangabad	1	6	7	0	**0**	**0**	**8**	**0**	8	**25**	**30**	**55**
13	EE,JMID, Jalna	0	5	5	0	**0**	**0**	**0**	**0**	0	**0**	**14**	**14**

Sr. No	Authority	Total Number of Dams			Number of Deficiencies								
					Category–1			Category–2			Category–3		
		Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total	Class-I	Class-II	Total
	Water Resources Department Dams												
II	**SE,BIPC,Parali(V), Beed**	**1**	**8**	**9**	0	**0**	**0**	**0**	**3**	**3**	**10**	**14**	**24**
14	EE, LMID, Latur	0	2	2	0	**0**	**0**	**0**	**3**	3	**0**	**9**	**9**
15	EE, BID, Beed	1	6	7	0	**0**	**0**	**0**	**0**	0	**10**	**5**	**15**
III	**SE, NIC, Nanded**	**12**	**32**	**44**	0	**0**	**0**	**9**	**9**	**18**	**131**	**146**	**277**
16	EE, NIC(North), Nanded	5	13	18	0	**0**	**0**	**0**	**4**	4	**39**	**57**	**96**
17	EE, NIC(South), Nanded	2	13	15	0	**0**	**0**	**1**	**5**	6	**20**	**64**	**84**
18	EE,UPPD-1, Nanded	1	0	1	0	**0**	**0**	**0**	**0**	0	**16**	**0**	**16**
19	EE,LPD, Degloor	0	2	2	0	**0**	**0**	**0**	**0**	0	**0**	**5**	**5**
20	EE,PID, Basmatnagar	2	4	6	0	**0**	**0**	**8**	**0**	8	**41**	**20**	**61**
21	EE,MID,Parbhani	2	0	2	0	**0**	**0**	**0**	**0**	0	**15**	**0**	**15**
	WRD Total	**37**	**243**	**280**	0	**0**	**0**	**24**	**88**	**112**	**329**	**1007**	**1336**
C	**Private Dams**												
1	Aurangabad Municipal Corporation, Aurangabad	0	2	**2**	0	**0**	**0**	**0**	**6**	6	**0**	**13**	**13**
2	Jalna Municipal Council, Jalna	0	1	**1**	0	**0**	**0**	**0**	**5**	5	**0**	**11**	**11**
3	Udgir Municipal Council, Udgir, Dist.Latur	0	1	**1**	0	**0**	**0**	**0**	**3**	3	**0**	**9**	**9**
	Private Total	0	4	4	0	**0**	**0**	**0**	**14**	**14**	**0**	**33**	**33**
	Grand Total	**37**	**247**	**284**	0	**0**	**0**	**24**	**102**	**126**	**329**	**1040**	**1369**

Table 3.8

Category-1 Deficiency Classification (Dam wise)

Sr. No	Name of Dam	No. of deficiencies noticed	Sr. No	Name of Dam	No. of deficiencies noticed
1	2	3	4	5	6
Class - I Dams			Class - II Dams		
---------- NIL ----------					

Table 3.9

Category-2 Deficiency Classification (Dam wise)

Sr. No	Name of Dam	No. of deficiencies noticed	Sr. No	Name of Dam	No. of deficiencies noticed
1	2	3	4	5	6
Class - I Dams			**Class - II Dams**		
A) Chief Engineer & Chief Administrator, CADA, Aurangabad					
I) Superintending Engineer & Administrator , C.A.D.A, Aurangabad					
1)Executive Engineer, Jalna Irrigation Division, Jalna					
			1	Dhoksal	6
			2	Dhamna	2
			3	Kalyan Girija	2
			4	Jui	2
2)Executive Engineer, Aurangabad Irrigation Division, Aurangabad					
			1	Soyegaon	3
			2	Banoti	4
			3	Ambadi	2
			4	Kaldari	3
			5	Samjul	3
			6	Girija	2
II) Superintending Engineer & Administrator , C.A.D.A, Latur					
1)Executive Engineer, Latur Irrigation Division-1, Latur					
1	Manjra	7			
2)Executive Engineer, Latur Irrigation Division-2, Latur					
			1	Anandwadi	4
			2	Kendrewadi	3
			3	Halad wadhona	3
			4	Sonala	3
			5	Dongargaon	1
			6	Nagzari (Kinwat)	1
			7	Andhori	3
			8	Tiru	2
3)Executive Engineer, Osmanabad Irrigation Division-1. Osmanabad					
			1	Tintraj	4
			2	Khandeshwar	8

Sr. No	Name of Dam	No. of deficiencies noticed	Sr. No	Name of Dam	No. of deficiencies noticed
1	2	3	4	5	6
Class - I Dams			**Class - II Dams**		
III) Superintending Engineer & Administrator , C.A.D.A, Beed					
1)Executive Engineer, Jayakwadi Irrigation Division-3, Beed					
			1	Bindusara	2
			2	Lokarwadi	3
			3	Suleman Deola	3
2)Executive Engineer, Majalgaon Irrigation Division, Parali (V)					
			1	Kasari	2
			2	Limbachiwadi-1	1
			3	Limbachiwadi-2	2
			4	Dethewadi	2
B) Chief Engineer, WR, Aurangabad					
I) Superintending Engineer, NIC, Nanded					
1)Executive Engineer, NID(North), Nanded					
			1	Dongargaon	4
2)Executive Engineer, NID(South), Nanded					
1	Lower Manar	1	1	Sonpethwadi	1
			2	Yedur	4
3)Executive Engineer, PID, Basmatnagar					
1	Yeldari	6			
2	Siddheshwar	2			
II) Superintending Engineer, BIPC, Parali(V)					
1)Executive Engineer, LMID, Latur					
			1	Ghonshi MI Tank	3
III) Superintending Engineer, AIC, Aurangabad					
1)Executive Engineer, MID-1, Aurangabad					
1	Shivna Takli	8			
	Total	**24**			**88**
	Private Dams				
Aurangabad Municipal Corporation, Aurangabad			1	Kham	3
			2	Over (Harsul)	3
Jalna Municipal Council, Jalna			1	Ghanewadi	5
Udgir Municipal Council, Udgir, Dist.Latur			1	Banshelki	3
	Total	**0**			**14**
	Grand Total	**24**			**102**

Table 3.10

Class-I Dams with Category-1 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.11
Class-I Dams with Category-2 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
A) Chief Engineer, CADA, Aurangabad						
I) Superintending Engineer & Adm., C.A.D.A., Latur						
1) Executive Engineer, Latur Irrigation Division-1, Latur						
1	Name :- **MANJRA** Year of completion :- 1980 Location : - Longitude :- 76° 15' 00" Latitude :- 18° 55' 00" Height :- 30 m Gross capacity :- 22.40 Mm^3 Design Spillway capacity :- 8370 Cumecs S.N. in National regi. of large Dams 2009 :- MH09MH1585	11/2/2020 18/12/2020	**Shri.S.N.Bolbhat** **Shri. A. S. Mehetre, S.E& Adm.,CADA Beed**	Foundation	Considerable leaching from the seepage water and deposition of lime near the seepage exit spots. (A12)	Quantify the leaching material chainage wise / monolith wise. And record shall be built up.
					Leakage through guide wall is observed. (A15)	Inspect the u/s face of guide wall. Identify the location of entry point for water. Stop the Entry of water on u/s face.
				Body Wall Spillway	Emergency gates all wire rope, guide tees are rusted. Gates End, Arms holes are missing. Gates both side wire rope are rusted. Gates hoist and gear train covers are very heavy to open and close. (A18)	Lubrication must be carried out at required frequency
				Structural performance	Emergency & service gates are rusted. Hoist covers are broken.	Trail run must be carried out first.
					Rubber seal & other parts are not in working condition. (B5)	
				Outlet	Stop log gates are not in working condition. (B5)	Rust preventive colouring must be carried out first.
					Overall condition of river outlet works/river sluices is not satisfactory. (B5) (3.22)	

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
B) Chief Engineer, WR, Aurangabad						
I) Superintending Engineer , NIC, Nanded						
1) Executive Engineer, NID(South), Nanded						
2	Name :- **LOWER MANAR** Year of completion :- 1964 Location : - Longitude :- 76□ 45' 00" Latitude :- 19□ 4' 30" Height :- 27 m Gross capacity :-139 Mm3 Design Spillway capacity :- 8778 Cumecs Sr. No. in National Register Of large Dams - MH09MH0170	20/5/2020 10/11/2020	**Shri.S.K.Sabbinwar S.E.,N I.C, Nanded**	W.W.Bar & TC	Scouring is observed at spillway D/s chainage 110-240 m. (A7)	Scouring is far away from dam body. It should be kept under observation. Detail Geological investigation shall be carried out.
1) Executive Engineer, PID, Basmatnagar, Dist. Hingoli						
3	Name :- **YELDARI** Year of completion :- 1962 Location : - Longitude :- 76° 45' 00" Latitude :- 19° 4' 30" Height :- 51.23 m Gross capacity :-934.440 Mm3 Design Spillway capacity :-10477 Cmecs Sr. No. in National Register Of large Dams - MH09HH0171	18/5/2020 28/10/2020	**Shri.S.K.Sabbinwar S.E.,N I.C, Nanded**	Relief Wells	Relief wells @ch. 299.90, 303.10, 305.00, 306, 306.50, 307.00, 308.50 are not in good condition.(A5)	Relief well data of past period shall be submitted to DSO.
				Foundation Gallery & Body Wall	Repairing to lighting arrangement of Drainage Gallery is essential.(A8)	Proper electrification in moist/damp environment shall be done in consultation with WRD electrical wing.
					Seepage water spring is observed above 50% capacity on Left flank of NOF @ Ch.40 & 60 m and level @ 450.200 and 451.500 m (A1)	Location of spring with reference to the water level in dam & gallery should be monitored.Quantify lekage & record shall be maintained to decide remedial measures

					Sweating observed on D/s face of dam. (A11)	Location & causes of sweating should be examined & necessary repairs should be carried out by using water proofing compound.
				End weir	End weir is not accessible. Scouring below end weir is noticed.	Access to end weir should be provided. Necessary repairs to stop scouring should be carried out.
					Standing pool of water on d/s of end weir. (A17)	
4	Name :- **SIDDHESHWAR** Year of completion :- 1968 Location : - Longitude :- 75□ 05' 30" Latitude :- 19□ 0' 20" Height :- 38.10 m Gross capacity :-250.85 Mm3 Design Spillway capacity :- 10789 Cmecs Sr. No. in National Register Of large Dams MH09HH0172	18/5/2020 28/10/2020	**Shri.S.K.Sabbinwar S.E.,N I.C, Nanded**	Earthen Dam D/s Drainage	Standing pool of water is observed in the d/s of the dam. (A2)	The D/S area of W. W. bar at least up to 200m, from bar shall be free from standing pool.
				Spillway gates	Wire ropes of gate no. 1, 10, 12 & 13 need to be replaced. (A18)	Wire ropes of gate no. 1, 10, 12 & 13 needs to be replaced / repaired with the help of Mechanical Organisation.

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
I) Superintending Engineer , AIC, Aurangabad						
1) Executive Engineer, MID-1, Aurangabad						
5	Name :- **SHIVANA TAKLI** Year of completion :- 2005 Location : - Longitude :- 75° 05' 30" Latitude :- 20° 07' 52" Height :- 20.40 m Gross capacity :- 39.36 Mm3 Design Spillway capacity :- 3271 Cumecs Sr. No. in National regi. Of large Dams 2009:- **MH09MH1651**	22/5/2020 11/11/2020 14/10/2020	**--** **Shri.C.H.Patole S.E.,AIC, Aurangabad** **Shri.Y.K.Bhadane SE,DSO, Nashik**	Upstream Slope	Dam section is not as per design section (B1)	Restore the dam section as per design section.
				Crest of dam	Crest profile is not as per proper elevation. (B1) At the junction of toe & ground level signs presence of wetness. (A1)	Restore the crest profile as per design section. Necessary remedial measures should be carried out.
				Downstream Slope	Slushy condition or water logging immediately D/S of dam was observed. (A11)	Necessary remedial measures should be carried out.
				Gallery / Shaft Condition	Heavy leakages in R/S & L/S gallery. Electrification is damaged. (A8) (A10)	Dewatering shall be done .Reason for heavy leakages shall be find out and leakages should be reduced by providing proper treatment.
					Leaching material deposition in throughout gallery. (A12) There is considerable leaching from the seepage water & deposition of lime near seepage exist spots. (A12)	Leaching material should be tested from MERI, Nashik & repair work should be taken in hand accordingly.
					Sweating is seen on spillway. (A11)	Necessary remedial measures should be carried out.
				Spillway	Rubber seals shows signs of weathering need to be repaired. (B12)	Rubber seals should be repaired or replaced.
				Spillway Gates Outlet	Emergency gate is under repair. (B5)	Necessary repairs should be carried out with the help of Mechanical Organisation

Table 3.12

Class-I Dams with Category-3 Deficiency

Sr. No	Name of Dam	Year of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register of Large Dams 2009	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
A) Chief Engineer & Chief Administrator, CADA, Aurangabad											
i) Suprintending Engineer & Administrator, CADA, Aurangabad											
1) Executieve Engineer, JID, Nathnagar (North), Paithan											
1	Paithan (Jayakwadi)	1976	75° 20'00" 19° 30'00"	41.30	2909.00	18153.0	MH09HH0597	Gated	17/5/2020 NA 24/9/2020	3.16,3.19,3.9,310,3.5,3.2,3.1,3.36,3.33,3.20,3.11,3.31,3.21,3.18, 3.28,3.23,3.34,3.6,3.30	19
2	Apegaon HL Barrage	2010	75º29'15'' 19º26'30''	15.79	7.00	10035.15	MH09MH2123	Gated	23/5/2020 NA	3.11,3.20	02
3	Mangrul H.L.Barrage	2012	75°58'30" 19°18'30"	5.00	25	6186	MH09MH2127	Gated	31/5/2020 NA	3.20,3.11,3.31,3.18,3.2	05
4	Rajatakli H.L.Barrage		76°1'54" 19°16'54"	15.10	25	9386	MH09MH2128	Gated	30/5/2020 NA	3.1,3.11,3.20,3.31,3.18,3.2	06
5	Jogladevi H.L.Barrage	2012	75°54'39" 19°13'14"	15.715	10	4092	MH09MH2125	Gated	31/5/2020 NA	3.20,3.11,3.31,3.18,3.2	05
6	LoniSavangi H.L.Barrage		76°11'30" 19°16'48"	18.602	29.98	10159	MH09MH2126	Gated	30/5/2020 NA	3.1,3.18,3.2,3.20	04
(2) Executive Engineer, NMID, Vaijapur											
7	Bordahegaon	1999	75° 59'00" 18° 55'00"	16.70	13.40	511	MH09MH1491	Gated	2/6/2020 NA	3.24,3.28,3.7,3.9,3.5,3.25,3.13, 3.2,3.20,3.31,3.34,3.30	12
8	Narangi	1998	74°43'00" 19° 56'00"	14.00	13.293	1296	MH09MH1490	Gated	6/2/2020 NA 14/10/2020	3.24,3.28,3.9,3.5,3.25,3.17,3.13, 3.2,3.1,3.20,3.31,3.6,3.21,3.30	14

Sr. No	Name of Dam	Year of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register of Large Dams 2009	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
1) Executieve Engineer, JID, Jalna											
9	Lower Dudhna	2010	76° 24' 00" 19° 30'00"	27.25	344.80	3600	MH09MH2089	Gated	28/5/2020 30/1/2021 9/12/2020	3.24,3.28,3.25,3.1,3.9,3.7,3.5, 3.10,3.2,3.11,3.13,3.36,3.33,3.1 2,3.18,3.28,3.31,3.30,3.27, 3.34	20
II) Superintending Enineer, CADA, Beed											
1) Executive Engineer, MID, Parali (V)											
10	Majalgaon	1986	73° 26' 30" 16° 16' 00"	31.05	4540	15500	MH09HH1174	Gated	3/2/2020 3/12/2020	3.24, 3.6, 3.21, 3.9, 3.20, 3.25, 3.36, 3. 3, 3.13, 3.2,3.31,3.18, 3.30	13
III) Superintending Enineer, CADA, Latur											
1) Executive Engineer, LID-1, Latur											
11	Lower Terna	1989	76° 25' 45" 18° 01' 00"	26.10	121.188	9120	MH09MH1228	Gated	28/2/2020 30/10/2020	3.24, 3.9,3.10,3.13,3.7,3.20, 3.11,3.31,3.28,3.18,3.22,3.30 3.27,3.6	14
12	Manjra	1980	76° 15' 00" 18° 55' 00"	30	22.40	8370	MH09MH1585	Gated	11/2/2020 18/12/2020	3.24, 3.7, 3.10, 3.9, 3.5,3.3,3.13, 3.36,3.20,3.11,3.31,3.21,3.1 3.18,3.28,3.32,3.23,3.22,3.30 3.27,3.6	21
13	Masalga	1994	76° 43'30" 18° 42'52"	12.39	14.67	3009	MH09HH1408	Gated	25/5/2020 24/12/2020	3.24, 3.2, 3.20, 3.9, 3.25,3.6,3.7, 3.31,3.28,3.18,3.16,3.22,3.33 3.30,3.27,3.11	16
14	Gunjarga Latur Type Barrage	2016	76°49'10" 18°0300"	19.95	1.368	4713.14	---	Gated	26/5/2020 24/12/2020	3.27,3.30,3.20,3.11	04
15	Rajegaon Latur Type Barrage	2015	--- **----**	23.25	0.587	5974.48	---	Gated	28/2/2020 23/12/2020	3.31,3.27,3.24,3.28,3.30,3.25 3.20,3.11	08

Sr. No	Name of Dam	Year of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register of Large Dams 2009	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
B) Chief Engineer, WR, Aurangabad											
I) Superinending Engineer, Aurngabad Irrigation Circle, Auangabad											
1) Executive Engineer, MID-1, Aurangabad											
16	Shivnatakli	2005	75° 05'30" 20° 07'52"	20.40	39.36	3271	MH09MH1651	Gated	22/5/2020 11/11/2020 14/10/2020	3.1,3.5,3.6,3.16,3.2,3.11,3.26 3.9,3.25,3.17,3.13,3.33,3.18, 3.36,3.19,3.31,3.28,3.20,3.27 3.22,3.30,3.24,3.29,3.32,3.7	25
II) Superinending Engineer, Nanded Irrigation Circle, Nanded											
1) Executive Engineer, NID(South), Nanded											
17	Lower Manar	1964	76° 45' 00" 19° 4' 30"	27	139	8778	MH09MH0170	Gated	20/5/2020 10/11/2020	3.1,3.19,3.9,3.20,3.28,3.24,3. 27,3.30	08
18	Upper manar	2009	72° 02' 00" 18° 47' 00"	30.90	107.98	5774	MH09HH1806	Gated	20/5/2020 3/12/2020 10/12/2020	3.24,3.9,3.36,3.15,3.33,3.13, 3.10,3.25,3.1,3.12,3.11,3.31	12
2) Executive Engineer, NID(North), Nanded											
19	Balegaon HL Barrage	2015	77° 34' 33" 18°57' 14"	29.34	42.50	8795	MH09MH2117	Gated	13/5/2020 11/11/2020	3.24, 3.20, 3.1, 3.31, 3.28, 3.18, 3.19, 3.16,3.30	09
20	Vishnupuri	1990	76° 41' 00" 19° 17' 00"	31.00	83.55	8483	MH09LH1254	Gated	29/4/2020 27/11/2020	3.24, 3.28, 3.20, 3.18, 3.16, 3.22, 3.30	07
21	Digras H.L. Barrage	2010	76° 29' 30" 19° 05'20"	11.00	63.85	14474	MH09HH2116	Gated	27/5/2020 6/11/2020	3.24, 3.20, 3.18, 3.16, 3.6, 3.30	06
22	Babhali H.L. Barrage	2012	77° 46' 46" 18°51'13"	29.76	3.47	5986.74	MH09MH2118	Gated	28/5/2020 6/12/2020	3.24, 3.20, 3.31, 3.28, 3.18, 3.30, 3.6	07
23	Amdura H.L. Barrage	2011		25.395	23.71	20349.15	MH09HH2119	Gated	13/5/2020 11/11/2020	3.24,3.20,3.11,3.21,3.31,3.28 , 3.18,3.16,3.17,3.30	10
3) Executive Engineer, UPPD-1, Nanded											
24	Isapur (UPP)	1982	77° 27' 00" 19° 43'00"	58.00	1254	9400	MH09HH0947	Gated	8/5/2020 25/11/2020 9/12/2020	3.9,3.25,3.13,3.17,3.27,3.1,3. 36,3.12,3.16,3.19,3.6,3.31,3. 20, 3.18,3.33,3.30	16

Sr. No	Name of Dam	Year of Completion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register of Large Dams 2009	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
3) Executive Engineer, PID, Basmatnagar											
25	Yeldari	1962	76° 45' 00" 19° 4' 30"	51.23	934.440	10477	MH09HH0171	Gated	18/5/2020 28/10/2020	3.24,3.25,3.9,3.13,3.10,3.5,3.1,3.36,3.12,3.19,3.20,3.11,3.31,3.28, 3.27,3.18,3.34,3.22,3.6,3.30	20
26	Siddheshwar	1968	75° 05' 30" 19° 0' 20"	38.10	250.85	10789	MH09HH0172	Gated	18/5/2020 28/10/2020	3.33,3.9,3.7,3.10,3.5,3.2,3.1, 3.19,3.11,3.20,3.26,3.31,3.28 3.27,3.18,3.16,3.32,3.23,3.24 3.30,3.6	21
4) Executive Engineer, MID, Parbhani											
27	Mudgal HL Barrage	2012		19	11.87	4293.25	MH09MH2121	Gated	1/6/2020 14/12/2020	3.24,3.31,3.27,3.20,3.18,3.16 3.19, 3.30	08
28	Dhalegaon HL Barrage	2012		16.5	14.87	8774	MH09MH2129	Gated	6/1/2020 14/12/2020	3.24,3.11,3.31,3.27,3.20,3.18 , 3.30	07
III) Superinending Engineer, Beed Irrigation Projet Circle, Beed											
1) Executive Engineer, BID, Parali (V)											
29	Upper Kundalika	2016	76º01'00'' 18º56'00''	24.28	18.77	3353.52	Proposed to be included in NRLD	Gated	11/5/2020 3/12/2020	3.1,3.9,3.36,3.25,3.18,3.31,3.28,3.20,3.30,3.24	10

Table 3.13

Class-II Dams with Category-1 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Observation / Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.14

Class-II Dams with Category-2 Deficiency

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
A) Chief Engineer & Chief Administrator CADA, Aurangabad						
I) Superintending Engineer & Administrator CADA, Aurangabad						
1) Executive Engineer, Jalna Irrigation Division, Jalna						
1	Name : **DHOKSAL** Date of completion :1964 Location : Longitude : 75° 21' 00" Latitude : 20° 44" 00" Gross Capacity :10.73 Mm3 Height : 17.70 m. Design spillway Capacity 219 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0755**	NA NA	**Shri. P.B.Jadhav EE, JID, Jalna**	Earthen embankment	E/W and pitching required for full length (B3).	Pitching should be provided.
				W.W. Bar. & T/C.	W.W. Masonry of body wall is heavily disturbed. Leakage extent to 2 to 3 cusecs noticed. (B7)	Necessary repairs should be carried out. Necessary treatment in the affected area shall be carried out to stop/minimize leakage.
					Coping damaged through full length of w.w. bar.(B7)	Coping work should be carried out to full length of w.w. bar.
					Apron is fully disturbed. (A14)	Necessary repairs should be carried out.
					EDA heavily damaged.(A14)	Necessary repairs should be carried out.
					Scouring to d/s is observed. (A7)	Provide necessary work / arrangement to prevent scouring.
2	Name : **DHAMNA** Date of completion :1974-75 Location : Longitude : 76 º 50' 00" Latitude : 20 º 27'00" Gross Capacity : 10.72 Mm3 Height : 13.45 m. Design spillway Capacity - 1388 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09LH0450**	NA 19/11/2020	**Shri. P.B.Jadhav Ex.Engr., JID, Jalna**	Earthen Embankment	Relief wells not functioning properly. (A5)	Necessary repairs should be carried out for proper functioning of relief wells
				W.W Bar & T.C..	Leakage to the tune of 1 cusecs observed. Pointing disturbed.(B7)	Necessary repairs should be carried out to stop the leakages & provide pointing.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
3	Name : **KALYAN GIRIJA** Date of completion :1972 Location : Longitude : 76 º 10' 40" Latitude : 19 º 50' 00" Gross Capacity : 10.16 Mm3 Height : 22.07 m. Design spillway Capacity - 1310 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH310	28/5/2020 23/11/2020	**Shri. P.B.Jadhav Ex.Engr., JID, Jalna**	W.W Bar & T.C..	Excessive leakages are observed through masonry as well as foundation of w.w. bar. (B7)	Necessary repairs should be carried out to stop leakages.
					Scouring is noticed due to heavy leage through w.w. bar. (B7)	Necessary repairs should be carried out to stop scouring
4	Name : **JUI** Date of completion :1962 Location : Longitude : 75 º 46' 00" Latitude : 20 º 20' 30" Gross Capacity : 6.03 Mm3 Height : 14.47 m. Design spillway Capacity - 1613 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH0082	NA 19/11/2020	**Shri. P.B.Jadhav Ex.Engr., JID, Jalna**	Earthen Embankment	Top of dam is settled down to the extent of 0.30 m from TBL (B1)	Restore the dam section to design section
				W.W Bar & T.C..	Heav leakages are observed through masonry @ 1 cusecs of w.w. bar. (B7)	Necessary repairs should be carried out to stop leakages.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
2) Executive Engineer, Aurangabad Irrigation Division, Aurangabad						
5	Name : **SOYEGAON** Date of completion : 1967 Location : Longitude : 75º35'00' Latitude : 20º33'00'' Gross Capacity : 2.54 Mm3 Height : 17.50m. Design spillway Capacity 480 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0148**	30/5/2020 8/12/2020	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	W.W.Bar & TC	Body of w.w bar is damaged. (B7)	Necessary repairs should be carried out.
					Stilling basin is damaged slightly. (A14)	Necessary repairs should be carried out.
					Guide bund is damaged at some portion (A16)	Necessary repairs should be carried out.
6	Name : **BANOTI** Date of completion : 1968 Location : Longitude : 75º20'00' Latitude : 19º56'50'' Gross Capacity : 3.22 Mm3 Height : 19.50m. Design spillway Capacity 525 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0165**	30/5/2020 15/12/2020	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	Outlet	Outlet well & gate are damaged and needs complete renovation (A6)	Necessary repairs should be carried out with the help of Mechanical Organisation.
				W.W.Bar & TC	Masonry of w.w. bar is not in good condition.. (B7)	Necessary repairs should be carried out
					Heavy leakages noticed near spillway bar in masonry flank wall. (A15)	Necessary repairs should be carried out to stop the leakages
					Retrogression/scouring is noticed in tail channel. (A7)	Necessary repairs should be carried out

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
7	Name : **AMBADI** Date of completion : 1975 Location : Longitude : 75º6'00' Latitude : 20º56 '00'' Gross Capacity : 12 Mm3 Height : 20 m. Design spillway Capacity 1412 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0737**	25/5/2020 22/12/2020	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	Earthen Embankment	Settlement observed at RD 700 to 1200 m (B3)	Restore the dam section to design section.
				Outlet	Slab of LBC HR is collapsed.(A6)	Necessary repairs should be carried out
8	Name : **KALDARI** Date of completion : 2000 Location : Longitude : 75º15' 30' Latitude : 20º29'00'' Gross Capacity : 30.90 Mm3 Height : 17.70m. Design spillway Capacity 360 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0880**	30/5/2020 15/12/2020	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	Earthen Embankment	Dam is under section throughout the length. (B1)	Restore the dam section to design section.
				W.W Bar & T.C..	Guide wall is damaged due to heavy flood. (A16)	Necessary arrangements to guide the flood should be provided.
					Leakages observed through masonry components. (B7)	Necessary arrangements to stop leakage should be provided.
9	Name : **SANJUL** Date of completion : 1967 Location : Longitude : 75º25'00' Latitude : 20º07'00'' Gross Capacity : 3.08 Mm3 Height : 210m. Design spillway Capacity 542 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0149**	2/6/2020 9/11/2020	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	Earthen Embankment	Crest profile not at proper elevation. (B1)	Restore the dam section to design section.
				Outlet	Outlet well and outlet gate are totally damaged. Needs reconstruction. (A6)	Necessary repairs should be carried out
				W.W Bar & T.C..	W.W.bar is not in good condition.Cracks in the masonry and holes to d/s are noticed. (B7)	Necessary repairs should be carried out

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
10	Name : **GIRIJA** Date of completion : 1986 Location : Longitude : 75º20'15' Latitude : 20º06'00'' Gross Capacity :24.500 Mm3 Height : 19.10 m. Design spillway Capacity 1620 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH1139**	2/6/2020 9/11/20220	Shri. A.M.Nimbhore Ex.Engr., AID, Aurangabad	Earthen Embankment	Relief wells are not in working condition. (A5)	Necessary cleaning and surging of wells should be carried out immediately.
				W.W. bar & TC	Seepage through w.w. bar is observed. (B7)	To stop leakage, RCC jacketing to W.W. bar should be provided.
II) Superintending Engineer & Administrator CADA, Latur						
1) Executive Engineer, Latur Irrigation Division - 2, Latur						
11	Name :- **ANANDWADI (ST)** Date of completion :- 2002 Longitude :- 76□ 49' 15" Latitude :- 18□ 22' 30" Height :- 18.80 m Gross capacity :- 2.026 Mm^3 Design Spillway capacity :- 256.84 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1607**	21/5/2020 8/1/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	Earthen Embankment	Settlement of 0.50 to 0.60 m observed between Ch.150 to 210 m. (B3)	Restore the dam section to designed section.
				W.W Bar & T.C..	Scouring at D/s side of w.w. bar up to foundation level noticed (A7)	Provide necessary work / arrangement to prevent scouring
					Damages observed at guide wall/divide wall and appurtences. (A16)	Appropriate measures or repairs should be carried out.
					Retrogression/scouring in tail channel noticed. (A7)	Overburdens should be removed to make the effective flow of water in tail channel

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
12	Name :- K**ENDREWADI (ST)** Date of completion :- 2013 Longitude :- 76º44'15'' Latitude :- 18º37'00'' Height :- 15.80m Gross capacity :- 2.258Mm^3 Design Spillway capacity :- 305.344 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2278**	21/5/2020 24/1/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	W.W Bar & T.C.	Spillway bar is in bad condition.(B7)	Necessary repairs should be carried out.
					Guide bund is washed out / damaged and the material is spread out in nearby field & river portion (A16)	Appropriate measures or repairs should be carried out.
					Right side guide bund damaged due to heavy rain in 9/2016	Necessary repairs should be carried out
13	Name :- **HALAD WADHONA (ST)** Date of completion :- 2001 Longitude :- 77º13'55'' Latitude :- 18º36'35'' Height :- 19.15m Gross capacity :- 3.693 Mm^3 Design Spillway capacity :- 442.28 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09LH1510**	23/5/2020 20/1/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	W.W.Bar& TC	32 m long and 0.90 m in height of w.w. bar not constructed.(B7)	Balance work should be completed immediately.
					Guide wall is broken in 4 patches and protection bund in 10 m length (A16)	Necessary repairs should be carried out.
					Guide bund is broken in some patches. (A16)	Necessary repairs should be carried out.
14	Name :- **SONALA(ST)** Date of completion :- 2006 Longitude :- 77º08'10'' Latitude :- 18º35'16'' Height :- 16.3m Gross capacity :- 5.491Mm^3 Design Spillway capacity :- 1119 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2289**	23/1/2020 23/1/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	Earthen Embankment	Few quantity of Standing water observed at junction of guide wall & embankment noticed. (A2)	Leakage should be located, monitored & necessary repair work should be carried out to prevent leakages.
				W.W.Bar & TC	Scouring at D/s side of w.w. bar up to foundation level noticed (A7	Provide necessary work / arrangement to prevent scouring
					At Ch.50 to 150 m, guide divide wall is damaged. (A16)	Appropriate measures or repairs should be carried out.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
15	Name :- DONGARGAON (ST) Date of completion :- 2008 Longitude :- 77º12'00'' Latitude :- 18º34'00'' Height :- 18.96m Gross capacity :- 3.627Mm^3 Design Spillway capacity :- 429.767 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1093**	23/5/2020 23/1/2021 9/2/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur Shri. C.T.Mondhe EE,DSO-3,Nashik	W.W.Bar & TC	Drop wall 1,7,2 has badly damaged. (A16)	Necessary repairs / reconstruction of drop wall should be carried out.
16	Name :- NAGZARI (ST) Date of completion :- 2005 Longitude :- 76º76'00'' Latitude :- Height :- 17.33 m Gross capacity :- 1.458Mm^3 Design Spillway capacity :- 127.28 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1057**	5/5/2020 22/12/2020 9/2/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur Shri. C.T.Mondhe EE,DSO-3, Nashik	W.W.Bar & TC	Seepage of water at the junction of embankment ans spillway wing wall/abutment is noticed. (@ 10 HP motor) (A3)	Provide necessary work / arrangement to stop the seepages.
17	Name :- ANDHORI (ST) Date of completion :- 2006 Longitude :- 76º47'00'' Latitude :- 18º46'00'' Height :- 17.00m Gross capacity :- 2.1624 Mm^3 Design Spillway capacity :- 192.98 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- MH09MH2267	8/5/2020 22/12/2020	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	W.W.Bar& TC	Nearly parallel side of the guide wall trenches are found out of 2 to 2.5m in depth and 2 to 3.5 m in width throughout the guide wall. (A16) Guide bund pitching of both side damaged. (B3) Retrogression / souring at side of guide wall is noticed. (A7)	Necessary repairs should be carried out. Necessary repairs should be carried out. Provide necessary work / arrangement to prevent scouring

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
18	Name :- **TIRU** Date of completion :- 1976 Longitude :- 77º04'06'' Latitude :- 18º25'22'' Height :- 21.00m Gross capacity :- 23.32Mm^3 Design Spillway capacity :- 1994 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0595**	22/1/2020 22/1/2021	Smt. Thombre Shri. A.N.Madne, EE,LID-2, Latur	Earthen Embankment	Longitudinal cracks observed. (B4)	Cracks should be monitored and necessary repairs should be carried out to fill the cracks.
				W.W.Bar & TC	Automatic gates - 71 nos. are not operated automatically and not working properly. (A20)	Repairs to automatic gates should be carried out with the help of Mechanical Organisation.
1) Executive Engineer, Osmanabad Irrigation Division - 1, Osmanabad						
19	Name : **TINTRAJ** Date of completion :1985 Location : Longitude : 75° 31' 00" Latitude : 18° 36' 00" Gross Capacity: 1.393 Mm3 Height : 15.55 m. Design spillway Capacity 429.76m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH093**	13/5/2020 22/10/2020	Shri. S.S.Awate, Ex.Engr., OID-1, Osmanabad	W.W.Bar & TC	W.W.Bar is not in good condition. Needs urgent repairs. (B7))	Necessary repairs should be carried out on priority.
					Coping over the bar is not in good condition.(B7)	Necessary repairs should be carried out
					Pointing required at u/s and d/s side of w.w. bar.(B8)	Necessary repairs should be carried out
					Heavy damages to tail channel & apron due to scouring. (A7,A14)	Necessary repairs should be carried out on priority

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
20	Name : **KHANDESHWAR** Date of completion :1978 Location : Longitude :75° 25'00" Latitude : 18° 30' 00" Gross Capacity: 10.80 Mm3 Height : 17.14 m. Design spillway Capacity 1307 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH0730	8/5/2020 17/11/2020 1/10 /2020	Shri. S.S.Awate, Ex.Engr., OID-1, Osmanabad Shri. Y.K.Bhadane, SE, DSO, Nashik	E/dam	Settlement between ch.520 to 630m observed (B3)	Necessary repairs should be carried out.
					Longitudinal cracks between ch.520 to 630m noticed. (B4)	Necessary repairs should be carried out.
					Dam section is not as per designed section. (B1)	Necessary repairs should be carried out.
					Settlement of pitching is noticed.(B3)	Necessary repairs should be carried out to restore to the design section
				Drains	Pitching is disturbed (3.9)	Pitching should be relayed/rstored.
				Outlet	Outlet gate does not function properly. (B5	Necessary repairs should be carried out.
				W.W. Bar & TC	W.W. bar is not in good condition. Needs to reconstruct between ch.220 to 345 (B7)	Necessary repairs should be carried out with the help of Mechanical Organisation
					Coping, d/s side pointing needed. (B8)	Necessary repairs should be carried out before monsoon.
III) Superintending Engineer & Administrator CADA, Beed						
1) Executive Engineer, Jayakwadi Irrigation Division - 3, Beed						
21	Name :- **BINDUSURA** Date of completion :- 1955 Location : - Longitude :- 75□ 44' 30" Latitude :- 18□ 45' 45" Height :- 18.00 m Gross capacity :- 9.57Mm^3 Design Spillway capacity :- 1654 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0072**	1/5/2020 7/11/2020	Shri. D.B.Lokre Ex.Engr., JID-3, Beed	E/DAM	There is standing pool of water at ch. 371 m. (A2)	The D/S area of W. W. bar at least up to 200m, from bar shall be free from standing pool. Dewatering should also be carried out.
				W.W. Bar. & T/C.	Masonry of Spillway bar damaged in some portion.There is leakage in some portion. (B7)	Masonry of Spillway bar should be repaired. Repair work to prevent leakages should be carried out.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
22	Name :- **LOKARWADI** Date of completion :- 2001 Location : - Longitude :- 75° 54' 00" Latitude :- 18° 54' 00" Height :- 23.91 m Gross capacity :- 2.23 Mm^3 Design Spillway capacity :- 341 m3/sec. Sr. No. in National regi. Of large Dams 2009:- -- **MH09MH2280**	1/5/2020 7/11/2020	Shri. D.B.Lokre Ex.Engr., JID-3, Beed	Outlet	Leakage is observed at nalla level (Discharge 0.30 cusecs) (B12)	Necessary repairs should be carried out to prevent leakages.
					Leakage through H.R and E/W joint (A4)	Provide necessary arrangement to prevent standing leakage at joint of HR & E/W
				W.W. Bar. & T/C.	Leakages through d/s of w.w. bar in tail channel from direction of wing wall &w.w. body wall joint observed. (B7)	Necessary repairs should be carried out to prevent leakages.
23	Name :- **SULEMAN DEOLA** Date of completion :- 2006 Location : - Longitude :- 75°1' 40" Latitude :- 13°00' 30" Height :- 19.41 m Gross capacity :- 2.280 Mm^3 Design Spillway capacity :- m3/sec. Sr. No. in National regi. Of large Dams 2009:- -- **MH09MH2290**	6/6/2020 11/11/2020	Shri. D.B.Lokre Ex.Engr., JID-3, Beed	W.W. Bar. & T/C.	Leakages observed underneath of spillway bar (A1)	Necessary repairs should be carried out to prevent leakages.
					Undermining of guide wall observed.(A16)	Necessary repairs should be carried out to prevent leakages.
					Seepage observed. (A1)	Provide necessary arrangement to prevent seepage.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
1) Executive Engineer, Majalgaon Irrigation Division, Parali(V), Beed						
24	Name :- **KASARI** Date of completion :- 1988 Location : - Longitude :- 75° 04' 30" Latitude :- 18° 45' 00" Height :- 15.52 m Gross capacity :- 0.872 Mm^3 Design Spillway capacity :- 142.80 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH0854**	22/5/2020 4/11/2020	Shri. R.A.Salgarkar Ex.Engr. Maj.Irr.Dn., Parali (V), Beed	Earthen Embankment	Leakage through downstream slope noticed. (A1)	Necessary arrangement should be provided to stop leakage.
				Outlet	Outlet gate system is totally collapsed. (A6)	Necessary repairs should be carried out on priority.
25	Name :- **LIMBACHIWADI-1** Date of completion :- 2005 Location : - Longitude :- 76□ 5' 2" Latitude :- 18□ 50' 58" Height :- 20.08 m Gross capacity :- 1.414 Mm^3 Design Spillway capacity :- 273 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2087**	22/5/2020 6/11/2020	Shri. R.A.Salgarkar Ex.Engr. Maj.Irr.Dn., Parali (V), Beed	W.W. bar & TC	Wing wall (D/s) is damaged. Leakage from junction of bar and wing wall noticed. (A3)	Necessary arrangement should be provided to stop leakage on priority.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
26	Name :- **LIMBACHIWADI-2** Date of completion :- 2006 Location : - Longitude :- 76° 06' 03" Latitude :- 18° 04' 41" Height :- 17.95 m Gross capacity :- 1.40 Mm^3 Design Spillway capacity :- 661.50 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH2088**	22/5/2020 6/11/2020	Shri. R.A.Salgarkar Ex.Engr. Maj.Irr.Dn., Parali (V), Beed	\W.W. bar & TC	Wing wall (D/s) is damaged. Leakage from junction of bar and wing wall noticed. (A3)	Necessary arrangement should be provided to stop leakage on priority.
					EDA arrangement totally collapsed. (A14)	Necessary arrangement should be provided to stop leakage on priority
27	Name :- **DETHEWADI** Date of completion :- 2005 Location : - Longitude :- 75□ 58' 51" Latitude :- 18□ 52' 48" Height :- 21.88 m Gross capacity :- 1.409 Mm^3 Design Spillway capacity :- 236.80 m3/sec. Sr. No. in National regi. Of large Dams 2009 :- **MH09MH1649**	22/5/2020 19/11/2020	Shri. R.A.Salgarkar Ex.Engr. Maj.Irr.Dn., Parali (V), Beed	W.W. bar & TC	Leakage through joint of earthen dam and wing wall (d/s) Leakage noticed. (A1)	Necessary arrangement should be provided to stop leakage on priority.
					Scouring in tail channel is noticed. (A7)	Necessary arrangement should be provided to stop scouring.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
B) Chief Engineer, WR, Aurangabad						
I) Superintending Engineer, NIC, Nanded						
1) Executive Engineer, NID (North), Nanded						
28	Name : **DONGARGAON** Date of completion : 1984 Location : Longitude : 78□ 09' 30" Latitude : 19□ 26' 30" Gross Capacity :9.607Mm3 Height : 22.60 m. Design spillway Capacity 728.97 m3/sec. Sr No in National Register of Large Dams 2009 : MH09LH1028	30/5/2020 23/11/2020 9/2/2021	Shri. N.P.Gavhane EE, NID (North), Nanded Shri. C.T.Mondhe EE,DSO-3,Nashik	W.W.Bar & TC .	W.W.bar is not in good condition. Leakage through body is observed.(B7)	Necessary repairs should be carried out Jacketing may be provided.
					U/s & D/s side of bar needs coping. (B7)	Coping/Jacketing may be provided.
					Guide wall and divide walls are fully damaged.(3.16)	Necessary repairs should be carried out.
					Scouring of rocks at base of w.w. bar observed. Nearly 1-1.5 m depth pot holes are formed. (3.19)	Necessary repairs should be carried out.
1) Executive Engineer, NID (South), Nanded						
29	Name : **SONPETHWADI** Date of completion : 1974 Location : Longitude : 77°20' 00" Latitude : 18°70' 00" Gross Capacity :1.695Mm3 Height : 15.10 m. Design spillway Capacity 274.20 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH0535	22/6/2020 17/12/2020 19/1/2021	Shri.N.V.Patte war EE, NID (South), Nanded Shri.C.T.Mond he EE,DSO-3,Nashik	W.W.Bar & TC .	Scouring is observed on d/s side of bar. Cavity is formed below foundation due to heavy scouring. (B7)	Necessary repairs should be carried out to stop scouring.

SR NO	DAM FEATURES	DATE OF INSPECTION	INSPECTING OFFICER	MAIN COMPONENT OF DAM	SIGNIFICANT DEFICIENCIES NOTICED.	REMEDIAL MEASURES SUGGESTED
1	2	3	4	5	6	7
30	Name : **YEDUR (ST)** Date of completion : 2005 Location : Longitude : 77°18' 00" Latitude : 18°38' 00" Gross Capacity :13.167Mm3 Height : 18.01 m. Design spillway Capacity 1744 m3/sec. Sr No in National Register of Large Dams 2009 : MH09MH1646	22/6/2020 27/12/2020	Shri. N.V.Pattewar EE, NID (South), Nanded	W.W.Bar & TC .	W.W. bar is not in good condition. Leakage through body of W.W.bar is observed.(B7)	Necessary repairs should be carried out Jacketing may be provided.
					Scouring observed d/s of check wall.(3.19)	Necessary repairs should be carried out.
					Guide bund is not in good condition. (3.16)	Necessary repairs should be carried out.
					Scouring observed in tail channel.(3.19)	Necessary repairs should be carried out.
I) Superintending Engineer, BIPC, Parali(V), Beed						
1) Executive Engineer, LMID, Latur						
31	Name : **GHONSHI M.I.Tank** Date of completion : 1991 Location : Longitude : 77° 09' 20" Latitude : 18° 31' 45" Gross Capacity :1.247 Mm3 Height : 19.85 m. Design spillway Capacity 494.08 m3/sec. Sr No in National Register of Large Dams 2009 : **MH09LH1226**	20/5/2020 6/11/2020	Shri. P.R.Shinde Ex.Engr., LMID, Latur	E/Dam	Settlement is noticed. Dam top is shrinked 1.0 to 1.50 m depth in chainage 90 m to 840 m. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly
					Wet patches at d/s of dam at THL level from RD 270 m to 390 m (A1)	Necessary repairs should be carried out to prevent wet patches and leakages.
				Outlet	Outlet gate are not open & close smoothly.(B5)	Necessary repairs should be carried out with the help of Mechanical Organisation.

Table 3.15

Damwise Health status report of Class-II dams with category-3 deficiency

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
[A] CHIEF ENGINEER & CHIEF ADMINISTRATOR, CADA, AURANGABAD.											
I)Superintending Engineer & Administrator, CADA, Aurangabad											
1)Executive Engineer, Jalna Irrigation Division, Jalna											
1	Galhati	1964	75º21'00'' 20º44'00''	17.70	10.73	219	MH09MH0755	Ungated	13/5/2019 NA	3.7,3.9,3.2,3.13,3.21	05
2	Dhoksal	1964	75º21'00'' 20º44'00''	17.70	10.73	219	MH09MH0755	Ungated	NA NA	3.2,3.34,3.21,3.1,3.5,3.7,3.9	07
3	Kalyan Pir	1986	75º02'00'' 19º51'00''	16.41	15.36	1315	MH09MH1138	Ungated	28/5/2020 23/11/2020	3.7,3.9,3.20,3.16	04
4	Upper Dudhna	1964	$75^0$42'00" 19^0 54' 00"	18.00	12.36	1912	MH09MH0099	Ungated	28/5/2020 18/11/2020	3.2	01
5	Jivrekha	1964	75º58'00'' 20º51'00''	20.00	7.00	1083	MH09MH0097	Ungated	3/12/2019 12/11/2020	3.5,3.2,3.21,3.1,3.2,3.7,3.9	07
6	KalyanGirja	1972	76º109'40'' 19º50'00''	22.07	10.16	1310	MH09MH0312	Ungated	28/5/2020 23/11/2020	3.5,3.1,3.21,3.7,3.9,3.34,3.16	07
7	Jui	1960	75º46'00'' 20º20'00''	15.00	9.00	1643	MH09MH0082	Ungated	NA 19/11/2020	3.2,3.21,3.20,3.9,3.7	05
8	Bharaj	1964	76º06'00'' 20º19'00''	15.46	2.32	355	MH09MH0928	Ungated	12/3/2019 12/11/2020	3.5,3.7,3.2,3.21,3.1,3.5	06
9	Pimparkheda	1966	76º22'30'' 19º43'00''	15.20	1.54	194	MH09MH0120	Ungated	NA NA	3.5,3.7,3.9,3.13,3.16,3.21,3.22	07
10	Konad	1994	76º10'00'' 20º16'00''	16.16	4.03	620	MH09MH0352	Ungated	3/12/2019 12/11/2020	3.5, 3.21	02
11	Dhamna	1974	76º50'20'' 20º27'00''	13.45	10.72	1388	MH09LH0450	Ungated	NA 19/11/2020	3.2,3.21, 3.7	03

Sr. No	Name of Dam	Year of Com pl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficien cies
1	2	3	4	5	6	7	8		9	10	11
2)Executive Engineer, Aurangabad Irrigation Division, Aurangabad											
12	Ajanta Andhari	1982	75º46'00'' 20º31'00''	21.00	7.53	781	MH09MH0941	Ungated	27/5/2020 3/12/2020	3.13	01
13	Devhari (Soygaon)	1987	78º36'00'' 19º36'00''	15.60	1.907	256	MH09MH2072	Ungated	27/5/2020 8/12/2020	3.5,3.2,3.9,3.22,3.34,3.21	06
14	Gadadgad	1970	75º13'00'' 20º14'00''	21.00	5.49	885	MH09MH0222	Ungated	30/5/2020 15/12/2020	3.2,3.13,3.34,3.21	04
15	Kelgaon	1973	75º40'00'' 20º24'00''	16.15	2.13	396	MH09MH0364	Ungated	27/5/2020 3/12/2020	3.5,3.2,3.13,3.34,3.21	05
16	Khelna	1964	75º40'00'' 20º24'00''	21.00	15.00	1318	MH09MH0098	Ungated	27/5/2020 3/12/2020	3.5,3.2,3.21	03
17	Lahuki	1978	75º34'00'' 19º54'30''	17.00	5.68	963	MH09MH0733	Ungated	4/6/2020 2/11/2020	3.5,3.9,3.13,3.34	04
18	Nimbhora	1981	75º12'00'' 20º19'00''	17.60	1.56	211	MH09MH0897	Ungated	25/5/2020 22/12/2020	3.5,3.2,3.21,3.13	04
19	Varthan	1972	75º23'00'' 20º30'00''	15.50	1.57	210	MH09MH0279	Ungated	30/5/2020 8/12/2020	3.1,3.9,3.34,3.21	04
20	Waghdara	1975	75º56'00'' 20º54'30''	15.00	3.47	454	MH09MH0507	Ungated	25/5/2020 22/12/2020	3.2,3.9,3.34,3.13	04
21	Anjana Palashi	1999	75º19'00'' 20º17'00''	19.40	15.55	1167	MH09MH1519	Ungated	26/5/2020 23/11/2020	3.10,3.13	02
22	Purna Neopur	1998	75º19'40'' 20º23'00''	16.60	11.38	1184	MH09MH1484	Ungated	25/5/2020 15/12/2020	3.5,3.22,3.19,3.13	04
23	Loni (Kannad)	1988	75º14'45'' 20º09'25''	16.00	0.860	114	MH09MH1185	Ungated	2/6/2020 9/11/2020	3.5,3.10,3.21,3.19	04
24	Chapner	1973	76º03'00'' 20º09'00''	21.00	1.96	251	MH09MH0352	Ungated	26/5/2020 23/11/2020	3.2,3.9,3.13,3.21,3.22,3.34	06
25	Ambadi	1975	75º06'00'' 20º56'00''	20.00	12.00	1412	MH09MH0737	Ungated	25/5/2020 22/12/2020	3.2,3.23	02

Sr. No	Name of Dam	Year of Com pl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficien cies
1	2	3	4	5	6	7	8	9	10	11	12
26	Nirgudi	1967	75º14'45'' 20º09'25''	19.35	2.43	405	MH09MH0145	Ungated	2/6/2020 9/11/2020	3.5,3.9,3.2,3.21,3.10,3.21,3.34	07
27	Dheku	1960	74º50'00'' 20º7'00''	20.00	1.40	1945	MH09MH0083	Ungated	26/5/2020 23/11/2020	3.2,3.9,3.21,3.34	04
28	Kesapuri	1975	$75^0$00'06" $19^0$00'50"	16.71	1.721	814.43	MH09MH0291	Ungated	4/6/2020 2/11/2020	3.2,3.34,3.21,3.9	04
29	Sanjul	1967	75º25'00'' 20º07'00''	21.00	3.08	542	MH09MH0149	Ungated	2/6/2020 9/11/2020	3.2,3.9,3.34	03
30	Kaldari	2000	75º15'30'' 20º29'00''	17.70	3.90	360	MH09MH0880	Ungated	30/5/2020 15/12/2020	3.2,3.34,3.7,3.19	04
31	Soyegaon	1967	75º35'00'' 20º33'00''	17.50	2.54	480	MH09MH0148	Ungated	30/5/2020 8/12/2020	3.5,3.2,3.13,3.34,3.21	05
32	Banoti	1968	75º20'00'' 19º56'00''	19.69	3.88	535.07	MH09MH0165	Ungated	30/5/2020 15/12/2020	NIL	--
33	Sukhna	1966	75º31'00'' 19º49'00''	16.92	21.35	1745	MH09MH0168	Ungated	4/6/2020 2/11/2020	3.5,3.7,3.9,3.34,3.13	05
34	Girija	1986	75^0 20'15" $20^0$06'00"	19.10	24.500	1620	MH09MH1139	Ungated	2/6/2020 9/11/2020	3.7,3.2,3.9,3.34,3.21,3.16	06
35	Pardari ST	2006	75^0 24'30" $19^0$00'00"	22.34	2.26	337	MH09MH2287	Ungated	4/6/2020 2/11/2020	3.2,3.9,3.13,3.34	04
3)Executive Engineer, Jayakwadi Irrigation Division-2, Parbhani											
36	Masoli	1981	76º45'05'' 18º54'10''	24.84	34.08	2038	MH09MH0903	Ungated	8/5/2020 29/12/2020	3.5, 3.34	02
37	Padali	1981	76º19'30'' 18º37'45''	15.00	2.91	326	MH09MH0875	Ungated	NA 30/12/2020	3.7,3.2,3.13,3.21	04
38	Bhoshi	1972	76º57'00'' 18º51'00''	16.60	2.22	435	MH09MH1046	Ungated	NA 30/12/2020	3.5,3.2,3.7,3.9,3.34,3.21,3.16,3.6, 3.19	09
39	Tandulwadi	1972	76º57'00'' 18º51'00''	16.60	2.22	453	MH09MH0300	Ungated	8/5/2020 NA	3.5,3.9,3.7,3.21,3.13	05
40	Karpara	1975.	$76^0$38'02" $17^0$30'42"	16.60	27.32	2033	MH09MH0531	Ungated	NA 30/12/2020	3.7,3.34,3.21,3.9	04

Sr. No	Name of Dam	Year of Com pl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficien cies
1	2	3	4	5	6	7	8	9	10	11	12
II)Superintending Engineer & Administrator, CADA, Latur											
1)Executive Engineer, Latur Irrigation Division-1, Latur											
41	Kasarbalkund	1968	76^0'00" $17^0$20"	16.50	2.489	374.9	MH09MH0429	Ungated	27/5/2020 27/11/2020	3.5,3.7,3.9,3.2,3.13,3.34,3.20	07
42	Tawarja	1982	76º19'00'' 18º24'00''	14.56	27.727	1903	MH09LH0944	Ungated	27/5/2020 4/11/2020	3.7,3.9,3.2,3.13,3.22,3.19	06
2) Executive Engineer , Latur Irrigation Division-2, Latur											
43	Anandwadi	2002	$76^0$15" 18^0"30	18.80	2.026	256.84	MH09MH1607	Ungated	21/5/2020 8/1/2021	3.5, 3.10, 3.9, 3.13	04
44	Kendrewadi	2013	76º44'15'' 18º37'00''	15.80	2.258	305.344	MH09MH2278	Ungated	21/5/2020 24/1/2021	3.5, 3.13	02
45	Halad Wadhona	2001	77º13'55'' 18º36'35''	19.15	3.693	442.28	MH09LH1510	Ungated	23/5/2020 20/1/2021	3.7,3.10, 3.9, 3.2, 3.13	05
46	Sonala	2006	77º08'10'' 18º35'16''	16.3	5.491	1119	MH09MH2289	Ungated	NA 23/1/2021	3.5, 3.10, 3.9, 3.2, 3.13	05
47	Halli (Kh)	2008	76^0'30" $18^0$00"	21.00	1.467	138.854	MH09MH2274	Ungated	21/5/2020 24/1/2021	3.5, 3.9, 3.13, 3.16,3.19	05
48	Sakol	1992	76º14'00'' 18º18'00''	17.50	12.689	1153	MH09MH1297	Ungated	20/5/2020 16/10/2020	3.5, 3.9, 3.7, 3.13, 3.34, 3.21	06
49	Andhori (ST)	2006	76º47'10'' 18º46'00''	17.00	2.1624	192.98	MH09MH2267	Ungated	8/5/2020 22/12/2020	3.10, 3.9, 3.2, 3.13, 3.34	05
50	Devarjan	1993	77º00'00'' 18º19'00''	15.20	12.411	1135.36	MH09MH1317	Ungated	18/5/2020 21/1/2021 10/2/2021	3.10, 3.9, 3.7, 3.13, 3.22, 3.34, 3.21, 3.20	08
51	Kodali (ST)	2004	77º13'10'' 18º28'15''	18.96	1.72	165.05	MH09MH2279	Ungated	14/5/2020 23/1/2021	3.9, 3.13	02
52	Tiru	1976	77º04'06'' 18º25'22''	21.00	23.32	1994	MH09MH0595	Ungated	NA 22/1/2021	3.10,3.9,3.2,3.13,3.21	05
53	Gharani	1996	76º49'15'' 18º22'30''	16.76	22.08	2248	MH09MH0194	Ungated	20/5/2020 16/10/2020	3.10, 3.9, 3.2,3.13,3.34,3.21	06
54	Bhutekarwadi	1967	76º51'00'' 18º37'00''	16.50	3.31	593	MH09MH0150	Ungated	5/5/2020 8/1/2021	3.7,3.10,3.9,3.13	04
55	Ekurka	1973	77º04'00'' 18º29'00''	15.15	1.64	191	MH09MH0342	Ungated	14/5/2020 24/1/2021	3.7, 3.10, 3.9, 3.13, 3.34, 3.21	06

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1	2	3	4	5	6	7	8	9	10	11	12
56	Gotala	1971	76º52'39'' 18º38'00''	15.63	3.43	336	MH09MH0252	Ungated	5/11/2020 13/1/2021	3.5, 3.10, 3.9, 3.2, 3.13	05
57	Mogha	1990	77º00'00'' 18º43'00''	16.90	7.89	1049	MH09MH1247	Ungated	5/5/2020 19/12/2020	3.7, 3.1, 3.10, 3.9, 3.2, 3.13, 3.34, 3.21, 3.20, 3.16,3.22	11
58	Sukhani	1995	76º43'00'' 18º40'00''	16.82	1.21	192	MH09MH0834	Ungated	15/5/2020 14/12/2020	3.1,3.9, 3.20, 3.7, 3.13	05
59	Yester	2002	76º48'00'' 18º46'00''	15.05	2.162	565.81	MH09MH1561	Ungated	7/5/2020 19/12/2020	3.10, 3.9, 3.2, 3.7, 3.13, 3.34, 3.21, 3.16	08
60	Thodga	1995	76º32'30'' 18º42'30''	18.83	5.63	688	MH09MH1401	Ungated	5/5/2020 19/12/2020	3.10, 3.2, 3.7, 3.9, 3.21, 3.16, 3.17, 3.34, 3.13, 3.22, 3.20	11
61	Pimpri	1974	76º07'65'' 18º15'30''	16.50	2.20	1203	MH09MH0425	Ungated	14/5/2020 22/1/2021	3.7, 3.10, 3.9, 3.2, 3.13, 3.22, 3.21	07
62	FattuNaik Tanda (ST)	2007	74º47'00'' 18º35'00''	19.5	1.368	118.58	MH09MH2271	Ungated	21/5/2020 24/1/2021	3.5, 3.13,3.16,3.19	04
63	Yeldari	2002	76º50'00'' 18º49'00''	19.80	1.32	122	MH09MH1601	Ungated	7/5/2020 22/12/2020	3.5, 3.7, 3.10, 3.1, 3.2, 3.9, 3.13, 3.22, 3.34, 3.21, 3.16	11
64	Sangamwadi	2010	76º59'26'' 18º29'00''	20.02	8.554	964	MH09MH2102	Ungated	9/5/2020 9/12/2020	3.10,3.9,3.2,3.13,3.22	05
65	Karepur	2004	75º06'00'' 20º56'00''	20.00	12.00	1412	MH09MH0737	Ungated	15/5/2020 14/12/2020	3.5, 3.10, 3.13	03
66	Borol	2006	77º05'55'' 18º05'00''	17.41	3.51	325.11	MH09MH2427	Ungated	NA 21/1/2021	3.10, 3.5, 3.9, 3.2, 3.7, 3.13	06
67	Bokani	1992	77º01'00'' 18º527'00''	17.03	9.45	1258	MH09MH1337	Ungated	18/5/2020 21/1/2021	3.5,3.10, 3.9, 3.2, 3.13, 3.34	06
68	Guredhal MI Tank	1998	77º23'30'' 18º35'15''	20.70	3.77	580	MH09MH1489	Ungated	18/5/2020 21/1/2021	3.7, 3.10, 3.2, 3.9,3.13, 3.34, 3.21	07
69	Nagthana	1993	76º49'45'' 18º37'46''	19.31	6.48	961	MH09MH1316	Ungated	5/5/2020 8/1/2021	3.10, 3.9, 3.13, 3.34	04
70	Bothi	1978	77º40'00'' 19º05'00''	19.15	1.82	175	MH09MH0860	Ungated	9/5/2020 9/12/2020	3,5,3.10,3.2,3.9,3.13,3.21,3.20	07
71	Gutti no.1	2005	77º12'00'' 18º30'00''	16.71	3.08	553.08	MH09MH1652	Ungated	14/5/2020 22/11/2020	3.10, 3.9, 3.2, 3.13	04
72	Gutti ST-2	2009	77º15'00'' 18º32'00''	16.69	2.413	142.214	MH09MH2272	Ungated	12/11/2019 23/1/2021	3.10, 3.9, 3.13, 3.2	04

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1	2	3	4	5	6	7	8	9	10	11	12
73	Kaudgaon	2003	77º51'45" 18º35'15"	15.30	2.29	375	MH09MH1581	Ungated	6/11/2019 13/1/2021	3.5, 3.10, 3.9, 3.2, 3.13	05
74	Whati	1980	76^0 44' 00" 18^0 39' 00"	17.30	9.51	997	MH09MH0840	Ungated	21/5/2020 14/12/2020	3.10, 3.9, 3.13, 3.34, 3.21	05
75	Nagzari (ST)	2011	76^0 55' 30" NA	17.33	1.458	127.28	MH09MH1057	Ungated	5/5/2020 22/12/2020 9/2/2021	3.5, 3.10, 3.2,3.16	04
76	Mandurki (ST)	2008	76^0 18' 00" 18^0 30' 00"	20.40	1.332	596.7	MH09MH2282	Ungated	9/5/2020 9/12/2020	3.1, 3.10, 3.9, 3.2, 3.13	05
77	Mavalgaon (ST)	2010	77^0 10' 30" 18^0 41' 45"	15.1	1.15	103.1	MH09MH2283	Ungated	NA 29/12/2020	3.5, 3.10, 3.13	03
78	Khandli (ST)	2006	76^0 52' 00" 18^0 50' 00"	22.08	85.254	300	MH09MH2428	Ungated	5/5/2020 22/12/2020	3.5, 3.10, 3.9, 3.16,3.19	05
79	Kawalwadi (ST)	2008	76^0 47' 00" 18^0 46' 00"	17.00	2.1624	192.98	MH09MH2276	Ungated	8/5/2020 29/12/2020	3.5, 3.7, 3.10, 3.9, 3.16, 3.13	06
80	Rachanwadi	1996	77º40'00" 19º50'00"	19.54	5.327	772.47	MH09LH1405	Ungated	9/5/2020 9/12/2020	3.2, 3.9, 3.21, 3.13,3.34	05
81	Kalegaon	2008	77º12'30" 18º43'30"	18.17	9.61	1158	MH09MH2080	Ungated	30/11/2019 13/1/2021	3.5, 3.10, 3.9, 3.2, 3.13, 3.16	06
82	Dhorsangvi	1979	76º49'15" 18º22'30"	15.30	2.24	370.5	MH09MH0777	Ungated	23/5/2020 23/1/2021 9/2/2021	3.10, 3.9, 3.13,3.16,3.10	05
83	Molvan	2010	76º45'30" 18º46'00"	18.60	1.02	103.11	MH09MH2094	Ungated	7/5/2020 29/12/2020	3.5, 3.10, 3.9, 3.13, 3.21,3.2	06
84	Dongargaon (ST)	2008	77º12'00" 18º34'00"	18.96	3.967	439.767	MH09MH1093	Ungated	23/5/2020 23/1/2021	3.10, 3.2, 3.13	03
85	Chandegaon (ST)	2014	77º13'00" 18º24'06"	19.00	4.5287	762.87	MH09MH2268	Ungated	18/5/2020 21/1/2021	3.10, 3.13	02
86	Nideban (ST)	2006	77º08'30" 18º22'400"	24.07	1.520	180.74	MH09MH2285	Ungated	18/5/2020 21/1/2021	3.10, 3.9, 3.7, 3.13	04
87	Doul Hipparga (MI)	2005	77º30'00" 18º15'00"	17.05	4.06	873.67	MH09MH2270	Ungated	14/5/2020 20/1/2021	3.10, 3.2, 3.13	03

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1	2	3	4	5	6	7	8	9	10	11	12
88	Malihipparga (ST)	2012	77º14'00" 18º13'00"	21.40	4.075	819.62	MH09MH2281	Ungated	23/5/2020 20/1/2021	3.10, 3.2, 3.13, 3.16	04
89	Ravankola (ST)	2011	77º14'00" 18º36'00"	15.46	1.272	117.07	MH09MH2288	Ungated	23/5/2020 20/1/2021	3.10, 3.2, 3.13	03
90	Dhondwadi (ST)	2005	77º11'00" 18º32'40"	16.53	1.059	127.47	MH09MH2269	Ungated	23/5/2020 24/1/2021	3.10, 3.9, 3.2, 3.13	04
91	KekatSindagi (ST)	2012	70º10'45" 18º4'45"	15.50	1.634	137.98	MH09MH2277	Ungated	23/5/2020 20/1/2021	3.10, 3.9, 3.2, 3.13, 3.16,3.1,3.5	07
92	Hagdul-Gugdal (ST)	2006	76º00'00" 18º45'00"	15.5	2.817	882.42	MH09MH2273	Ungated	5/5/2020 22/12/2020	3.10, 3.13	02
93	Renapur	2000	76º35'00" 18º35'00"	10.02	21.69	1993.21	MH09MH1555	Ungated	25/5/2020 18/12/2020	3.5, 3.7, 3.10, 3.9, 3.2, 3.16	06
3) Executive Engineer, Osmanabad Irrigation Division -1, Osmanabad											
94	Chandani	1965	75º32'00" 18º15'00"	17.18	20.7	3030	MH09MH0114	Ungated	8/5/2020 17/11/2020	3.9, 3.5, 3.13, 3.34, 3.21, 3.20,3.10,3.22	08
95	Terna	1970	76º07'30" 18º19'49"	15.00	22.91	2487	MH09MH0232	Ungated	5/5/2020 31/10/2020	3.7, 3.2, 3.19,3.20,3.13	05
96	Ramganga	1977	75º37'00" 18º31'00"	21.01	6.136	1305	MH09MH0650	Ungated	6/5/2020 27/11/2020 8/2/2021	3.2, 3.9, 3.13, 3.34, 3.21	05
97	Sangameshwar	2005	75º37'00" 18º37'00"	15.25	16.82	2473.99	MH09MH1381	Ungated	6/5/2020 27/11/2020	3.10, 3.7, 3.9, 3.2, 3.13, 3.22, 3.34, 3.21,3.16	09
98	Khandeshwar	1978	75º25'00" 18º30'00"	17.14	10.84	800	MH09MH0730	Ungated	8/5/2020 17/11/2020 1/10/2020	3.2,3.9,3.13,3.22.3.6	05
99	Sakat	1997	75º44'00" 18º28'00"	19.80	14.43	1686	MH09MH1339	Ungated	8/5/2020 17/11/2020	3.7, 3.13, 3.20, 3.21	04
100	Gaosud	1995	76º2'00" 18º7'25"	16.75	1.700	198.78	MH09MH1354	Ungated	5/5/2020 19/11/2020	3.7, 3.10, 3.2, 3.9, 3.13, 3.34, 3.21, 3.20,3.16	09
101	Raghuchiwadi	1975	76º10'00" 18º09'00"	16.75	2.07	354	MH09MH0576	Ungated	5/5/2020 19/11/2020	3.7, 3.10, 3.9, 3.2, 3.13, 3.34, 3.21, 3.20	08
102	Ambehole ST	2011	76º02'00" 18º12'00"	20.45	4.15	105.19	MH09MH2266	Ungated	5/5/2020 19/11/2020	3.9, 3.2, 3.13,3.10	04

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1	2	3	4	5	6	7	8	9	10	11	12
103	Wadgi	1998	75º59'10'' 18º27'00''	18.84	2.39	319.5	MH09MH1464	Ungated	11/5/2020 24/11/2020	3.7,3.9,3.2,3.10,3.22,3.21,3.20	07
104	Yermala	1997	75º52'00'' 18º23'00''	15.72	1.41	133.73	MH09MH1459	Ungated	11/5/2020 24/11/2020	3.2,3.13	02
105	Malkapur	1995	75º59'00'' 18º28'00''	22.80	0.945	84.52	MH09MH1375	Ungated	11/5/2020 24/11/2020	3.2,3.13,3.6,3.7	04
106	Arsoli LMI Tank	1990	75º28'00'' 18º19'00''	23.30	7.718	976	MH09MH1246	Ungated	13/5/2020 22/10/2020	3.9, 3.13, 3.20	03
107	Jamb	2000	75º34'00'' 18º31'00''	17.30	2.824	302.71	MH09MH1539	Ungated	13/5/2020 22/10/2020	3.7, 3.2, 3.9,3.13	04
108	Wakwad	1996	75º42'00'' 18º33'10''	16.80	0.998	163	MH09MH1390	Ungated	13/5/2020 22/10/2020 8/2/2021	3.9, 3.2, 3.13	03
109	Watephal	2000	75º24'45'' 18º28'10''	15.06	4.266	628.21	MH09MH1545	Ungated	15/5/2020 17/11/2020	3.10, 3.2,3.13,3.22	04
110	Tintraj	1985	75º31'00'' 18º36'00''	15.55	1.393	429.76	MH09MH093	Ungated	13/5/2020 22/10/2020	3.2, 3.9,3.21,3.13,3.34	05
111	Chorkhali	1996	75^0 54' 00" 18^0 20' 00"	20.28	3.434	291	MH09MH1363	Ungated	11/5/2020 24/11/2020	3.2, 3.13, 3.22	03
112	Banganga	1975	75º40'00'' 18º29'00''	19.20	5.935	826	MH09MH0522	Ungated	6/5/2020 27/11/2020	3.5,3.9,3.13,3.21,3.20	05
113	Khasapur	1956	75º30'00'' 18º17'00''	23.78	13.590	906	MH09MH0076	Ungated	8/5/2020 17/11/2020	3.1,3.10,3.13,3.21,3.20	05
4)Executive Engineer, Osmanabad Irrigation Division 2, Omerga											
114	Diggi	1997	76º41'10'' 17º03'10''	15.16	1.598	201.61	MH09MH1429	Ungated	14/5/2020 11/12/2020	3.5,3.7,3.13,3.2,3.34,3.21	06
115	Kurnoor	1968	75º16'00'' 17º50'00''	23.70	35.24	2190	MH09MH0169	Ungated	NA 23/12/2020	3.5,3.2,3.9,3.34,3.21,3.33	06
116	Turori	1983	76º41'30'' 17º48'00''	17.50	7.66	1096	MH09MH1004	Ungated	14/5/2020 11/12/2020	3.5, 3.9, 3.34,3.2,3.13	05
117	Harni	1965	76º06'00'' 17º49'00''	16.55	13.58	1647	MH09MH0112	Ungated	NA 23/12/2020	3.1,3.10,3.34,3.22	04
118	Sindgaon	1997	76º08'00'' 17º50'00''	16.3	3.282	318	MH09MH1631	Ungated	NA 2/12/2020	3.5, 3.1, 3.2,3.9,3.21	05

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1	2	3	4	5	6	7	8	9	10	11	12
119	Khandala	1973	76º10'00'' 17º47'00''	20.50	6.26	978	MH09MH0381	Ungated	NA 23/12/2020	3.5,3.1,3.2,3.9,3.34,3.13	05
120	Nandgaon	1998	75º40'00'' 18º25'00''	22.91	1.99	565	MH09MH1469	Ungated	NA 2/12/2020	3.5,3.1,3.2,3.9,3.34,3.13	06
121	Kunsawali	1998	$74^0$50'00" $18^0$45'00"	15.04	1.165	113.08	MH09MH0107	Ungated	NA 2/12/2020	3.5,3.1,3.2,3.9,3.22,3.34,3.21	07
122	Aliyabad ST	2004	$76^0$50'00" 17^0'00"	19.50	1.709	170.114	MH09MH2423	Ungated	NA 23/12/2020	3.5,3.1,3.2,3.9,3.34,3.21	06
123	Salgara (D) ST	2000	$76^0$0'00" 18^0'00"	15.30	2.043	537.47	MH09MH2424	Ungated	NA 28/12/2020	3.5,3.2,3.1,3.9,3.13,3.34	06
124	Chikundra ST	2006	76^0'25" 17^0'20"	16.70	1.257	125.43	MH09MH2425	Ungated	NA 28/12/2020	3.5,3.9,3.13,3.22	04
125	Jalkot ST	1999	76^0'00" 17^0'00"	15.30	1.850	416.55	MH09MH2426	Ungated	NA 23/12/2020	3.5,3.2,3.1,3.9,3.13	05
126	Achler ST	1999	--- ---	15.72	1.296	159.02	MH09LH0702	Ungated	NA 2/12/2020	3.5,3.7,3.2,3.34,3.16,3.9	06
127	Kesarjawalga	1997	74^0 30' 00" 17^0 30' 00"	17.72	1.245	207	MH09MH1430	Ungated	6/5/2020 11/12/2020	3.5,3.7,3.2,3.9,3.34	05
III) Superintending Engineer & Administrator, CADA, Beed											
1)Executive Engineer, Jayakwadi Irrigation Division NO. 3 Beed											
128	Belpara	1993	75º09'30'' 19º09'30''	17.40	6.99	1278	MH09MH1314	Ungated	10/5/2020 8/11/2020	3.7, 3.2	02
129	Shivani	1978	75º50'30'' 18º56'00''	17.14	2.68	462	MH09MH0719	Ungated	1/5/2020 1/11/2020	3.2, 3.34, 3.21, 3.16	04
130	Nagthalwadi	1981	75º56'00'' 19º00'15''	15.81	0.82	288	MH09MH0872	Ungated	4/5/2020 10/11/2020	3.5, 3.9, 3.2, 3.22	04
131	Warni	1981	75º23'00'' 19º03'30''	15.34	1.92	445	MH09MH0887	Ungated	4/5/2020 10/11/2020	3.9	01
132	Karchundi	2007	75□41'20" 18□53'27"	20.75	2.90	552	MH09MH2081	Ungated	7/5/2020 1/11/2020	NIL	00
133	Nimgaon Choba	2000	75□30'00" 18□36'00"	14.67	7.51	2329	MH09MH1557	Ungated	6/6/2020 11/11/2020	3.2, 3.9, 3.34, 3.21	04

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1	2	3	4	5	6	7	8	9	10	11	12
134	Suleman Deola	2006	75º1'40'' 13º0'30''	19.41	2.280	NA	MH09MH2290	Ungated	6/6/2020 11/11/2020	3.9, 3.2	02
135	Khatkali	1978	75º45'45'' 18º52'45''	18.90	2.27	372	MH09MH0710	Ungated	1/5/2020 1/11/2020	3.7, 3.2	02
136	Mahasangavi	1965	75º28'00'' 18º48'00''	16.98	9.45	136	MH09MH0103	Ungated	11/5/2020 8/11/2020	3.22,3.34	02
137	Mankarnika	1997	75º58'50'' 19º05'00''	15.25	11.38	1321.04	MH09MH1447	Ungated	1/5/2020 7/11/2020	3.5, 3.7, 3.2, 3.22, 3.34	05
138	Narayangad	1995	75º45'00'' 19º05'30''	16.57	5.286	1044	MH09MH1377	Ungated	4/5/2020 8/11/2020	3.7, 3.9, 3.34,3.21,3.2	05
139	Uthala	1992	75º52'00'' 19º06'00''	16.28	8.17	1041	MH09MH1296	Ungated	4/5/2020 10/11/2020	3.7, 3.2, 3.22	03
140	Kadi	1970	75º05'24'' 18º58'30''	21.18	7.633	1156	MH09MH0225	Ungated	2/6/2020 14/11/2020	3.34	01
141	Kambli	1958	75º30'00'' 18º16'00''	15.20	3.80	1359	MH09MH0079	Ungated	2/6/2020 14/11/2020	3.9, 3.10, 3.2	03
142	Mehakari	1966	75º00'00'' 18º52'00''	27.63	16.135	2233	MH09MH0132	Ungated	2/6/2020 14/11/2020	3.5, 3.2, 3.9	03
143	Rameshwar Sautada	2000	75º18'42'' 18º48'45''	17.50	3.28	896	MH09MH1550	Ungated	4/5/2020 8/11/2020	3.2	01
144	Welturi	1979	75º02'30'' 15º04'00''	20.50	1.78	435	MH09MH0783	Ungated	6/6/2020 10/11/2020	3.9, 3.2, 3.22,3.34	04
145	Matkuli	1989	75º15'30'' 18º47'15''	15.39	1.758	447.54	MH09MH1436	Ungated	6/6/2020 11/11/2020	3.2,3.34,3.9	03
146	Wanjarwadi	1961	75º38'00'' 18º58'00''	15.03	2.89	1867	MH09MH0087	Ungated	10/5/2020 1/11/2020	3.2, 3.9, 3.34, 3.21	04
147	Golangiri	1987	75º38'00'' 18º44'100''	15.52	1.893	436	MH09MH1162	Ungated	7/5/2020 1/11/2020	3.7, 3.2, 3.34, 3.21	04
148	Incharna	1971	75º07'00'' 18º12'00''	15.29	2.63	527	MH09MH0262	Ungated	4/5/2020 8/11/2020	3.2, 3.10, 3.22, 3.21	04
149	Dokewada (ST)	1976	75º44'30'' 18º55'30''	23.20	8.92	1136	MH09MH2074	Ungated	7/5/2020 1/11/2020	3.2, 3.20	02
150	Bhayala-II	2007	75º37'07'' 18º32'08''	26.70	1.84	379.48	MH09MH2068	Ungated	4/5/2020 8/11/2020	3.9, 3.2,3.16,3.6	04

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
151	Morzalwadi	1993	77º25'18" 18º56'29"	15.70	1.473	530	MH09MH1295	Ungated	4/5/2020 7/11/2020	3.9,3.7,3.2	03
152	Sindphana	1963	75º23'00" 19º00'00"	19.05	12.593	1857	MH09MH0092	Ungated	10/5/2020 22/11/2020	3.10,3.22,3.2	03
153	Bindusara	1955	75º44'30" 18º45'45"	18.00	9.57	1654	MH09MH0072	Ungated	1/5/2020 7/11/2020	3.5, 3.17,3.21	03
154	Rooty	1958	75º30'00" 18º16'16"	15.20	3.80	1359	MH09MH0055	Ungated	2/6/2020 14/11/2020	3.9	01
155	Lokarwadi	2001	75º54'00" 18º54'00"	23.91	2.23	341	MH09MH2280	Ungated	1/5/2020 7/11/2020	3.13,3.34	02
156	Domri	1996	75° 34'00" 18° 54'00"	23.10	11.21	1243	MH09MH1409	Ungated	1/5/2020 1/11/2020	3.2	01
157	Kada	1965	75° 26' 00" 18° 56'00"	15.45	9.95	1554	MH09MH0111	Ungated	2/6/2020 14/11/2020	3.34,3.21	02
158	Brahmagaon	1978	75° 11'30" 18° 48'00"	15.80	1.66	384.50	MH09MH0708	Ungated	6/6/2020 11/11/2020	3.9,3.2	02
2) Executive Engineer, Majalgaon airrigation Division, Parali(V) ,Beed											
159	Bhodegaon	1971	76º20'00" 19º30'00"	17.10	4.24	751	MH09MH0265	Ungated	23/5/2020 10/11/2020	3.5,3.13,3.34,3.21,3.19	05
160	Daithana	2002	76º39'57" 18º48'10"	16.99	1.65	270	MH09MH1603	Ungated	21/5/2020 3/11/2020	3.2	01
161	Borna	1983	76º36'30" 18º15'30"	22.30	10.908	1249	MH09MH1005	Ungated	21/5/2020 5/11/2020	3.13,3.22,3.21,3.16	04
162	Chandpur	1969	76^0 33' 00" $18^0$48' 00"	23.89	3.01	412	MH09MH0186	Ungated	21/5/2020 3/11/2020	3.5, 3.19, 3.2	03
163	Karewadi	1978	75º30'00" 18º48'00"	22.96	1.58	403	MH09MH0714	Ungated	23/5/2020 9/11/2020	3.5,3.1,3.2,3.13,3.34	05
164	Kanherwadi	1978	76º30'00" 18º48'00"	18.04	3.29	403.22	MH09MH0713	Ungated	21/5/2020 5/11/2020	3.5, 3.9, 3.13,	03
165	Kalwati	2001	76º24'00" 18º48'00"	16.98	4.95	136	MH09MH1571	Ungated	NA 7/10/2020	3.7,3.9,3.2,3.13	04
166	Nilkanteshwar	2001	76º19'36" 18º16'25"	19.08	1.96	1.96	MH09MH1596	Ungated	27/5/2020 2/11/2020	3.7,3.2,3.13	03

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
167	Jiwachwadi	2005	76º00'45" 18º05'20"	20.35	1.41	199.95	MH09MH2275	Ungated	17/5/2020 6/11/2020	3.2, 3.9,3.13	03
168	Limbachiwadi-I	2005	76^0 5' 2 $18^0$50' 58"	20.08	1.414	273	MH09MH2087	Ungated	22/5/2020 6/11/2020	3.5,3.9	02
169	Limbachiwadi-2	2006	76º06'03" 18º04'41"	17.95	1.40	661.50	MH09MH2088	Ungated	22/5/2020 6/11/2020	3.9,3.13	02
170	Dethewadi	2005	75º58'51" 18º52'48"	21.88	1.409	236.80	MH09MH1649	Ungated	22/5/2020 19/11/2020	3.7, 3.9,3.13	03
171	Chardari	2000	76º02'30" 18º52'30"	22.82	1.51	417.64	MH09MH1583	Ungated	24/5/2020 6/11/2020	3.10, 3.9,3.22	03
172	Dharur (ST)	1981	75º05'31" 18º49'05"	20.24	1.49	185.44	MH09MH1573	Ungated	24/5/2020 6/11/2020	3.9,3.13	02
173	Ghagarwada	2005	$76^0$54' 00" $18^0$50' 48"	25.35	2.78	385.35	MH09MH1592	Ungated	22/5/2020 6/11/2020	3.2,3.13,3.16,3.21	04
174	Chanai	2006	76º19'09" 18º44'47"	16.48	0.603	64	MH09MH1661	Ungated	27/5/2020 2/11/2020 19/1/2021	3.5,3.9,3.2,3.13	04
175	Bhavathana	2005	76º17'29" 18º48'33"	25.76	5.27	553	MH09MH1653	Ungated	27/5/2020 26/11/2020	3.9,3.13	02
176	Sakud	2001	76^0 27' 00" 18^0 44' 47"	16.48	0.603	64	MH09MH1661	Ungated	21/5/2020 20/11/2020	3.7,3.9,3.2,3.13	04
177	Kasari	1988	75^0 04' 30" 18^0 45' 00"	15.52	0.872	142.80	MH09MH0854	Ungated	22/5/2020 4/11/2020	3.7	01
178	Karanja	2002	76º39'57" 18º48'10"	16.99	1.65	270	MH09MH0249	Ungated	24/5/2020 4/11/2020	3.2, 3.13,3.34,3.21	04
179	Chikalbeed	2005	76º17'29" 18º48'33"	25.76	5.27	553	MH09MH1653	Ungated	23/5/2020 6/11/2020	3.2,3.13	02
180	Wan	1966	76º25'00" 18º52'00"	19.00	2.51	2340	MH09MH0133	Ungated	21/5/2020 9/11/2020	3.5,3.10,3.13,3.22,3.34	05
181	Babulgaon	1975	76º13'00" 18º59'00"	15.60	2.74	340	MH09MH0774	Ungated	23/5/2020 23/11/2020	3.2,3.5,3.13,3.34,3.21	05

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
182	Bhogalwadi	2002	76^0 10' 00" 18^0 16' 00"	16.68	1.94	493.38	MH09MH1370	Ungated	23/5/2020 8/11/2020	3.2, 3.34, 3.21	03
183	Gunwati	1995	76º20'15" 18º37'15"	15.82	6.616	922.20	MH09MH1364	Ungated	23/5/2020 25/11/2020	3.9,3.13	02
184	Saraswati	1981	76º16'10" 18º35'00"	18.30	NA	7.23	MH09MH0865	Ungated	17/5/2020 8/11/2020	3.9,3.13,3.34	03
185	Kundalika	1981	76º08'00" 18º56'30"	28.45	46.34	2751	MH09MH1140	Ungated	17/5/2020 8/11/2020 18/1/2021	3.2, 3.13,3.9,3.34,3.35	05
196	Khanapur	1978	76º21'30" 19º21'30"	20.40	2.77	383	MH09MH0712	Ungated	17/5/2020 8/11/2020	3.2, 3.9, 3.34,3.13	04
B)Chief Engineer, (WR), Aurangabad											
I)Superintending Engineer, BIPC, Parali (V), Beed											
1)Executive Engineer, Latur MID, Latur											
187	Ghonshi (MI) tank	1991	77^0 09' 20" $18^0$31' 45"	19.85	1.247	494.08	MH09LH1226	Ungated	20/5/2020 6/11/2020 10/2/2021	3.7, 3.1, 3.2, 3.22, 3.34, 3.20	06
188	Dongarkonali ST	2015	77º60'00" 18º36'00"	16.24	4.134	1182.77	MH09MH2292	Ungated	20/5/2020 6/11/2020	3.5,3.2,3.13	03
2)Executive Engineer, Beed Irrigation Division, Beed											
189	Chanai ST-2	2009	79^0'51" 18^0'47"	20.65	0.9125	---	MH09MH2291	Ungated	NA 10/12/2020	3.2	01
190	Sarfarajpur ST	2011	76^0'12" 18^0'11"	17.40	1.2916	---	MH09MH2300	Ungated	NA 27/11/2020	3.1	01
191	Sakud ST-2	2012	76^0'00" 18^0'21"	---	---	---	MH09MH2298	Ungated	NA 10/12/2020	3.1	01
192	Surnerwadi ST	2012	76^0'30" 18^0'00"	18.10	1.78	187.28	MH09MH2301	Ungated	NA 25/12/2020	3.1	01
193	Morphali	2010	--- ---	---	3.4538	1213.84	MH09MH2294	Ungated	NA 12/11/2020	3.1	01
194	Nandagaul ST	2011	76^0'11" 18^0'51"	17.70	1.3028	100.90	MH09MH2295	Ungated	NA 26/11/2020	NIL	00

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
II)Superintending Engineer, Aurangabad Irrigation Circle, Aurangabad											
1)Executive Engineer, Minor Irrigation Division-1, Aurangabad											
195	Rawala	1999	75º52'00" 20º35'00"	23.50	5.31	468.68	MH09MH1511	Ungated	24/5/2020 22/10/2020 13/10/2020	3.2, 3.22,3.21,3.5,3.9,3.13,3.34	07
196	Nimkhedi	2005	75º14'00" 20º29'30"	15.25	1.39	154	MH09MH2095	Ungated	NA 22/10/2020 13/10/2020	3.2, 3.5, 3.7, 3.21,3.9	05
197	Phulambari	2005	75º20'20" 20º20'00"	17.00	6.11	1019	MH09LH2381	Ungated	NA 28/10/2020	3.2	01
198	Halda-Jalki MI Tank	2005	75º37'00" 20º30'00"	16.54	1.377	160.70	MH09MH2293	Ungated	23/5/2020 22/10/2020	3.5,3.7,3.9,3.2,3.13,3.22,3.34,3.21	08
199	Kolwadi MI Tank	1996	75º02'30" 20º5'00"	17.90	2.159	346.68	MH09MH1760	Ungated	NA 9/12/2020	3.5	01
200	Pimpalwadi	2001	76º02'00" 20º32'00"	15.75	2.694	288.047	MH09MH2296	Ungated	24/5/2020 22/10/2020	3.5,3.7,3.9,3.2,3.13,3.22,3.21,3.34	08
2)Executive Engineer, Jalna Minor Irrigation Division, Jalna											
201	Chandai Eco LMI Tank	2006	70º50'00" 20º00'00"	15.05	2.913	465.39	MH09LH1000	Ungated	11/4/2020 16/9/2021 2/11/2020	3.5,3.1,3.2,3.21	04
202	Banegaon LMI Tank	2006	70º50'00" 20º70'00"	15.50	6.982	974.26	MH09MH2302	Ungated	14/4/2020 16/9/2021 2/11/2020	3.5,3.1,3.2,3.21	04
203	Palaskheda LMI Tank	NA	75º04'09" 20º05'00"	16.70	9.013	929.09	MH09MH2321	Ungated	14/4/2020 16/9/2021 2/11/2020	3.5,3.1,3.2,3.21	04
204	Taltondi MI Tank	2007	76º26'00" 19º42'00"	20.18	2.258	23.63	MH09MH2312	Ungated	12/5/2020 15/12/2020 3/11/2020	3.2	01
205	Pimpalwadi ST	2010	76º06'57" 19º05'57"	20.59	1.61	419.09	MH09MH2297	Ungated	21/5/2020 23/10/2020 3/11/2020	3.2,3.13	01

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
II)Superintending Engineer, Nanded Irrigation Circle, Nanded											
1)Executive Engineer, Nanded Irrigation Division (North), Nanded											
206	Hudi	1976	78^0 30' 00" 19^0 21' 15"	15.75	1.622	98	MH09MH0546	Ungated	30/5/2020 23/11/2020 20/1/2021	3.10,3.13,3.22,3.21	04
207	Dongargaon	1985	$78^0$09'30" $19^0$26'30"	22.60	9.60	729	MH09LH1028	Ungated	30/5/2020 23/11/2020	3.5,3.10,3.2,3.9,3.19,3.16	06
208	Nagzari (Kinwat)	1984	$76^0$16'00" $19^0$36'00"	17.25	1.895	624	MH09MH1057	Ungated	31/5/2020 24/11/2020	3.2,3.10,3.16,3.1,3.34,3.5,3.9, 3.7	08
209	Warsangvi	1987	$78^0$10'00" $19^0$37'15"	15.60	2.537	315	MH09MH2111	Ungated	31/5/2020 24/11/2020	3.13	01
210	Loni	1979	78º10'00" 19º42'30"	21.6	9.217	759	MH09LH0766	Ungated	31/5/2020 23/11/2020	3.10,3.2,3.9,3.13,3.22,3.20	06
211	Sindgi	1976	78º03'30" 19º42'00"	16.64	1.67	104	MH09MH0547	Ungated	31/5/2020 23/11/2020 20/1/2021	3.2,3.6,3.13	03
212	Renapur Sudha	1975	77º47'00" 19º20'00"	19.40	1.87	1170	MH09MH1555	Ungated	30/5/2020 23/11/2020	3.5,3.7,3.1,3.22,3.13	05
213	Nichpur	1978	77º36'00" 19º42'00"	15.56	2.32	168	MH09MH0678	Ungated	31/5/2020 23/11/2020	3.13	01
214	Pimpalgaon (KI)	1976	76º19'00" 19º39'00"	15.75	22.50	143	MH09MH0554	Ungated	31/5/2020 24/11/2020	3.7,3.5,3.10,3.2,3.13,3.22,3.6	07
215	Jaldhara	1975	78º70'00" 19º24'00"	19.40	1.97	173	MH09MH0537	Ungated	30/5/2020 23/11/2020 20/1/2021	3.2,3.22,3.21,3.6,3.13,3.16	06
216	Sirpur	1986	78º18'00" 19º49'15"	28.40	6.05	975	MH09MH1133	Ungated	31/5/2020 24/11/2020	3.7,3.21,3.13	03
217	Palaiguda	1999	78º04'44" 19º04'40"	19.85	5.987	193.10	MH09MH1513	Ungated	31/5/2020 24/11/2020	3.7,3.22	05
218	Mandvi	1998	78º16'30" 19º47'00"	21.98	7.07	839.13	MH09LH1038	Ungated	31/5/2020 24/11/2020	3.22,3.13	02

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
2)Executive Engineer, Nanded Irrigation Division (South), Nanded											
219	Karadkhed	1976	77º29'00" 18º28'30"	20.90	12.37	1560	MH09MH0735	Ungated	22/6/2020 28/12/2020	3.10,3.2,3.23,3.34,3.21,3.20,3.19, 3.6	08
220	Ghagardara	1986	77º11'36" 18º45'00"	19.84	2.812	629	MH09MH2075	Ungated	20/5/2020 12/1/2021 19/1/2021	3.7, 3.9, 3.13, 3.23, 3.20,3.34	06
221	Kedarnath	1964	76º16'00" 19º26'00"	17.00	6.05	792.75	MH09MH0095	Ungated	6/5/2020 11/12/2020	3.7, 3.10, 3.9, 3.34, 3.21	05
222	Kudala	1975	77º15'00" 18º47'30"	17.50	4.89	875	MH09MH0521	Ungated	5/6/2020 11/12/2020	3.10, 3.13, 3.34, 3.20	04
223	Kundrala	1969	77º19'30" 18º37'45"	18.50	14.68	811	MH09MH0193	Ungated	22/6/2020 28/12/2020 19/1/2021	3.10, 3.2, 3.9	03
224	Pethwadaj	1975	$79^0$10'00" $19^0$29'00"	19.40	11.48	1170	MH09MH0841	Ungated	20/5/2020 10/11/2020	3.10, 3.13, 3.34	03
225	Pota	1973	77º36'00" 19º26'00"	15.50	15.50	146	MH09MH0332	Ungated	17/3/2020 11/12/2020	3.5, 3.10, 3.2, 3.9, 3.13, 3.22, 3.34, 3.20,3.6	09
226	Sayalwadi	1977	77º25'30" 19º21'00"	15.50	2.337	NA	MH09MH0764	Ungated	5/8/2020 23/12/2020	3.10, 3.2, 3.9, 3.13, 3.34	05
227	Pimprala	1968	77º34'30" 19º19'00"	15.00	26.32	349	MH09LH0162	Ungated	5/6/2020 11/12/2020	3.10,3.34,3.21	03
228	Shirur	1977	78º30'00" 19º21'15"	16.14	1.78	216	MH09MH066	Ungated	22/6/2020 17/12/2020	3.10, 3.2, 3.9, 3.13,3.6	05
229	Sonpeth-wadi	1974	77º20'00" 18º70'00"	15.10	1.70	274.20	MH09MH0535	Ungated	22/6/2020 17/12/2020 19/1/2021	3.10, 3.2, 3.13, 3.34, 3.21	05
230	Wazar (ST)	2010	77^0 24' 24" 18^0 20' 00"	25.30	1.22	232.57	MH09MH2113	Ungated	22/6/2020 27/12/2020	3.10,3.2,3.13	03
231	Yedur	2005	77^0 18' 00" 18^0 01' 00"	18.01	13.160	1744	MH09MH1646	Ungated	22/6/2020 27/12/2020	3.5, 3.2,3.19,3.16,3.13	05

Sr. No	Name of Dam	Year of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
3)Executive Engineer, Lendi Project Division, Degloor											
232	UndriManjri (ST)	2015	77^0 17' 00" 18^0 39' 25"	19.25	1.71	202.39	MH09MH2110	Ungated	13/5/2020 27/11/2020	3.2,3.13	02
233	Jamkhed (LMI)	2000	77^0 29' 00" 18^0 30' 00"	16.90	10.23	1075.70	MH09MH1790	Ungated	13/5/2020 27/11/2020	3.2, 3.21,3.13	03
4)Executive Engineer, Purna Irrigation Division, Basmatnagar											
234	Pedgaon	1975	77º15'00" 19º45'00"	10.20	26.16	2395	MH09MH0502	Ungated	3/6/2020 27/11/2020	3.9,3.13,3.22,3.21,3.19	05
235	Aundha	1975	77º12'00" 19º32'00"	15.18	1.791	238	MH09MH0491	Ungated	3/6/2020 27/11/2020	3.5,3.9,3.21,3.34,3.2,3.7,3.13	07
236	Rajwadi(Basmatnagar)	2000	77º00'00" 19º30'00"	16.60	2.12	191	MH09MH2100	Ungated	3/6/2020 27/11/2020	3.2,3.9,3.13	03
237	Ghordari	1988	76º49'00" 19º51'00"	17.12	22.65	323	MH09MH1194	Ungated	3/6/2020 27/11/2020	3.2,3.5,3.9,3.10,3.13	05

Table 3.16

Private Class-I Dams with Category-1 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.17

Private Class-I Dams with Category-2 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.18

Private Class-I Dams with Category-2 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.19

Private Class-II Dams with Category-1 Deficiency

Sr. No.	Dam Features	Date of Inspection	Inspecting Officer	Main Component of Dam	Significant Deficiencies noticed	Remedial Measures Suggested
1	2	3	4	5	6	7
---------- NIL ----------						

Table 3.20

Private Class-II Dams with Category-2 Deficiency

Sr. No.	Dam Features	Date Of Inspection	Inspecting Officer	Main Component Of Dam	Significant Deficiencies Noticed.	Remedial Measures Suggested
A) Aurangabad Municipal Corporation, Aurangabad						
1	Name : **KHAM (SANGVI)** Date of completion : 1968. Location : Longitude: 75□ 21' 247" Latitude : 19□ 56' 17" Gross Capacity :29.70 Mm3 Height : 10.20 m. Design spillway Capacity N.A. m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0175**	11/9/2020	Shri. C.T.Mondhe EE, DSD-3, DSO, Nashik.	Drains	Drains are not free from silt & vegetation (B2)	The tail end of C-drains shall be open & cleaned and shall be kept free flowing. .
				Outlet	Slab of outlet well is damaged & railing and planks are absent. (B5)	Necessary repairs may be carried out
					Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection
2	Name : **OVER (HARSUL)** Date of completion : 1964 Location : Longitude : 75□ 19' 56" Latitude : 19□ 50' 32" Gross Capacity : N.A.. Mm3 Height : 16.0 m. Design spillway Capacity N.A.. m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0101**	11/9/2020	Shri. C.T.Mondhe EE, DSD-3, DSO, Nashik.	E / Dam.	Undulation on top of dam observed.(B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.
				Drains	Drains are not free from silt & Vegetation (B2)	The tail end of C-drains shall be open & cleaned & shall be kept free flowing.
					Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection.

Sr. No.	Dam Features	Date Of Inspection	Inspecting Officer	Main Component Of Dam	Significant Deficiencies Noticed.	Remedial Measures Suggested
B) Jalna Municipal Council, Jalna						
3	Name : **GHANEWADI** Date of completion : 1975. Location : Longitude: 75□ 51' 03" Latitude : 19□ 54' 42" Gross Capacity :14.44 Mm3 Height : 16.00 m. Design spillway Capacity N.A.. m3/sec. Sr No in National Register of Large Dams 2009 : **MH09MH0053**	11/9/2020	Shri. C.T.Mondhe EE, DSD-3, DSO, Nashik.	E / Dam	Section of dam is not as per design Section. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.
					Longitudinal cracks is observed. (B4)	Cracks should be filled with appropriate casing material.
				Drains	Toe drains are not free from silt & vegetation (B3)	The d/s area at least up to above 200m. from toe, shall be free from Stagnation. The area should be well drained.
				W.W. bar & TC	Various Components of right side w.w. bar is heavily damaged. (B7)	Necessary repairs should be carried out on priority.
				General	Relevant Documents for inspection of dam not available on site.	It should be maintained on site for inspection.
C) Udgir Municipal Council, Udgir, Dist. Latur						
4	Name : **BANSHELKI** Date of completion : 1968. Location : Longitude: 77□□05' 32" Latitude: 18□ 21' 53" Gross Capacity :NA Mm3 Height : 23.00 m. Design spillway Capacity N.A.. m3/sec. Sr No in National Register of Large Dams 2009 : **NA**	10/2/2021	Shri. C.T.Mondhe EE, DSD-3, DSO, Nashik.	E/Dam	Dam section is not as per design. Undulations are noticed. (B1)	Dam section to be brought to correct design profile and level by adding earthwork duly compacted properly.
					Pitching is disturbed throughout the dam length. (B3)	Pitching should be relayed /replaced.
				W.W. bar & TC	Scouring is noticed at d/s side of w.w. bar. (3.19)	Necessary arrangements should be provided to stop scouring.

Table 3.21

Private Class-II Dams with Category-3 Deficiency

Sr. No	Name of Dam	Date of Compl-etion	Location Longitude/ Latitude	Height in m	Gross Capacity Mm^3	Design Spillway Capacity m^3 / sec	Sr.No. in NRLD Register of Large Dams 2009	Gated / Ungated	Date of Inspection	Deficiencies noticed	Total Deficiencies
1	2	3	4	5	6	7	8	9	10	11	12
(1) AURANGABAD MUNICIPAL CORPORATION, AURANGABAD											
1	KHAM (SANGVI)	1968	75□ 21' 24" 19□ 56' 17"	21.00	2.97	---	MH09MH0175	Ungated	8/1/2020	3.1, 3.2, 3.3, 3.5, 3.21, 3.27	06
2	OVER (HARSUL)	1964	75□ 19' 56" 19□ 50' 32	16.00	---	---	MH09MH0101	Ungated	8/1/2020	3.1, 3.2, 3.5, 3.7, 3.16, 3.26, 3.27	07
(2) JALNA NAGAR PARISHAD, JALNA											
3	GHANEWADI	1975	75° 51' 03" 19° 54' 42"	15.00	14.44	231	MH09MH0053	Ungated	7/1/2020	3.1, 3.3, 3.2, 3.7, 3.20, 3.21, 3.26, 3.27, 3.24, 3.9, 3.6	11
(3) UDGIR NAGAR PARISHAD, UDGIR DIST. LATUR											
4	BANSHELKI	1968	77° 05' 32" 18° 21' 53"	23.00	**---**	**---**	Proposed to be included in NRLD	Ungated	18/9/2019	3.1, 3.2, 3.5, 3.7, 3.9, 3.6, 3.24, 3.27, 3.3	09

Table 3.22

Category-1 Deficiency in Class-I Dams

Sr. No	Deficiency	Names of dams	Total No. of dams
1	2	3	4
---------- NIL ----------			

Table 3.23

Category-2 Deficiency in Class-I Dams

Sr. No	Deficiency	Names of dams	Total No. of dams
1	**A.1**: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.	1) Yeldari 2)ShivnaTakli	02
2	**A 2**: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	1) Siddheshwar	01
3	**A 3** : Leakages in vicinity of junction between earthen dam & masonry dam portion.	---	---
4	**A 4** : Major leakages through outlet conduit/pipe joints/Gates	---	---
5	**A 5** ; Relief wells not functioning properly./ Abnormal rise in water level in wells.	1) Yeldari	01
6	**A 7 :** Retrogression /scouring in tail channel.	1) Lower Manar	01
7	**A 8** : Drainage gallery in accessible/No adequate lighting./ No dewatering arrangement or failure.	---	---
8	**A 10** : Heavy leakages through porous pipes/ through dam body in gallery /monolith joints.	1) ShivnaTakli	01
9	**A 11** : Sweating / seepages through D/S of masonry dam	1) Yeldari 2)ShivnaTakli	02
10	**A 12** : Excessive considerable leaching from seepage water.	1) Manjra 2) ShivnaTakli	02
11	**A 13** : Swelling / minor cracking observed on body of dam	**--**	--
12	**A 14** : EDA / Stilling basin damaged/Hydraulic performance not good	--	--
13	**A 15** : Leakages through spillway /piers//junction of flank wall.	1) Manjra	01
14	**A 18** :Wire ropes of hoist not in good condition/hoisting structure damaged/cracked.	1) Manjara 2) Siddheshwar	02
15	**A 19** : Alternative power system Generator for gate operation not working properly.	--	--
16	**B 5 :** Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)	1) ShivnaTakli 2) Manjra	02
17	**B 12** : Damage to Rubber seals/Leakages through gates.	1) ShivnaTakli	01

Table 3.24

Category-1 Deficiency in Class-II Dams

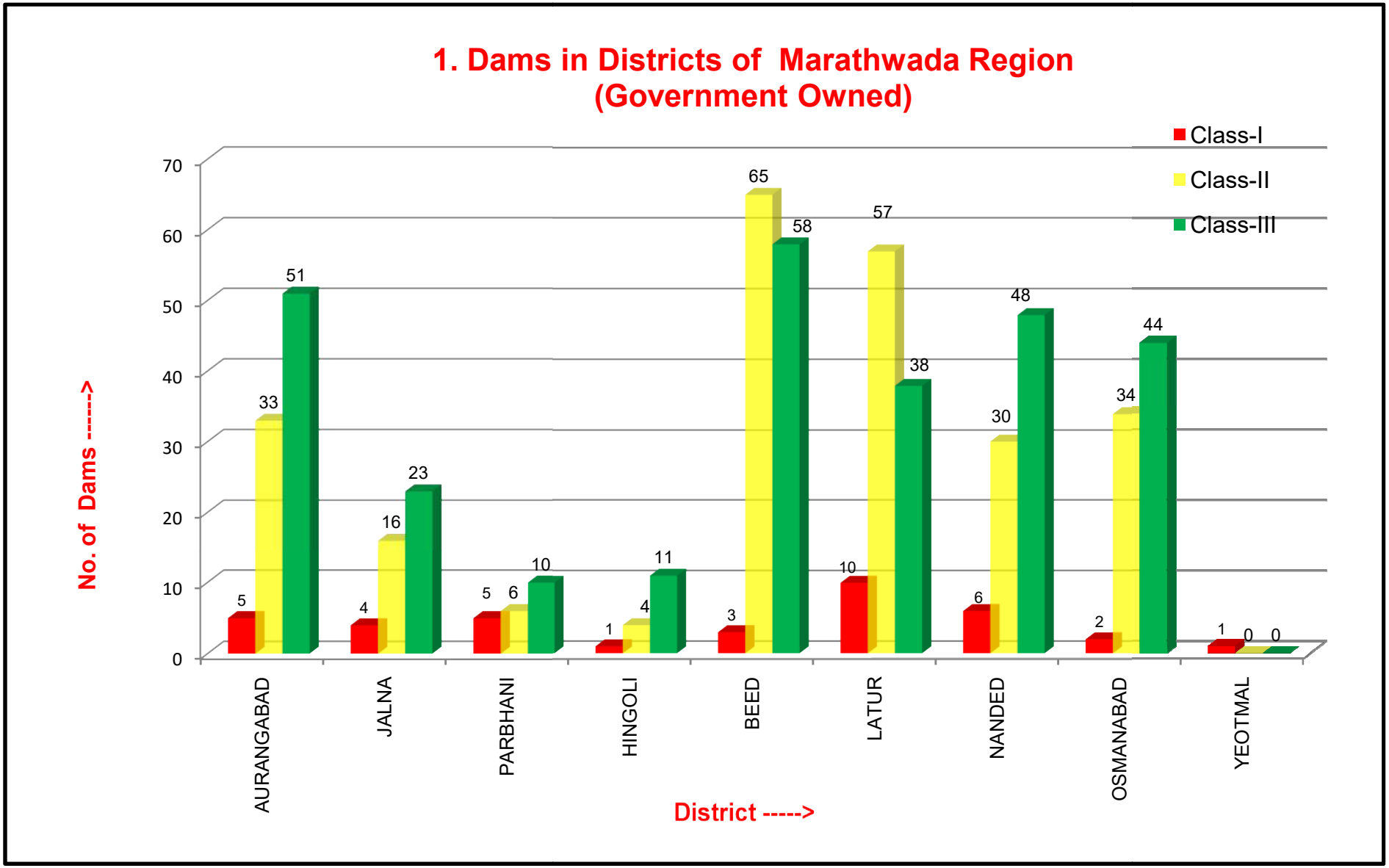
Sr. No	Deficiency	Names of dams	Total No. of dams
1	2	3	4
---------- NIL ----------			

Table 3.25

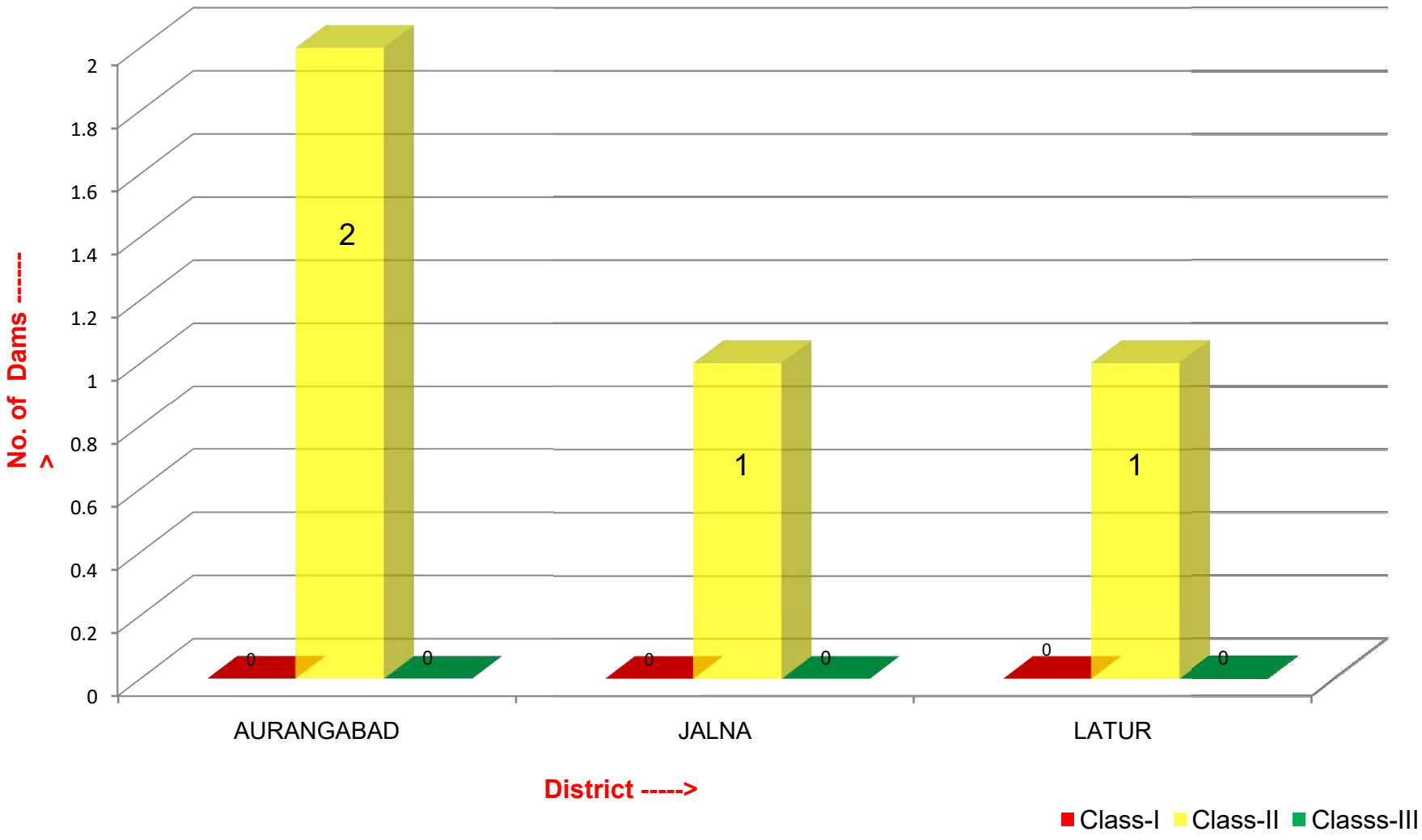
Category-2 Deficiency in Class-II Dams

Sr. No	Deficiency	Names of dams	Total no of dams
1	2	3	4
1	**A.1**: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.	1) SulemanDeola 2) Dethewadi 3)Kasari 4) Ghonshi	04
2	**A 2**: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam	1) Bindusara2)Sonala	02
3	**A 3** : Leakages in vicinity of junction between earthen dam & masonry dam portion.	1)Nagzari 2)Limbachiwadi1 3)Limbachiwadi2	03
4	**A 4** : Major leakages through outlet conduit/pipe joints/Gates	---	---
5	**A 5** ; Relief wells not functioning properly./ Abnormal rise in water level in wells.	1)Dhamna 2)Girija	02
6	**A 6** : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.	1) Banoti 2) Sanjul 3) Kasari	03
7	**A 7 :** Retrogression /scouring in tail channel.	1) Dhoksal2)Banoti3) Anandwadi4)Sonala (ST) 5)Tintraj 6)Andhori 7)Dethewadi	07
8	**A 14** : EDA / Stilling basin damaged/Hydraulic performance not good	1) Dhoksal 2) Soyegaon3)Limachiwadi24) Tintraj	04
9	**A 16** : Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls	1) Soygaon2)Kaldari3) Anandwadi(ST) 4)Haladwadhona (ST)5) Sonala (ST),6) Andhori 7)Suleman Deola	07
10	**B 1** Dam section is not as per design	1) Jui 2) Kaldari 2)Sanjul 3)Khandeshwar 4)Ghonshi	04
11	**B 3** : Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slops, bulging/concavity of slopes	1) Dhoksal 2)Anandwadi 3)Andhori 4)Khandeshwar	04
12	**B 4**: Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam	1) Tiru 2)Khandeshwar	02
13	**B 5 :** Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)	1) Khandeshwar 2)Ghonshi	02
14	**B 7**: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir	1) Dhoksal 2) Dhamna 3)KalyanGirija 4)Jui 5)Kaldari 6)Sanjul 7)Girija 8) Halad wadhona 9) Tintraj 10)Khandeshwar 11)Bindusara 12) Lokarwadi 13)Dongargaon 14)Sonpethwadi 15) Yedur	15
15	**B 8** : Pointing on U/S face of dam not in good condition./deterioration spalling of concrete surface.	1)Tintraj 2) khandeshwar	02
16	**B 12** : Damage to Rubber seals/Leakages through gates.	---	--

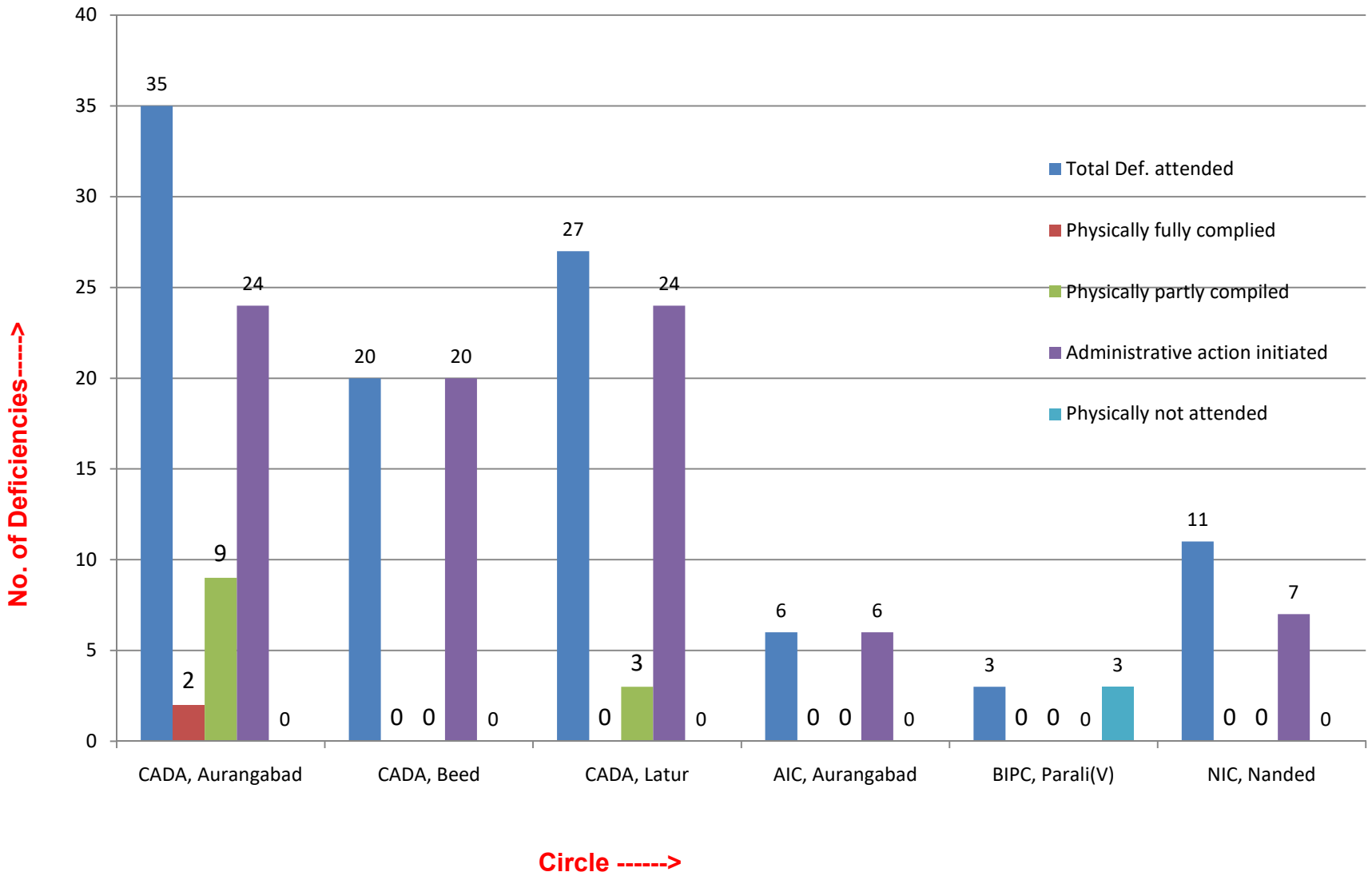
Annexure - 1

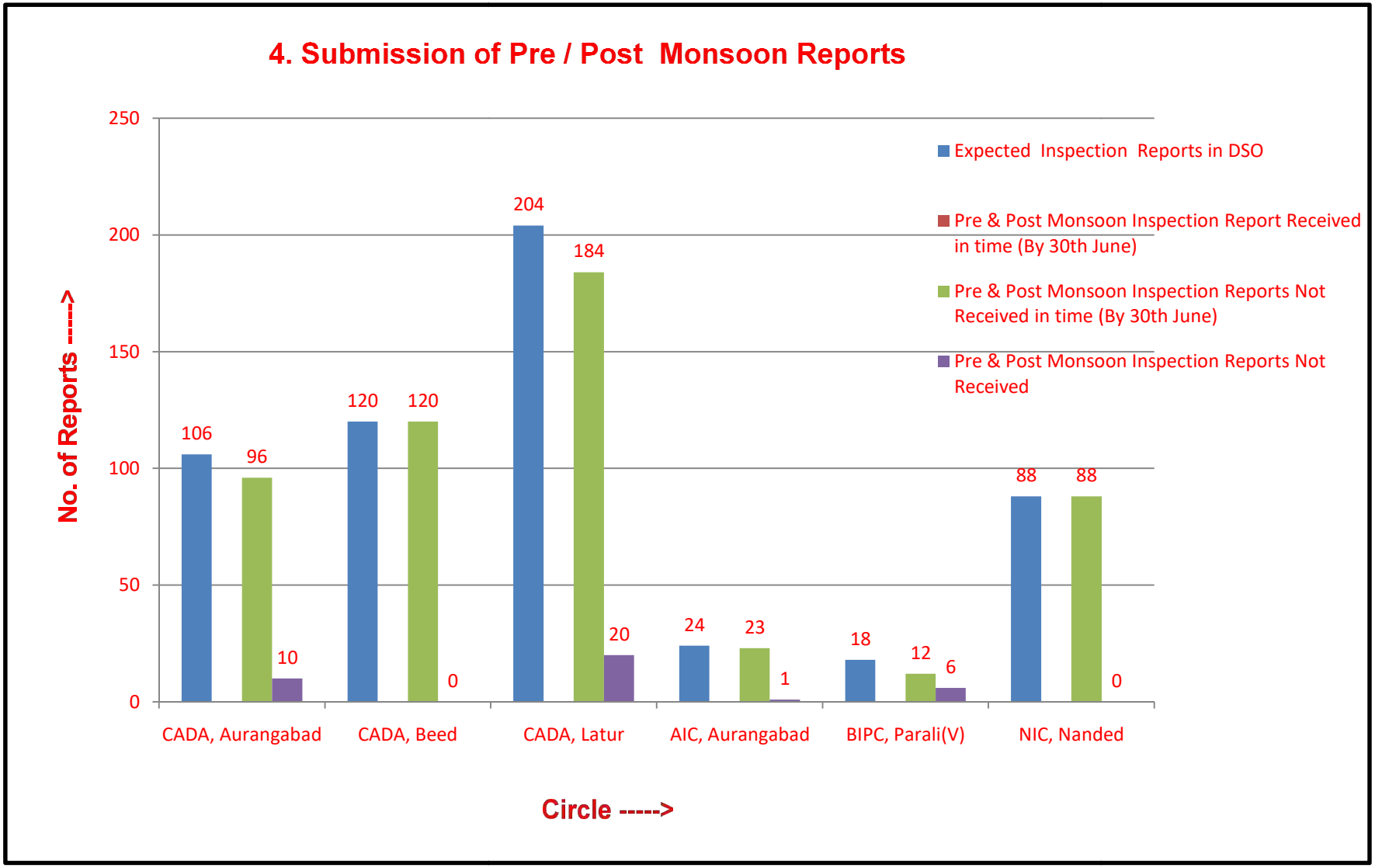

1. Dams in Districts of Marathwada Region
(Government Owned)
Class-I
Class-II
Class-III
No. of Dams ----->
District ----->
0
10
20
30
40
50
60
70
AURANGABAD
JALNA
PARBHANI
HINGOLI
BEED
LATUR
NANDED
OSMANABAD
YEOTMAL
5
33
51
4
16
23
5
6
10
1
4
11
3
65
58
10
57
38
6
30
48
2
34
44
1
0
0

2. Dams in Districts of Marathwada Region (Private Owned)



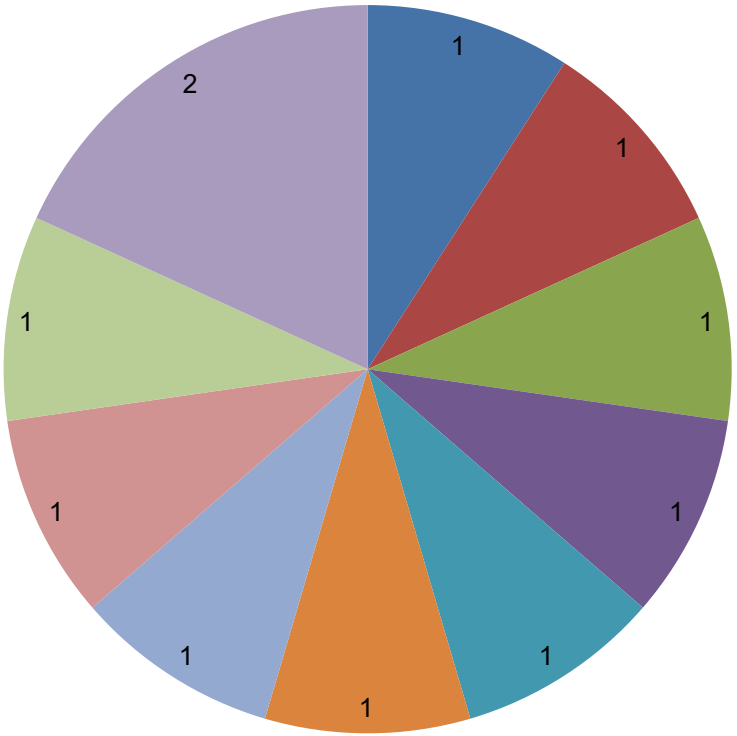
3.Deficiencies Attended by Field Offices (ATR for ADHSR-2019-20)




4. Submission of Pre / Post Monsoon Reports
No. of Reports ----->
250
200
150
100
50
0
106
96
10
120
120
0
204
184
20
24
23
1
18
12
6
88
88
0
CADA, Aurangabad
CADA, Beed
CADA, Latur
AIC, Aurangabad
BIPC, Parali(V)
NIC, Nanded
Circle ----->
Expected Inspection Reports in DSO
Pre & Post Monsoon Inspection Report Received in time (By 30th June)
Pre & Post Monsoon Inspection Reports Not Received in time (By 30th June)
Pre & Post Monsoon Inspection Reports Not Received

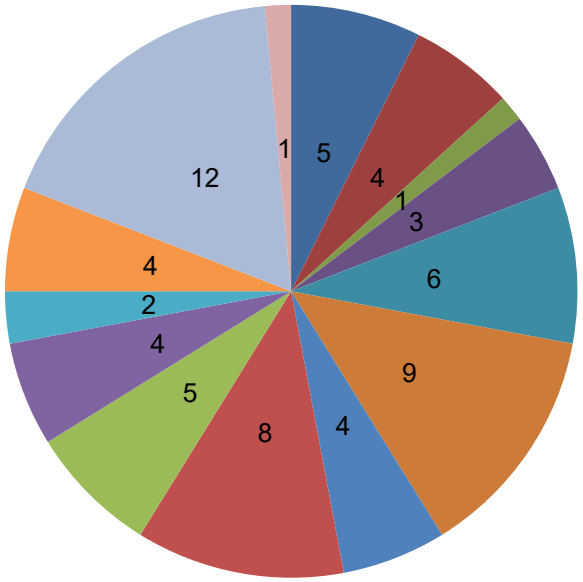
5. Category-2 Deficiencies in Class-I Dams

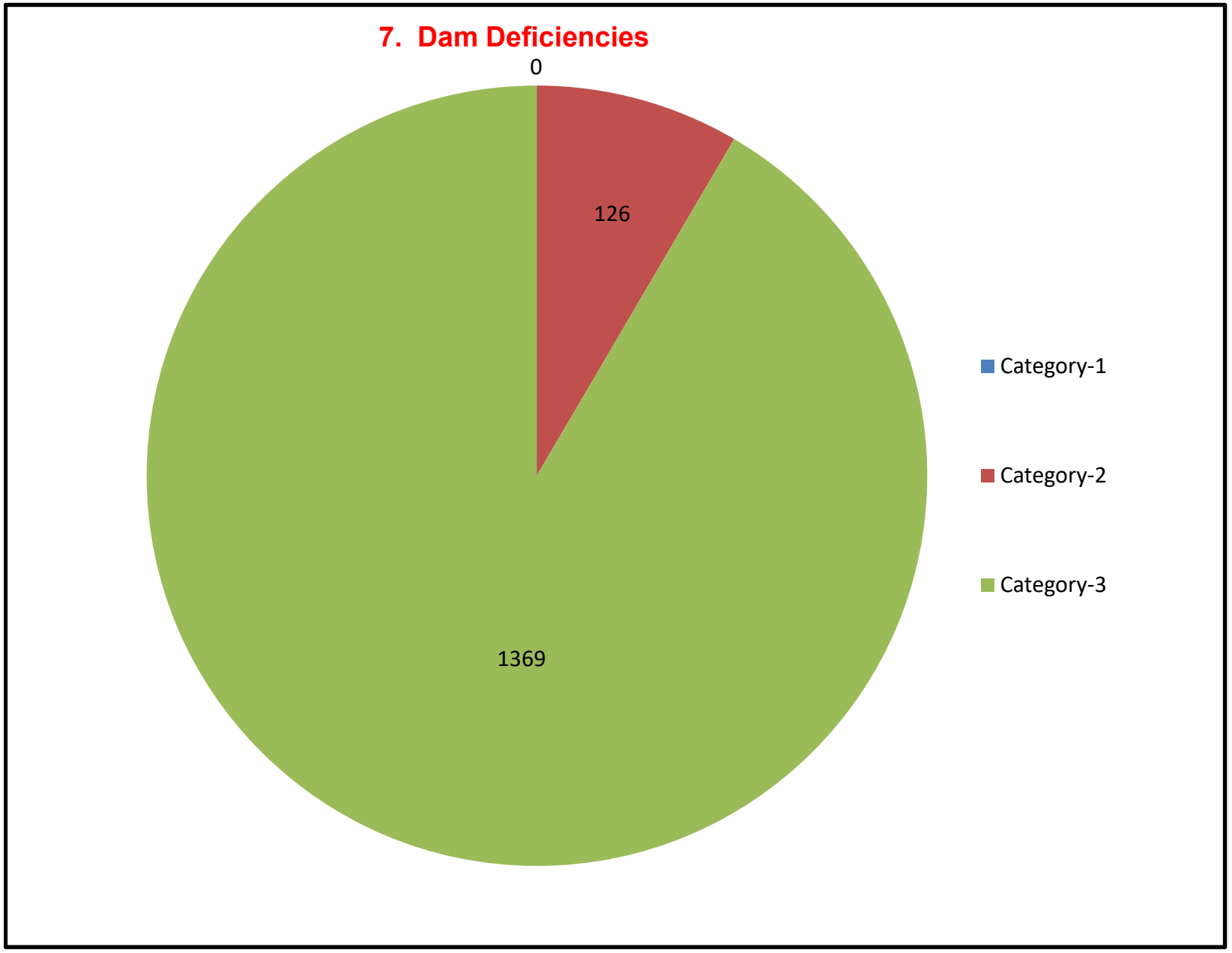
- A.1: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.
- A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam
- A 4 : Major leakages through outlet conduit/pipe joints/Gates
- A 5 ; Relief wells not functioning properly./ Abnormal rise in water level in wells.
- A 7 : Retrogression /scouring in tail channel.
- A 8 : Drainage gallery in accessible/No adequate lighting./ No dewatering arrangement or failure.
- A 11 : Sweating / seepages through D/S of masonry dam
- A 12 : Excesssive considerable leaching from seepage water.
- A 15 : Leakages through spillway /piers//junction of flank wall.



6. Category-2 deficiencies in Class-II dams

- A.1: Boil leakage/ seepage/ wet patches/ slushiness,in Earthen Dam.
- A 2: Standing pool / Ponding / Water Logging / Slushy condition on D/S of Dam
- A 3 : Leakages in vicinity of junction between earthen dam & masonry dam portion.
- A 5 ; Relief wells not functioning properly./ Abnormal rise in water level in wells.
- A 6 : Outlet well is damaged/not in good condition /cracks observed/jets of water in well.
- A 7 : Retrogression /scouring in tail channel.
- A 14 : EDA / Stilling basin damaged/Hydraulic performance not good
- A 16 : Damages / foundation erosion/ scour/undermining observed in vicinity of flank walls/ guide walls/ junction walls/return walls
- B 1 Dam section is not as per design
- B 3 : Considerable settlement of embankment / Rock toe/Pitching/ U/S & D/S slops, bulging/concavity of slopes
- B 4: Longitudinal / Transverse cracks/ low area/sink holes/gully formation on top side slope of earthen dam
- B 5 : Outlet gates not functioning properly. Stem rod is bent(Service gate/Emergency gate/Stop log gate/sluice gate)
- B 7: Waste weir/waste weir bar not in good condition/coping damaged/leakage through waste weir




7. Dam Deficiencies
0
126
1369
Category-1
Category-2
Category-3

Annexure-2
Snapshots of Dams inspected by DSO

Snapshot -1

Khandeshwar Dam (Class-II)
Taluka - Bhoom Dist - Osmanabad
Date of Inspection – 1/10/2020
Waste weir bar severe damaged needs to be reconstructed (B7)

Snapshot- 2

Shivna Takli Dam (Class-I)
Taluka – Kannad Dist - Aurangabad
Date of Inspection – 09/07/2019
Sweating is seen on spillway. (A11)

Part-4

Annual Performance Report of Dam Instruments

PART – 4 Annual performance Report of Instruments installed on large dams

4.1 General.

The main purpose of instrumentation in dam is to monitor the safety of the dam and to warn of any changes that could in danger the safety of a dam, as well as to provide a confirmatory check in design assumptions and methods of computation.

Instruments embedded in or installed at the surface of the dam keeps a constant watch over the performance and indicate the distress spots for which remedial measures may be taken. Thus, instruments play an important role in checking the safety of dams and helps in monitoring and evaluating the performance of the dams during the construction as well as during the operation.

Instruments installed on dams are “Eyes and Ears” of dam’s performance vis-à-vis parameters adopted during its design. The field officers in charge of dams have not been able to upkeep and monitor/maintain instruments installed on dams. Efforts should be taken by all field officers to repair / replace instruments at the earliest. Monitoring of vital parameters like seepage, uplift, settlement and timely remedial measures will go long way in extending the life of the dam.

4.2 INSTRUMENTATION IN EARTHEN DAMS

Commonly used instrument in earthen dam are as below.

1) Pore Pressure Meter

They are installed in bore holes drilled below the foundation or through already completed embankment. Hence cannot be repaired or replaced.

2) Casagrande/standpipe piezometers

These are used for measuring pore water pressure in soil. These instruments can be installed at any time after completion of construction of the dam at desired location.

3) Twin Tube Piezometers

These are also used for measuring pore water pressure in earthen dam. These are installed in foundation and embankment during construction of dam. If PVC pipes are found chocked due to leached material then it can be cleaned with CuSo4. If pipes are cut / broken then it cannot be replaced as those are in body of dam. Outside measuring assembly can be repaired. Periodical maintenance, periodical reading and periodical calibration are utmost important.

4) Earth pressure cells

These are installed in the foundation. The cables which are outside the body can be replaced if damaged. The sensor cannot be repaired or replaced.

5) Settlement Gauges (surface settlement gauges/vertical cross arms)

These are used for measuring settlement in earth fill dam, rock fill dam and high embankment. Initially when the dam is under construction these instruments are installed.

Settlement of dam is more in initial period, which gradually decreases and it is almost nil after certain period. As such these gauges also do not show settlement after few years.

6) Slope Indicator

This is installed in foundation with one end at bottom and other at top of the dam. It measures horizontal and vertical movement of the dam. This can be replaced.

4.3 INSTRUMENTATION IN CONCRETE/ MASONARY DAM

Commonly used instruments in concrete / masonry dams are as below.

1) Stress meters

The stress meters measure stresses inside the dam body. These instruments are embedded in concrete/masonry during construction stage hence cannot be repaired or replaced.

2) Strain meter/ No stress strain meter

The strain meters measures the deformation in the structure at the particular location due to strain, creep, temperature etc. The main purpose is to determine the stress distribution in the concrete dam during and after construction of dam. Since instrument is installed in the body of the dam it cannot be repaired or replaced.

3) Uplift pressure cells

The bowl type uplift pressure cells are provided in the foundation of dam. Uplift pressure cell is used for monitoring uplift pressure of water in the foundation of dam and concrete structure. The pressure cell pipes can be cleaned if choked. The pressure gauges can be repaired or replaced.

4) Plumb bob /Co-ordimeter

Conventional/inverted plumb bob is used to measure deflection of the dam body. It measures the horizontal displacement in dam's foundation and abutment. Plumb bob can be repaired or replaced.

5) Thermocouples/ Thermometers

These are used to measure the temperature variations in the body of concrete dam. These are installed in layers at various levels and cannot be replaced or repaired after construction.

6) Long gauge extensometer

It is used to measure the deformation/displacement in the foundation of the concrete dam. Once it fails to function can not be repaired.

7) Joint meters

The joint meters measure the opening of the joints across which they are embedded. As such they are located near the joints.

4.4 STATUS OF DAM INSTRUMENTATION IN THE REGION

Considering the fact that most of the instruments were non-functional from many years, Govt.of Maharashtra appointed a committee to study these instruments. The recommendations of the committee were accepted and incorporated in G.R. धसुसं २०१४(६२१/१४)/ सिं.व्य.(कामे) dated 31.12.2015. Accordingly to every dam owner, it is informed by Dam Safety Organisation to update the list of instruments at the dam site. In this report the updated details of instruments are considered.

The status of dam instrumentation in the region is given in table No,4.1.Similarly the details of mortality of instruments is given in table No.4.2 and comparison of mortality rate with respect to previous year is given in table no. 4.3

4.5 Observations

1) Various instruments numbering 337 have been installed on these 6 dams. Out of which 21 were working and 316 were not working i.e. 91.14% instruments are in non working condition.
2) No instrument readings from any dam were available for analysis. No Instrumentation data analysis report have been prepared for Marathwada region
3) The observations of the instruments should be taken regularly. Data should be sent to D.S.O. Nashik for analysis.
4) Comparison of mortality rate of instrument as compared to last year is given as per table No.4.3.

Table No. 4.1

Dam wise Status of Dam Instruments Installed on Large Dams
(Marathwada)

Sr. No.	Dam Name	Instrument Name	Date of Installation	Total	Functional Status (F/N.F)		Remarks from field as per pre-post Monsoon report 2020
					Functional	Non Functional	
1	**2**	**3**	**4**	**5**	**6**	**7**	8
Chief Engineer (W.R), Aurangabad							
1	Yeldari	Twin tube piezometers	1968	26	0	26	Not Provided
2	Isapur	Twin tube piezometers	81-82	18	0	18	Not Provided
		Stand pipe piezometers	84-85	14	0	14	
3	Manar (Lower)	Twin tube piezometers		18	0	18	Qty not as per HSR 2019
CE Wise Total 3 Dams				**76**	**0**	**76**	
Chief Engineer & Adm.(C.A.D.A), Aurangabad							
4	Paithan	Twin tube Piezometers	1972 1971	97	0	97	
		Cassagrande piezometer	1981	33	21	12	
		Vertical settlement gauge + base plate	1973	7	0	7	
		Uplift pressure cell	1979 1979	39	0	39	
		Plumb bob	1980	1	0	1	
		Pore pressure cells	1979	12	0	12	
5	Majalgaon	Plumb bob	1987	1	0	1	
		Uplift pressure cell	Feb-89	24	0	24	
		pore pressure cell	1969	4	0	4	
		Cassagrande piezometer	Feb-88	12	0	12	
		Twin Tube Piezometers	1984	16	0	16	
6	Lower Terna	Cassagrande piezometer	2011	14	0	14	
	CE Wise Total for 3 Dams			**261**	**21**	**240**	
	Marathwada Region Total for 6 Dams			**337**	**21**	**316**	

Table No 4.2

Mortality Status of Instruments installed on Large Dams (Marathwada)

Sr. No.	Type of Instruments	Number Of Instruments			
		Total	Working	Non-Working	Mortality (%)
1	2	3	4	5	6
(A) Earth Dams					
1	Casagrande / Stand pipe /Vibrating wire Piezometers	59	21	38	64.41
2	Twin tube Piezometers	175	0	175	100
3	Horizontal/Vertical device / Cross arm surface settlement plug	7	0	7	100
4	Earth pressure cells	-	-	-	-
5	Slope indicator	-	-	-	-
Total		**235**	**21**	**220**	**91.06**
(B) Masonry Dams					
1	Pore pressure meters	16	0	16	100
2	Stressmeter	-	-	-	-
3	Strainmeter/ No stress-strain meter	-	-	-	-
-4	Uplift pressure cells	63	0	63	100
5	Plumb bob/ Inverted Plumb Bob / co-ordimeter	2	0	2	100
6	Long Gauge extensometer, Multiple Bore hole extensometer	-	-	-	-
7	Thermometers	-	-	-	-
8	Jointmeters/Dial Gauge	-	-	-	-
9	Tiltmeter	-	-	-	-
Total		**94**	**0**	**94**	**100**

	Instruments in	Total	Working	Non Working	Mortality
A)	Earth Dams	**235**	**21**	**220**	**91.06**
B)	Masonry Dams	**102**	**0**	**102**	**100**
	Grand Total	**337**	**21**	**316**	**91.14**

Table No. 4.3

Comparative Statement For Status of Instruments in Dams

Marathwada Region

Year		HSR 2019					HSR 2020				
Sr. No	Name of Chief Engineer	Total Dams	Total Instruments	Functioning	Not-Functioning	% functioning	Total Dams	Total Instruments	Functioning	Not-Functioning	% functioning
1	Chief Engineer (WR) Aurangabad	3	76	4	72	5.27	3	76	0	76	0
2	Chief Engineer (CADA) Aurangabad	3	260	30	230	11.53	3	261	21	240	8.05
	Total	**6**	**336**	**34**	**302**	**9.52**	**6**	**337**	**21**	**316**	**5.88**

Part-5

Annual Performance Report of Meteorological Instruments

PART - 5 Annual performances Report of Meteorological instruments installed on dams

5.1 General

Hazard potential of dam depends upon the possible hazard it poses to population on the downstream during flood. In case of gated spillways, generally flood is considered to impinge when reservoir is at F.R.L. If flood forecasting and warning systems are in place, flood impingement can be considered at lower when F.R.L. considering prior depletion.

The establishment of hydro-meteorological stations in the vicinity of every Class-I dam and rain gauge network in its catchments assumes vital importance due to its role in flood forecasting and warning. The hydro-meteorological station shall be capable of recording data relating to, among other parameters, rainfall, atmospheric pressure, maximum & minimum temperature and humidity, wind speed, wind direction, height of waves and reservoir water temperature. It is important that a representative proportion of the rain gauge network is linked to flood forecasting and warning control centre by telemetry.

Performance of the meteorological instruments dealt in this report is only the instruments operated and maintained by Dam authorities. In addition to this, there is vast network of the hydro meteorological stations stack which is operated and maintained by Hydrology Project. Same is not dealt in this AHSR.

5.2 Observations

From Pre/Post Monsoon Reports it is seen that the ANNEXURE-IV which is "**Checklist of Various Meteorological Instruments installed on Dams**" is not filled properly and quantity of number of instruments varies from year to year. As this status of instruments is submitted to C.W.C., New Delhi. Field authorities need to make sure that correct information is filled. Table 5.1 gives the dam wise status of the meteorological instruments, and Table 5.2 gives the status of morality of meteorological instruments installed in the region.

1. As per Pre/Post Monsoon reports of Marathwada region it is seen that 133 various meteorological instruments installed on dams out of which 86 are functioning and 47 are non functioning. The non-functioning should be repaired/replaced on priority.

2. As per the government circular CDA-1013/(207/13)/CAD(works)/ August-2013. It is mandatory to install **Pan Evaporimeter** to measure evaporation on all major and medium projects.

Efforts should be taken by field officers to establish automatic flood warning systems which will help in saving lives, livestock and property and will invariantly contribute to lessening of the overall impact of floods.

Table- 5.1

Damwise status of meteorological instruments installed on dams

Sr. No.	Name of dam with location	Name of instruments	Total	Performance		Status of Data Analysis
				Working	Not working	
1	2	3	4	5	6	7
1	Paithan	1) Rain Gauge on Dam (ordinary)	2	2	0	Data collection is done at field level
		2) Rain Gauge in catchment(ordinary)	5	5	0	
		3) Rain Gauge on Dam (self-recorder)	1	1	0	
		4) Pan Evaporimeter	2	2	0	
		5 Wind direction recorder	1	1	0	
		6) Water stage recorder	2	1	1	
		7)Cup counter Anemometer	4	1	3	
2	Narangi	1)Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
3	BorDahegaon	1)Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
4	Lower Dudhana	1)Rain Gauge in catchment (self-recorder)	4	0	4	Data collection is done at field level
		2) Rain Gauge on dam (Ordinary)	1	0	1	Data collection is done at field level
		3) Rain Gauge on dam (Self-recorder)	1	0	1	Data collection is done at field level
		4)Pan evaporimeter	1	0	1	Data collection is done at field level
5	S.C. Vishnupuri	1)Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2)Pan Evaporimeter	1	1	0	
6	Lahuki	1)Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
7	Soyegaon	1)Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
8	Sukhana	1)Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
9	Tembhapuri	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
10	Dheku	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level

Sr. No.	Name of dam with location	Name of instruments	Total	Performance		Status of Data Analysis
				Working	Not working	
1	2	3	4	5	6	7
11	Kesapur	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
12	Khelna	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
13	Nimbhaora	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
14	Jui	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
15	Siddheshwar	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2) rain gauge on Dam(self-recorder)	1	0	1	
		3) Pan Evaporimeter	1	0	1	
		4) Water level recorder	1	0	1	Data collection is done at field level
16	Yeldari	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2) Rain Gauge on dam(self-recording)	1	0	1	
17	Mehekari	1) Rain Gauge on Dam (self-recorder)	1	1	0	Data collection is done at field level
18	Matkuli	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
19	Mahasangvi	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
20	Majalgaon	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2 Rain Gauge on dam(self-recording)	1	1	0	Data collection is done at field level
		3 Raingauge in Catchment (ordinary)	13	12	1	Data collection is done at field level
		4) Rain gauge in catchment (Self recorder)	6	6	0	Data collection is done at field level
		5) Pan evaporimeter	1	1	0	Data collection is done at field level
		6)Other meterological instruments	1	0	1	
21	Kambli	1) Rain Gauge on Dam (self-recorder)	1	0	1	Data collection is done at field level

Sr. No.	Name of dam with location	Name of instruments	Total	Performance		Status of Data Analysis
				Working	Not working	
1	2	3	4	5	6	7
22	Manjra	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		3) Rain Gauge in Catchments(ordinary)	1	1	0	Data collection is done at field level
		5) Pan evaporimeter	1	1	0	Data collection is done at field level
23	Lower Manar	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2) Pan evaporimeter	1	1	0	Data collection is done at field level
		3) Rain gauge on Dam (Self recorder)	1	0	1	Data collection is done at field level
		4)water stage recorder	2	1	1	Data collection is done at field level
24	Upper Manar	1) Rain gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
25	Masalga	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
26	Jakapur	1)Pan Evaporimeter	1	1	0	Data collection is done at field level
27	Kurnoor	1)Pan Evaporimeter	1	1	0	Data collection is done at field level
28	Terna	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
29	Chandani	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level

Sr. No.	Name of dam with location	Name of instruments	Total	Performance		Status of Data Analysis
				Working	Not working	
1	2	3	4	5	6	7
30	Isapur	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
		2) Rain Gauge on Dam (Self recorder)	1	0	1	Data collection is done at field level
		3)Rain Gauge in catchment(ordinary)	8	8	0	Data collection is done at field level
		5)Pan Evaporimeter	1	1	0	Data collection is done at field level
		6)Wind velocity recorder	1	0	1	Data collection is done at field level
		7) Wind direction recorder	1	0	1	Data collection is done at field level
		8)Wet & Dry Bulb Thermometer	1	0	1	Data collection is done at field level
		9)Barometer	1	0	1	Data collection is done at field level
31	Lower Terna	1) Rain Gauge in catchment(self-recorder)	4	0	4	Data collection is done at field level
		2) Rain Gauge on Dam (self-recorder)	1	0	1	Data collection is done at field level
		3) Rain Gauge in catchment(ordinary)	7	0	7	Data collection is done at field level
		4) Pan Evaporimeter	1	0	1	Data collection is done at field level
		5) Wind direction recorder	1	0	1	Data collection is done at field level
		6) Wet/ Dry bulb Thermometer	1	0	1	Data collection is done at field level
		7) Raingauge on Dam (ordinary)	1	0	1	Data collection is done at field level
32	Khandala	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
33	Kesarjawalga	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level

Sr. No.	Name of dam with location	Name of instruments	Total	Performance		Status of Data Analysis
				Working	Not working	
1	2	3	4	5	6	7
34	Turori	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
35	Nandgaon	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
36	Harani	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
37	Rui	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
38	Sakat	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
39	Benitura	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
40	Bedkinala	1) Rain Gauge in catchment (ordinary)	1	1	0	Data collection is done at field level
41	Diggi	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
42	Achler	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
43	Kunsawali	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
44	Banganga Di	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
45	Sangmeshwar	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
46	Sindgaon	1) Rain Gauge on Dam (ordinary)	1	1	0	Data collection is done at field level
47	Babhali	1) Rain Gauge on Dam (ordinary)	1	0	1	Data collection is done at field level
48	Hirapuri H.L.B	Raingauge on dam (self recorder)	**1**	**0**	**1**	Data collection is done at field level
		Raingauge in catchment (self recorder)	**1**	**0**	**1**	Data collection is done at field level
Total			**133**	**86**	**47**	

Table No. 5.2

Mortality status of Meteorological Instruments Installed on Dams

Sr. No.	Type of Instruments	Number Of Instruments			
		Total	Working	Non-Working	Mortality (%)
1	2	3	4	5	6
1	Rain gauge on dam (Ordinary)	43	34	9	20.93
2	Rain gauge on dam (Self Recorder)	11	3	8	72.73
3	Rain gauge in catchment (Ordinary)	35	27	8	22.85
4	Rain gauge in catchment (Self Recorder)	15	9	6	35.71
5	Pan Evaporimeter	12	9	3	25.0
6	Wind velocity recorder	1	0	1	100
7	Wind direction recorder	3	1	2	66.67
8	Wet/dry bulb thermometer	2	0	2	100
9	Thermometer for air jump	0	0	0	0
10	Thermometer for reservoir water temp	0	0	0	0
11	Water stage recorder	5	2	3	60.00
12	Barometer	1	0	1	100
13	Sun shine recorder	0	0	0	0
14	Max & Min thermometer	0	0	0	0
15	Wave height recorder	0	0	0	0
16	Hydrometer	0	0	0	0
17	Humidity Meter	0	0	0	0
18	Automatic level controller	0	0	0	0
19	Steven meter	0	0	0	0
20	DWLL	0	0	0	0
21	Other Meteorological Instruments	6	2	4	66.67
Total		**133**	**86**	**47**	**35.34**

Part-6

National Committee on Dam Safety (NCDS) Documents

Part- 6 National Committee on Dam Safety (NCDS) Documents

Importance of National Committee on Dam Safety (NCDS) Documents:

Central Water Commission (CWC) has laid down various guidelines covering the standardized dam safety practices-essentially guiding the dam owners in preparation of Emergency Action Plans, Periodical Dam Safety inspections, comprehensive dam Safety evaluation and appropriate institutional framework for dam safety. Their implementation is emphasized during the meetings of National Committee on Dam Safety (NCDS) and through the communications sent in this regard.

During the 34th meeting held at Chennai in March 2015 it was requested to all the Dam owners to take necessary steps for preparation of EAPs & other documents & report to NCDS Secretariat about the number of Dams for which EAPs & other documents have been prepared, along with the target dates for the preparation of EAPs & other documents for the remaining Dams.

The documents to be prepared as per National Committee on Dam Safety are as under & these shall be properly maintained and kept up to date by including latest information available.

1. EAP
2. R.O.S & G.O.S.
3. Data Book
4. O & M manual
5. Record Drawing &Completion Report,

1. EAP: Emergency Action Plan:

An Emergency action plan is a formal plan that identifies potential emergency conditions at a dam prescribes the procedures to be followed to minimize property damage and loss of life. The EAP contains procedures and information to assist the dam owner in taking necessary actions in time to moderate or alleviate the problems, in addition to issuing early warning & notification messages to responsible emergency management authorities,viz.,District Magistrate/Collector, Armed Forces, Paramilitary forces, Project Authorities & other Central / State Agencies. It also contains inundation maps to show the emergency management authorities of the critical areas for necessary relief and rescue actions in case of an emergency. In a nutshell, it outlines “who does, what, where, when and how” in an emergency situation or unusual occurrence affecting the Dams. The Emergency Action Plan has to be prepared as per Guidelines circulated by C.W.C., New Delhi’s vide document no. CDSO_GUD_DS_01_v2.0, February-2016. (Guidelines for Developing EAP for Dams)

2. R.O.S. (Reservoir operation schedule) &G.O.S. (Gate Operation Schedule) :

It is very necessary to lay down operating procedures of all storage reservoirs with the objective to limit the flood stages in the river downstream and with maximum feasible utilization of the flood capacity of the river channel downstream of reservoirs, consistent with the safety of the dam. A proper reservoir operation schedule should be in place.

For this purpose a schedule of opening and closing the gates to limit the reservoir levels to preset gauges should be laid down. Schedule for the dam as per operation & maintenance manual should be strictly adhered. The entire capacity of reservoir is used for active conservation. When the reservoir rises above active conservation, operation will be in accordance with the standing operation procedures. Inflow forecasting arrangement should be made for easy operation of gates. The Engineer in charge should inform immediately to the flood maintenance engineer downstream and flood –fighting center of the releases from the reservoir.

3. Data book:

Proper assessment of dam safety involves a thorough review of design, construction and performance records prior to conducting a field examination. The Data Book is an unpublished document which is prepared before the initial safety inspection of each dam. This book is abbreviated, convenient source of information, summarizing all pertinent records and history related to the safety of a dam and is a reference for the evaluation team. This Data Book should answer most questions about the dam. A list of reference is included if additional information is needed. Continual updating of the Data Book will be required as future inspections are made, new problems arise, new investigations are undertaken and remedial treatments performed. Documentation of all projects may be done in the Data Book format which is the primary data base for the team evaluating the safety of a dam. (Guidelines on standardized Data Book format are available at http://www.cwc.gov.in/ Dam_safety.html)

4. O & M Manual:

It is desirable that a separate manual is available with the officers .The officers Incharge of such works are requested to personally go through the manual and maintain the records from time to time in such a manner as to give their successors complete and correct idea of the state of each of the several storage works in their charge and the different standing orders on all matters concerning the works. This will enable them to tackle problems as they arise, by quickly referring to the manual as far as possible without having to depend on the office to give information. The complete set of manual for each of the storage works should be personally handed over to successor by each concerned officer.

Copies of the maintenance manual shall be maintained at all offices right from sectional office to Circle office.

It is also necessary that the manuals are inspected at the time of inspection by the superior officers. Record of handing over and inspection should be maintained.

5. Record Drawing & Completion Report :

The importance of record drawings & completion report as an archival data need not be emphasized. All efforts should be made by field engineers to prepare Record Drawing & Completion Report and store them for future reference

.

Table - 6.1
Status of Emergency Action Plan (EAP)

Sr. No	Name of C.E.	Total Dam	Received	Not Received	Remarks
1	**C.E, W.R, Aurangabad**	14	4	10	All EAP must be updated as per CWC guide lines 2016 & copy of EAP should be made available to DSO.
2	**C.E, CADA, Aurangabad**	23	5	18	
	Total	**37**	**9**	**28**	

Table - 6.2
Status of Reservoir Operation Schedule (ROS)

Sr. No	Name of C.E.	Total Dam	Received	Not Received	Remarks
1	**C.E, W.R, Aurangabad**	14	6	8	Automatic Gate (1) Updated copy of ROS should be made available to DSO
2	**C.E. CADA, Aurangabad**	23	7	16	Updated copy of ROS should be made available to DSO
	Total	**37**	**13**	**24**	

Table - 6.3
Status of Gate Operation Schedule (GOS)

Sr. No	Name of C.E.	Total Dam	Received	Not Received	Remarks
1	**C.E, W.R, Aurangabad**	14	4	10	Automatic Gate (1) Updated copy of GOS should be made available to DSO
2	**C.E. CADA, Aurangabad**	23	7	16	Updated copy of GOS should be made available to DSO
	Total	**37**	**11**	**26**	

Table - 6.4
Dam Wise Status of GOS & ROS, EAP (Class-I Dams)

R = Received, NR = Not Received, AG = Automatic Gate

Sr. No	Name of Dam	EAP	ROS	GOS
1	2	3	4	5
GMIDC				
A) C.E, W.R, Aurangabad				
I) S.E, A.I.C, Aurangabad				
1. Executive Engineer, MID-1, Aurangabad				
1	Shivana Takli	R(2019)	R(2014)	NR
II) S.E, N.I.C, Nanded				
1) Executive Engineer, NID(South), Nanded				
2	Lower Manar	NR	A G	A G
3	Upper Manar	NR	R(2014)	NR
2) Executive Engineer, NID(North), Nanded				
4	Balegaon HL Barrage	NR	NR	NR
5	Vishnupuri Barrage	NR	NR	NR
6	Digras Barrage	NR	NR	NR
7	Babhali Barrage	NR	NR	NR
8	Amdura HL Barage	NR	NR	NR
3) Executive Engineer, UPPD-1, Nanded				
9	Isapur	R(2008)	R(2014)	R(1999)
4) Executive Engineer, PID, Basmatnagar				
10	Yeldari	R(2019)	R(2014)	R(1989)
11	Siddheshwar	R(1994)	R(2014)	R(1989)
5) Executive Engineer, MID,Parbhani				
12	Mudgal HL Barrage	NR	NR	NR
13	Dhalegaon HL Barrage	NR	NR	NR
III) S.E, BIPC, Parali (V)				
1. Executive Engineer, BID, Beed				
14	Upper Kundlika	NR	NR	NR
	Received	4	5	3
	Not Received	10	8	10
	Automatic Gate	0	1	1
	Total	14	14	14

Note - EAP must be updated as per revised CWC guidelines of CWC circulated in February-2016

Sr. No	Name of Dam	EAP	ROS	GOS
1	2	3	4	5
B) C.E, CADA, Aurangabad				
I) S.E & Admn, CADA, Aurangabad				
1)Executive Engineer, JID, Nathnagar (North), Paithan				
1	Paithan (Jayakwadi)	R(2019)	R(2010)	R(1999)
2	Apegaon H.L. Barrage	NR	NR	NR
3	Mangrul H.L. Barrage	NR	NR	NR
4	Loni Savangi H.L. Barrage	NR	NR	NR
5	Raja Takli H.L. Barrage	NR	NR	NR
6	Jogaldevi H.L. Barrage	NR	NR	NR
2)Executive Engineer, NMID, Vaijapur				
7	Bordahegaon	NR	R(2009)	R(2009)
8	Narangi	NR	R(2009)	R(2009)
3)Executive Engineer, JID, Jalna				
9	Lower Dudhna	NR	NR	NR
II) S.E.& Admm, CADA, Latur				
1)Executive Engineer, LID-1, Latur				
10	Lower Terna	R(2020)	R(2018)	R(1999)
11	Manjra	R(2020)	R(2018)	R(1990)
12	Masalaga	R(2020)	R(2018)	R(2008)
13	Gunjarga K.T.Weir	NR	NR	NR
14	Rajegaon K.T.Weir	NR	NR	NR
15	Khulgapur	NR	NR	NR
16	Bindgihal	NR	NR	NR
17	Karsa Poharegaon Barrage	NR	NR	NR
18	Takalgaon Deola Barrage	NR	NR	NR
19	Dhanegaon High Level Barrage	NR	NR	NR
20	Sai Barrage	NR	NR	NR
21	Shivni H.L.Barrage	NR	NR	NR
22	Hosur Barrage	NR	NR	NR
III) S.E.& Admm, CADA, Beed				
1)Executive Engineer, MID, Parali(V)				
23	Majalgaon	R(2020)	R(2007)	R(2006)
	Received	5	7	7
	Not Received	18	16	16
	Total	**23**	**23**	**23**

Note - EAP must be updated as per revised CWC guidelines of CWC circulated in February-2016

Table - 6.5
Status of Other NCDS Documents (Class-I Dams)

Sr. No.	Name of C.E.	Total Dams	Completion Report		Record Drawing		Data Book		O & M Manual	
			Received	Not received	Received	Not received	Received	Not received	Received	Not Received
1	C.E, W.R, Aurangabad	14	1	13	3	11	1	13	3	11
2	C.E. CADA, Aurangabad	23	2	21	3	20	1	22	3	20
	Total	**37**	**3**	**34**	**6**	**31**	**2**	**35**	**6**	**31**

Table - 6.6
Dam Wise Status of Other NCDS Documents

Sr. No.	Name of dam	Completion Report	Record Drawing	Data Book	O & M Manual
1	2	3	4	5	6
GMIDC					
A) C.E, W.R, Aurangabad					
I) S.E, A.I.C, Aurangabad					
1. Executive Engineer, MID-1, Aurangabad					
1	Shivana Takli	NR	NR	NR	NR
II) S.E, N.I.C, Nanded					
1) Executive Engineer, NID(South), Nanded					
2	Lower Manar	NR	NR	NR	NR
3	Upper Manar	NR	NR	NR	NR
2) Executive Engineer, NID(North), Nanded					
4	Balegaon HL Barrage	NR	NR	NR	NR
5	Vishnupuri Barrage	NR	NR	NR	NR
6	Digras Barrage	NR	NR	NR	NR
7	Babhali Barrage	NR	NR	NR	NR
8	Amdura HL Barage	NR	NR	NR	NR
3) Executive Engineer, UPPD-1, Nanded					
9	Isapur	R	R	R	R
4) Executive Engineer, PID, Basmatnagar					
10	Yeldari	NR	R	NR	R
11	Siddheshwar	NR	R	NR	R
5) Executive Engineer, MID,Parbhani					
12	Mudgal HL Barrage	NR	NR	NR	NR
13	Dhalegaon HL Barrage	NR	NR	NR	NR
III) S.E, BIPC, Parali (V)					
1. Executive Engineer, BID, Beed					
14	Upper Kundlika	NR	NR	NR	NR
	Received	1	3	1	3
	Not Received	13	11	13	11
	Total	**14**	**14**	**14**	**14**

Sr. No.	Name of dam	Completion Report	Record Drawing	Data Book	O & M Manual
1	2	3	4	5	6
B) C.E. & Chief Administrator, CADA, Aurangabad					
I) S.E & Admn, CADA, Aurangabad					
1)Executive Engineer, JID, Nathnagar (North), Paithan					
1	Paithan (Jayakwadi)	NR	R	R	R
2	Apegaon H.L. Barrage	NR	NR	NR	NR
3	Mangrul H.L. Barrage	NR	NR	NR	R
4	Loni Savangi H.L. Barrage	NR	NR	NR	R
5	Raja Takli H.L. Barrage	NR	NR	NR	NR
6	Jogaldevi H.L. Barrage	NR	NR	NR	NR
2)Executive Engineer, NMID, Vaijapur					
7	Bordahegaon	NR	NR	NR	NR
8	Narangi	NR	NR	NR	NR
3)Executive Engineer, JID, Jalna					
9	Lower Dudhna	NR	NR	NR	NR
B) S.E.& Admm, CADA, Latur					
1)Executive Engineer, LID-1, Latur					
10	Lower Terna	R	R	NR	NR
11	Manjra	R	R	NR	NR
12	Masalaga	NR	NR	NR	NR
13	Gunjarga K.T.Weir	NR	NR	NR	NR
14	Rajegaon K.T.Weir	NR	NR	NR	NR
15	Khulgapur	NR	NR	NR	NR
16	Bindgihal	NR	NR	NR	NR
17	Karsa Poharegaon Barrage	NR	NR	NR	NR
18	Takalgaon Deola Barrage	NR	NR	NR	NR
19	Dhanegaon High Level Barrage	NR	NR	NR	NR
20	Sai Barrage	NR	NR	NR	NR
21	Shivni H.L.Barrage	NR	NR	NR	NR
22	Hosur Barrage	NR	NR	NR	NR
C) S.E.& Admm, CADA, Beed					
1)Executive Engineer, MID, Parali(V)					
23	Majalgaon	NR	NR	NR	NR
	Received	2	3	1	3
	Not Received	21	20	22	20
	Total	**23**	**23**	**23**	**23**

Part-7

Dam Health & Rehabilitation Monitoring Application (DHARMA)

Part-7 DHARMA: Dam Health and Rehabilitation Monitoring Application

Introduction :

Dam health & Rehabilitation Monitoring application (DHARMA) is a web based asset management software to support the effective collection and management of authentic asset and health data for all large dams in India and address key dam safety challenges of

i) Insuring Completeness of information.

ii) Bring stake holders together

iii) Effectively managing asset inventory.

iv) Assess soundness of Dam health.

Design and Development :

DHARMA software consist of seven modules.

i) Project features

ii) Project portfolio

iii) Engineering features.

iv) Asset health.

v) Asset rehabilitation.

vi) Stake holders and

vii) Document library.

The first three modules (i to iii consist of mostly static data, to be enter once and rarely undergo a change where as modules iv) and v) will be dynamic and requires regular updating with information associated with inspections investigations, instrumentation and rehabilitation works. Modules vi) and vii)contain information useful for reference.

All field EE's are required to fillup attached two forms (Dam Data Manager & Dam Health Engineer) for each Dam in their jurisdiction by 15th July 2021 & its review will be taken by Hon. DG, MERI, Nashik by 15th Aug 2021.

DHARMA Application User Registration Form

Dam Data Manager

1.	Date of Application:	< dd/mm/yyyy>		
2.	Type of User:	Dam Data Manager		
3.	Name of the Applicant:	<Title>. <Name>		
4.	Designation:			
5.	Name of the Organization:			
6.	Complete Postal Address:			
7.	Email ID:			
8.	Mobile Number:		Office Tel. Number:	
9.	Current Responsibilities:	☐ Coordinating Dam Safety ☐ Water Resource Management ☐ Dam Design ☐ Dam Construction / Rehabilitation ☐ Dam Operations ☐ Academic / Research ☐ Other: <please specify>		
10.	Viewing Permission Required for:	☐ Project Features ☐ Project Portfolio ☐ Engineering Features		
11.	Editing Permission Required for:	☐ Project Features ☐ Project Portfolio ☐ Engineering Features		
12.	Provide List of Dams			

Please select out of the choice provided; add separate sheets for providing additional information.

Declaration: I, hereby declare that the information provided in the application is true. I further declare that I will not use the information collected from DHARMA software for any unlawful activities and / or to the detriment of the Central or State Governments.

Signature and Seal / stamp of the Applicant:	Signature:	
	Name:	
	Designation:	
	Seal / Stamp:	

Please send the completed Application Form to the concerned Licensee.

DHARMA Application User Registration Form

Dam Health Engineer

1.	Date of Application:	< dd/mm/yyyy>		
2.	Type of User:	Dam Health Engineer		
3.	Name of the Applicant:	<Title>. <Name>		
4.	Designation:			
5.	Name of the Organization:			
6.	Complete Postal Address:			
7.	Email ID:			
8.	Mobile Number:		Office Tel. Number:	
9.	Current Responsibilities:	☐ Coordinating Dam Safety ☐ Water Resource Management ☐ Dam Design ☐ Dam Construction / Rehabilitation ☐ Dam Operations ☐ Academic / Research ☐ Other: <please specify>		
10.	Viewing Permission Required for:	☐ Project Features ☐ Project Portfolio ☐ Engineering Features		
11.	Editing Permission Required for:	☐ Project Features ☐ Project Portfolio ☐ Engineering Features		
12.	Provide List of Dams			

Please select out of the choice provided; add separate sheets for providing additional information .

Declaration: I, hereby declare that the information provided in the application is true. I further declare that I will not use the information collected from DHARMA software for any unlawful activities and / or to the detriment of the Central or State Governments.

Signature and Seal / stamp of the Applicant:	Signature:	
	Name:	
	Designation:	
	Seal / Stamp:	

Please send the completed Application Form to the concerned Licensee.

Table 7.1

Data filling status on DHARMA portal

Sr. No	Name of Dam	NRLD registration number	Dharma data filling status (%)
1	2	3	4
[A] Chief Engineer & Chief Administrator (CADA), Aurangabad			
I) Superintending Engineer, CADA, Aurangabad			
1) Executive Engineer, JID, Nathnagar (North), Paithan			
1	Paithan (Jayakwadi)	MH09HH0597	48
2	Mangrul H.L.Barrage	MH09MH2127	11
3	Rajatakli H.L.Barrage	MH09MH2128	11
4	Jogladevi H.L.Barrage	MH09MH2125	11
5	Loni savangi H.L. Barrage	MH09MH2126	11
6	Apegaon H.L. Barrage	MH09MH2123	11
2) Executive Engineer, NMID, Vaijapur			
7	Bor dahegaon	MH09MH1491	25
8	Narangi	MH09MH1490	31
3) Executive Engineer, JID, Jalna			
9	Lower Dudhna	MH09MH2089	11
II) Superintending Engineer, CADA, Beed			
1) Executive Engineer, MID, Parali (V)			
10	Majalgaon	MH09HH1174	10
III) Superintending Engineer, CADA, Latur			
1) Executive Engineer, LID-1, Latur			
11	Lower Terna	MH09MH1228	11
12	Manjra	MH09MH1585	09
13	Masalga	MH09LH1408	11
14	Khulgapur H.L. Barrage	MH09MH2181	11
15	Bindgihal Latur Type Barrage	MH09MH2183	09
16	Sai H.L. Barrage	MH09LH2131	11
17	Takalgaon Devla Latur type Barrage	MH09MH2135	11
18	Shivni H.L. Barrage	MH09MH2132	09
19	Hosur Barrage	MH09MH2420	11
20	Gunjarga K.T. Weir	MH09MH2421	10
21	Rajegaon K. T. Weir	MH09MH2248	11

1	2	3	4
22	Dhanegaon H.L. Barrage	MH09MH2129	10
23	Karsa Pohregaon Barrage	MH09MH2246	11
B) Chief Engineer (WR), Aurangabad			
I) Superintending Engineer, Aurangabad Irrigation Circle, Aurangabad			
1) Executive Engineer, MID-1, Aurangabad			
24	Shivna takli	MH09MH1651	66
II) Superintending Engineer, Nanded Irrigation Circle, Nanded			
1) Executive Engineer, NID, South, Nanded			
25	Lower Manar	MH09MH0170	11
26	Upper Manar	MH09HH1806	11
2) Executive Engineer, NID, North, Nanded			
27	Balegaon HL Barrage	MH09MH2117	09
28	Vishnupuri	MH09LH1254	11
29	Digras H.L. Barrage	MH09HH2116	10
30	Babhali H.L. Barrage	MH09MH2118	11
31	Amdura H.L. Barrage	MH09HH2119	09
3) Executive Engineer, UPPD-1, Nanded			
32	Isapur (UPP)	MH09HH0947	34
4) Executive Engineer, PID, Basmatnagar			
33	Yeldari	MH09HH0171	37
34	Siddheshwar	MH09HH0172	46
5) Executive Engineer, MID,Parbhani			
35	Mudgal HL Barrage	MH09MH2121	11
36	Dhanegaon HL Barrage	MH09MH2129	10
III) Superintending Engineer, BIPC, Paral (V)			
1) Executive Engineer, BID, Beed			
37	Upper Kundalika	Proposed to be included in NRLD	--

DHARMA

Integrated Approach for Asset Management of Dams in India

Information Bulletin No.4 January 2019

INSIDE

The Dam Health and Rehabilitation Monitoring Application (DHARMA)

is being developed as a part of the institutional strengthening component of the Dam Rehabilitation and Improvement Project (DRIP). DRIP is an initiative undertaken by the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India with the financial assistance of The World Bank.

DHARMA has been designed and developed to enhance the capacity of individuals and organisations throughout India to manage their dam assets scientifically and professionally so as to sustain advantages of dams. This Information Bulletin No.4 has been prepared by the Central Project Management Unit (CPMU) to present an overview of the purpose and content of the software.

Project DRIP

Financial Assistance THE WORLD BANK

Technical Assistance egis

What is DHARMA?

Introduction

There are 5264 large dams in operation in India and 437 are under construction. In addition, there are several thousand smaller dams. All these dams are vital for ensuring the water security of the country in a sustainable manner and regulating water during the rainy season to prevent floods.

Today, many of these dams are facing various structural deficiencies as well as shortcomings in the operation and monitoring facilities. There are also inefficiencies in the monitoring of real-time information regarding dam health and ongoing rehabilitation measures. These conditions affect the safety of the structures and pose risks to life and properties of people downstream of dam.

In April 2012, the six-year **Dam Rehabilitation and Improvement Project (DRIP)** was launched at an estimated cost of 2100 Crore INR for assisting dam-owning agencies in rehabilitating selected dams across selected states.

In 2017, the project has been extended by two years, until June 2020, to finish all of the programmed rehabilitation works on 223 dams in 7 states, with a revised cost of 3466 Crore INR.

In this context, the **Dam Health and Rehabilitation Monitoring Application (DHARMA)** has been designed and developed *to enhance the capacity of individuals and organisations throughout India to manage their dam assets* scientifically and professionally so as to sustain advantages of dams (irrigation and water supply, flood control, hydropower etc.) and prevent disasters.

Figure 1: DHARMA capturing information

Why is it needed ?

Managing the Dam Safety of over five thousand dams entails a number of obstacles to overcome. The prime challenge is to deliver the precious dam health information collected during the site inspection to the State and Central **Dam Safety Organisations (DSOs)** in a timely and secure manner. Improving this transmission of information thanks to data analysis will generate a more precise monitoring of the dams' health in DSOs as well as a more informed prioritization of rehabilitation works. To accomplish this goal, the four main challenges listed below must be overcome; it is DHARMA's goal to address these challenges.

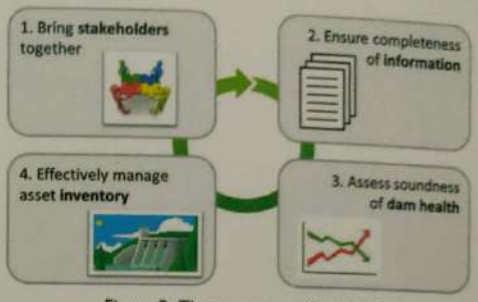


Figure 2: The purposes of DHARMA

1. Bring Stakeholders Together

DHARMA will ensure that details of all stakeholders are recorded and maintained. Such details may pertain to individuals as well as organisational entities associated with dam planning and design, construction, operation and maintenance, and rehabilitation.

2. Ensure Completeness of Information

DHARMA will enable gathering and updating of dam asset information in a centralised and structured manner so as to overcome limitations of multiplicity of agencies, wide geographical spread, voluminous data, varied terminologies and units, unknown and mismatched time reference and inconsistent formats.

3. Assess Soundness of Dam Health

DHARMA will ensure prompt capturing of inspection and investigation data directly by the 'Dam Health Engineers' and provide tools for correct analysis and interpretation of this time dependent data.

4. Effectively manage Asset Inventory

DHARMA will provide a complete data collection and management platform for assimilation of varied information for every dam component across all dam projects, also thereby benefiting from the insights and learning curves of a wider stakeholder spectrum.

The Users of DHARMA

DHARMA User Types

DHARMA has been designed for individuals and organisations at **Dam, State and Central level**. Owing to the large number of dams, several thousand individuals are expected to use the software; they will be assigned to seven main user roles across three tiers, as presented below:

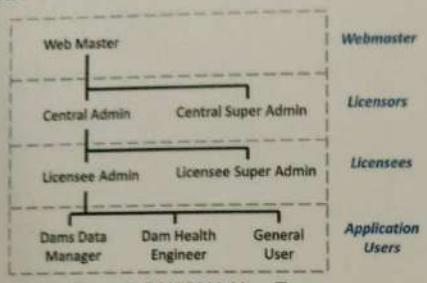


Figure 3: DHARMA User Types

The highest tier **'Licensors'** includes the 'Central Admin' and 'Central Super Admin' roles — these are based in the Central Dam Safety Organisation (in Central Water Commission) and are responsible for administrative control and distribution of the DHARMA software. One of the responsibilities of the 'Licensors' is to grant licenses to the second **'Licensees'** tier which includes the 'Licensee Admin' and 'Licensee Super Admin' roles. These are typically members of Central or State dam owning organisations (eg. State Water Resources Departments). Licensees, in turn, can add three types of **'Application Users'** namely 'Dams Data Manager', 'Dam Health Engineer' and 'General User' who are responsible for managing and updating the data in DHARMA.

A clear distinction is made between the 'Dams Data Manager' (DDM) and 'Dam Health Engineer' (DHE). The **Dams Data Manager**'s role is to manage the static information of dams, i.e. information that is entered once into the software and rarely changes (such as Spillway Capacity, Location of Dam, Access…). He/she is authorized to manage the data of the first three modules, presented in the next page. The **Dam Health Engineer**'s role is to manage dynamic data of a Dam, i.e. data that requires regular updates such as inspection report, investigations, instrumentation data…

DHEs are able to enter their inspection report directly on the software. A mobile application will also be developed for them to enter and upload their inspection report directly from dam site. An option to upload geo-referenced data and photos of each deficiency will be included so as to report deficiencies as precisely as possible.

	Dams Data Manager (DDM)	Dam Health Engineer (DHE)
Type of Data handled	**Static Data**	**Dynamic Data**
Modules	**Modules 1 to 3**: Project Features, Project Portfolio, Engineering Features	**Modules 4 to 7**: Asset Health, Asset Rehabilitation, Stakeholders, Document Library
Tasks assigned	• Entering **high level information** of the dam (Height, location, access, ...) • Creating the **Portfolio** of the Dam by assembling the different DHARMA **components** to match the physical layout of the dam • **Geo-referencing** of each component on Google Maps and adding **photos** • Entering the **technical details** of each **component** (Dam Block, Spillway, Gallery...)	• Entering the regular **pre** and **post monsoon inspection reports** • Entering and updating the **O&M**, **Investigations, Instrumentation, and EAP** data of the dam • Entering the details of **rehabilitation works** implemented at the dam • Entering the **contact** details of the dam's staff and suppliers in the **Stakeholders** Module • Uploading all important **dam documents** in pdf format into the Document Library Module

Figure 4: Distinction between DDM and DHE

DHARMA Modules

DHARMA consists of the **7** modules and **2** additional data analysis tools presented below:

Static Modules

1. Project Features

This module gives the static, high-level details of a dam project, such as the Dam's Height, Location, Access details… The General, Location and Financial information will be stored for all projects as well as the details of specific benefits provided by each dam: Irrigation, Hydropower, Navigation, Water Supply, Industrial, Tourism, Flood Control, Fishing, and Other Benefits.

2. Project Portfolio

It allows the Dams Data Manager to describe the make-up of his/her dam project using seventeen building blocks, the DHARMA components (Figure 6). Each component is added and organized in layers, similar to the MS Windows Explorer menu. For each component, the user can locate its exact position on Google Maps, upload pictures and schematics.

Figure 5: DHARMA Project Portfolio Map

3. Engineering Features

This module contains the technical details associated with each of the components entered in the Project Portfolio module. For example, whereas the name, location, photos and schematics of a storage reservoir would be entered in the Project Portfolio module, it is in Engineering Features that the volumes, elevations and dimensions are provided.

Dynamic Modules

4. Asset Health

This module supports the creation of regular pre and post-monsoon inspections and specific inspections. In this module, the Dam Health Engineers can also upload Instrumentation, Operation & Maintenance (O&M) and Emergency Action Plan (EAP) data, which is attached to the components from the Project Portfolio.

5. Asset Rehabilitation

Also to be administered by designated Dam Health Engineers, it captures the details of any rehabilitation works (minor or major) at the dam project. The need for future rehabilitation works should be identified in the inspection forms of the asset health module however, previous or historic rehabilitation works (pre-DHARMA) can also be entered into the module independently.

6. Stakeholders

The purpose of this module is to capture details of all individuals and organizations involved with each dam project including dam owners, operators, designers, consultants, contractors, and suppliers. Simple forms are provided explaining the nature and duration of involvement of each party and their contact details.

7. Document Library

The last module enables users to upload important designs and documents into a user-friendly database from where they can be easily retrieved using filters and other search criteria. An additional functionality will allow users to tag the documents such that they can be retrieved from other relevant sections of the software using hyperlinks.

Data Analysis Tools

The **Dashboard** enables Dam Safety Organisations to monitor the data-entry for each dam and to pinpoint dams with critical deficiencies.

Figure 6: DHARMA Static Dashboard

The **Report Generator** creates lists of dams responding to selected criteria. (State, Purpose, Completion Year…)

Implementation of DHARMA

The success of DHARMA particularly depends on its uptake by Dam Data Managers and Dam Health Engineers around the country (cf. page 2, the users of DHARMA) as they will be in charge of entering all the data. The implementation of the DHARMA application is therefore as important as its design and development.

The first two modules were launched in May 2016 then, the team of designers, which gathers both software developing and civil engineering skills, started to perform training sessions around India in order to make the users familiar with the application.

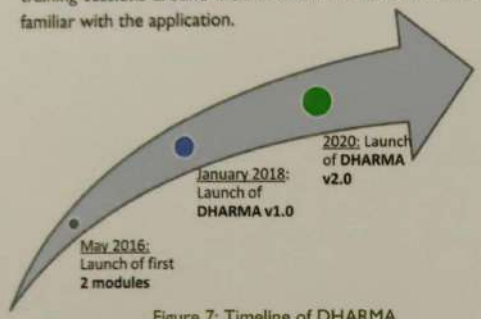


Figure 7: Timeline of DHARMA

DHARMA v1.0 was launched nationally in January 2018, during the previous International Dam Safety Conference in Trivandrum and following the successful migration of the National Register of Large Dams (NRLD) in 2017. Since then 24 trainings were held for 865 participants including 4 trainings in non-DRIP Sates (Rajasthan, Maharashtra & Gujarat). Thanks to these trainings sessions, today 600 people use DHARMA actively and 1546 dams are assigned (out of 5236 large dams in India).

The trainings take place in the State Capitals, they are arranged by the Implementing Agencies which are part of the Dam Rehabilitation and Improvement Project (DRIP). Participants of the trainings (ranging from 30 to 90 for each session) receive hands-on sessions for each module and tool, interactive quizzes and presentations on the purpose and benefits of DHARMA.

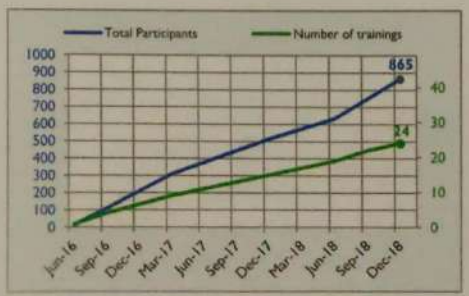


Figure 8: Cumulative number of DHARMA users

The **version 2.0** of DHARMA is to be implemented by December 2020. This version is currently under design and is likely to consist of 4 additional "sub-modules" and 3 additional tools.

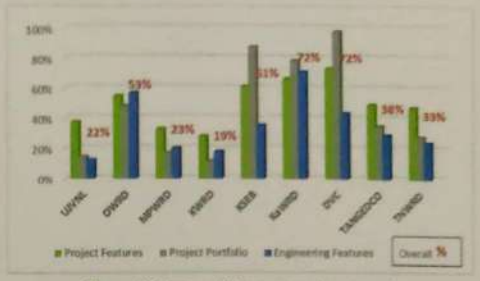
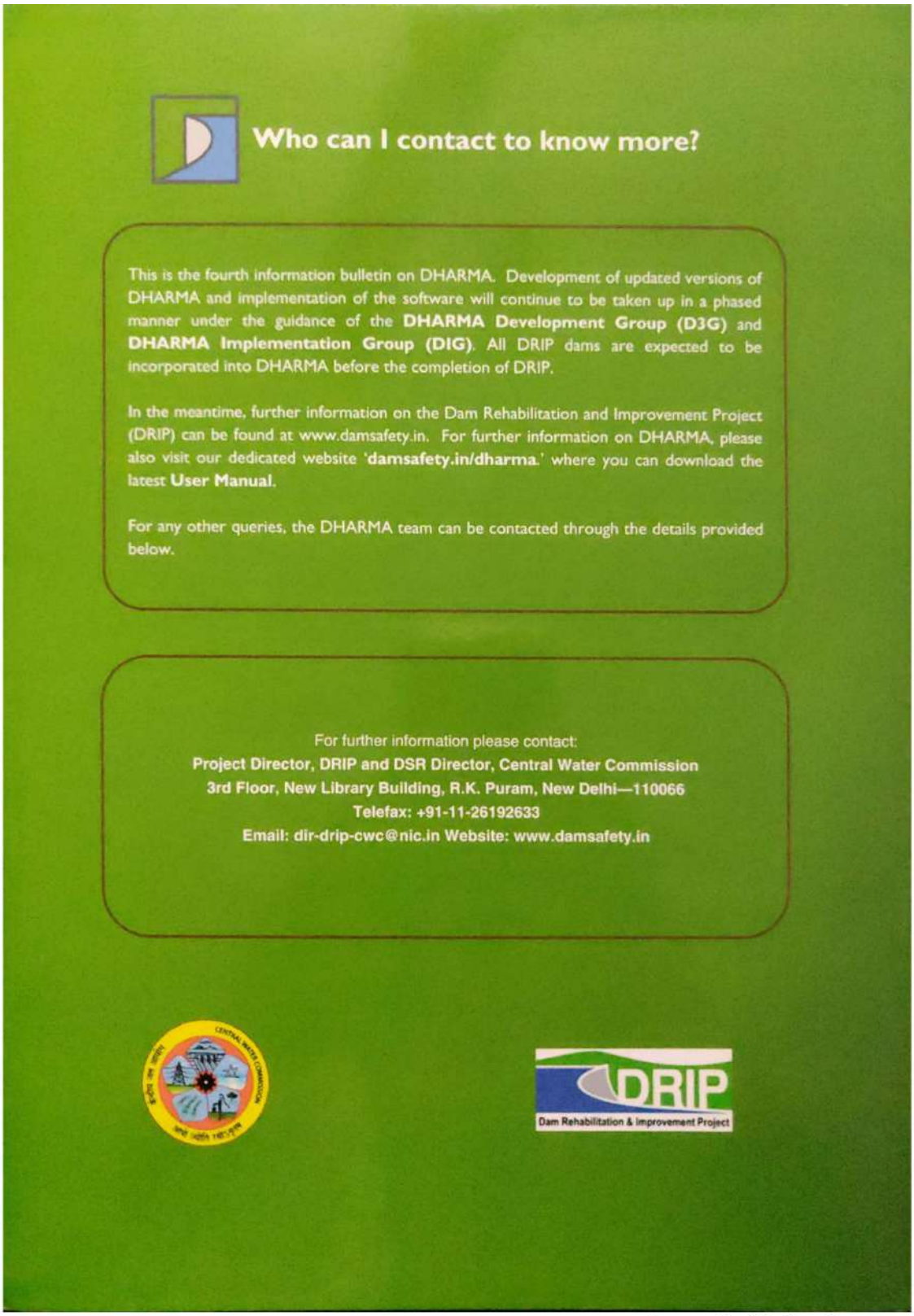


Figure 9: Status of data entry Agency-wise

Here is a list of all Implementing Agencies already using DHARMA:

	Implementing Agencies	Dams assigned to agency	Dams with entered data	Total Users
Agencies in DRIP	Odisha Water Resources Department	204	182	204
	Karnataka Water Resources Department	231	184	122
	Tamil Nadu Water Resources Department	84	84	91
	Madhya Pradesh Water Resources Dpt	887	42	85
	Kerala Water Resources Department	20	20	63
	Uttarakhand Jal Vidyut Nigam Limited	6	4	33
	Kerala State Electricity Board	36	36	25
	Tamil Nadu Elec Gen & Distrib Corp	38	38	13
	Damodar Valley Corporation	4	4	8
Agencies not in DRIP	Rajasthan Water Resources Department	211	131	90
	Maharashtra Water Resources Department	2354	60	49
	Gujarat Engineering Research Institute	631	21	31
	Punjab Water Resources Department	15	14	16
	Bhakra Beas Management Board	4	4	7
	Uttar Pradesh Irrigation and WRD	133	1	3
	National Hydroelectric Power Corporation	22	22	3
	Bihar Water Resources Department	26	1	3
	Meghalaya Power Gen Corp Limited	7	-	2
	Narmada Hydroelec Dept Corporation Ltd	-	-	2
	Telangana Irrigation and CAD Department	174	-	2
	Himachal Pradesh State Electricity Board	2	-	2
	Karnataka Engineering Research Station	-	-	2
	Chhattisgarh Water Resources Department	258	-	1
	Goa Water Resources Department	6	-	1
	Jammu and Kashmir Water Resources Dpt	1	-	1
	TOTAL	5354	848	861



Who can I contact to know more?

This is the fourth information bulletin on DHARMA. Development of updated versions of DHARMA and implementation of the software will continue to be taken up in a phased manner under the guidance of the **DHARMA Development Group (D3G)** and **DHARMA Implementation Group (DIG)**. All DRIP dams are expected to be incorporated into DHARMA before the completion of DRIP.

In the meantime, further information on the Dam Rehabilitation and Improvement Project (DRIP) can be found at www.damsafety.in. For further information on DHARMA, please also visit our dedicated website '**damsafety.in/dharma**.' where you can download the latest **User Manual**.

For any other queries, the DHARMA team can be contacted through the details provided below.

For further information please contact:
Project Director, DRIP and DSR Director, Central Water Commission
3rd Floor, New Library Building, R.K. Puram, New Delhi—110066
Telefax: +91-11-26192633
Email: dir-drip-cwc@nic.in Website: www.damsafety.in

DRIP
Dam Rehabilitation & Improvement Project

Part-8

Health Status of Gated Dam (As per Mechanical Organisation)

Part-8 Status report of Gated Dams in Marathwada region (including Private Dams)

8.1 General

As per GR.NO.ID/1078/23/8/IMP/2 Dtd.10/09/1980, Dam Safety Organization has been established by Government of Maharashtra for effective monitoring the safety aspects of dam.

As per Maharashtra Government Guidelines and regulation, Chief Engineer (Mechanical), Water Resources Dept. Nashik assigned Dams gate Inspection work to Superintending Engineer, Mechanical Circle, Nashik to assure proper operation and maintenance of Dam gates

Under Superintending Engineer, Mechanical Circle, Nashik Executive Engineer, Inspection unit , Aurangabad and Executive Engineer, Sluice Gate Mfg. Division, Dapodi , Pune are looking after all the inspection works.

Division offices Conduct all pre monsoon & Post Monsoon Gate Inspection work of Government, Semi Government, & Private Dams and send Reports to related authorities for same.

After Inspection work the observed points or deficiencies are classified into various categories as given below.

Def. Category 1	Dams with Major Deficiencies which may lead to dam failure	Very Serious Defects
Def. Category 2 (2 A)& (2B)	Dams with rectifiable Deficiencies needs immediate attention	Serious Defects (2A)
		Require immediate attention (2B)
Def. Category 3	General Defects	General Defects

In the year of 2019 pre and post monsoon inspection of total 48 gated dams have been carried out by Mechanical Organisation. It is to be noted that Chief engineer (Mechanical) W.R.D Nashik, prepares independently the detail Health status Report of all the gated dams inspected by mechanical organisation. This report is published and submitted to WRD and circulated to all Concern Chief Engineers.

In this Health Status Report, The details received vide e-mail dated 29th April 2021 from SE, Mechanical Circle, Nashik office dated are included. only the dam wise number of deficiencies noted by mechanical organisation are given in this part of AHSR. For details regarding the actual deficiencies Health Status Report circulated by Mechanical Organisation shall be referred.

8.2 Overall Health Statues of Gated Dams

33 Class-I gated dams in the Marathwada region were inspected by Mechanical Organisation

Category -1 deficiency is not observed on any dam .Category -2 deficiencies are observed in 27 dams and Category-3 deficiencies are observed in 33 dams. Total 442 Category -2 deficiencies and 2395 Category -3 deficiencies are observed on the dams in the region.

17 Class-II gated dams in the Marathwada region were inspected by Mechanical Organisation

Category -1 deficiency is not observed on any dam .Category -2 deficiencies are observed in 06 dams and Category-3 deficiencies are observed on all the 14 dams. Total 119 Category -2 deficiencies and 549 Category -3 deficiencies are observed on the dams in the region.

Table No.8.1 shows the dam wise and category wise deficiencies identified in the region.

Table 8.1
Damwise and Categoriwise Number of Deficiencies Identified on Gated Dams in the Marathwada Region

Dam Class - I

Sr. No.	Region & Name of Dam	Dam Class - I						
		Defficiencies						
		2019-20			2020-21			Remarks
		Cat-1	Cat-2 (2A)&(2B)	Cat-3	Cat-1	Cat-2 (2A)&(2B)	Cat-3	
1	2	3	4	5	6	7	8	9
A) Chief Engineer, CADA, Aurangabad								
I) S.E & Admn, CADA, Aurangabad								
1)Executive Engineer, JID, Nathnagar (North), Paithan								
1	Jayakwadi	0	80	108	0	55	102	
2	Apegaon	0	17	48	0	18	43	
3	Mangrul	0	14	56	0	30	34	
4	Raja Takli	0	14	72	0	13	57	
5	Jogladevi	0	11	69	0	14	44	
6	Lonisawangi	0	21	112	0	21	103	
2) Executive Engineer, NMID, Vaijapur								
7	Bordahegaon	0	65	53	0	59	81	
8	Narangi	0	52	56	0	43	76	
3) Executive Engineer, JID, Jalna								
9	Lower Dudhna	0	17	144	0	17	145	
II) S.E.& Admm, CADA, Beed								
1) Executive Engineer, MID, Parali(V)								
10	Majalgaon	0	17	136	0	14	137	
III) S.E.& Admm, CADA, Latur								
1) Executive Engineer, LID-1, Latur								
11	Lower Terna	0	2	136	0	2	136	
12	Manjara	0	11	148	0	13	137	
13	Masalga	0	11	111	0	11	114	
14	Khulgapur Barrage	0	0	60	0	1	59	
15	Bindagihal Barrage	0	1	33	0	1	34	
16	Sai Barrage	0	1	59	0	2	58	
17	Takalgaon-Devla Barrage	0	2	42	0	2	42	

Sr. No.	Region & Name of Dam	Dam Class - I						
		Deficiencies						
		2019-20			2020-21			Remarks
		Cat-1	Cat-2 (2A)&(2B)	Cat-3	Cat-1	Cat-2 (2A)&(2B)	Cat-3	
1	2	3	4	5	6	7	8	9
18	Shivni Barrage	0	1	51	0	1	52	
19	Hosur Barrage	0	1	34	0	0	34	
20	Gunjaraga Barrage	0	1	33	0	1	32	
21	Rajegaon Barrage	0	0	32	0	0	35	
22	Dhanegaon Barrage	0	0	57	0	0	60	
23	Karsa-Poharegaon Barrage	0	0	58	0	0	59	
1	2	3	4	5	6	7	8	9
B) Chief Engineer, (WR), Aurangabad								
I) S.E, A.I.C, Aurangabad								
1. Executive Engineer, MID-1, Aurangabad								
24	ShivnaTakli	0	53	105	0	63	74	
II) S.E, N.I.C, Nanded								
1) Executive Engineer, NID(South), Nanded								
25	Upper Manar	0	9	91	0	10	93	
26	Lower Manar	0	1	86	0	0	0	Not inspected
2) Executive Engineer, NID(North), Nanded								
27	Balegaon HL Barrage	0	0	0	0	0	0	Not inspected
28	Vishnupuri	0	20	107	0	15	105	
29	Digras Barrage	0	0	42	0	0	44	
30	Babhali Barrage	0	0	29	0	0	29	
31	Amdura HL Barrage	0	0	0	0	0	0	Not inspected
3) Executive Engineer, UPPD-1, Nanded								
32	Isapur	0	0	0	0	0	0	Not in List of Dams Inspected by Mechanical Org
4) Executive Engineer, PID, Basmatnagar								
33	Yeldari	0	20	116	0	17	118	
34	Siddheshwar	0	9	72	0	11	75	

Sr. No.	Region & Name of Dam	Dam Class - I						
		Deficiencies						
		2019-20			2020-21			Remarks
		Cat-1	Cat-2 (2A)&(2B)	Cat-3	Cat-1	Cat-2 (2A)&(2B)	Cat-3	
1	2	3	4	5	6	7	8	9
5) Executive Engineer, MID,Parbhani								
35	Mudgal HL Barrage	0	0	0	0	1	52	
36	Dhalegaon HL Barrage	0	0	0	0	5	40	
III) S.E, BIPC, Parali (V)								
1. Executive Engineer, BID, Beed								
37	Upper Kundalika	0	1	90	0	2	91	
	Total -	**0**	**422**	**2168**	**0**	**442**	**2395**	

Dam Class - II

Sr. No.	Region & Name of Dam	Dam Class - II						
		Deficiencies						
		2019-20			2020-21			Remarks
		Cat-1	Cat-2 (2A)&(2B)	Cat-3	Cat-1	Cat-2 (2A)&(2B)	Cat-3	
1	2	3	4	5	6	7	8	9
A) Chief Engineer, CADA, Aurangabad								
I) S.E & Admn, CADA, Aurangabad								
1) Executive Engineer, AID, Aurangabad								
1	AnjanaPalshi	0	29	82	0	31	80	
2	Purna Nevpur	0	14	49	0	21	58	
1) Executive Engineer, NMID, Vaijapur, Dist. Aurangabad								
3	Tembhapuri	0	21	41	0	22	50	
I) S.E & Admn, CADA, Latur								
1) Executive Engineer, LID-1, Latur								
4	Tawarja	0	0	0	0	0	0	Not inspected
5	Bhusni Barrage	0	0	34	0	0	0	Not inspected
2) Executive Engineer, LID-2, Latur								
6	Renapur	0	4	112	0	0	0	Not inspected
2) Executive Engineer, OID-1, Osmanabad								
7	Terna	0	0	0	0	0	0	Not inspected
8	Chandani	0	0	0	0	0	0	Not inspected
3) Executive Engineer, OID-2, Omerga								
9	Turori	0	0	0	0	0	0	Not inspected
.B) Chief Engineer, (WR), Aurangabad								
I) S.E, NIC, Nanded								
1) Executive Engineer, NID (South), Nanded								
10	Kudala	0	0	48	0	0	48	
11	Karadkhed	0	0	69	0	0	69	
12	Kundrala	0	0	44	0	0	43	
13	Pethvadaj	0	0	30	0	0	30	
14	Mahalingi	0	0	31	0	0	31	

Sr. No.	Region & Name of Dam	Dam Class - II						
		Deficiencies						
		2019-20			2020-21			Remarks
		Cat-1	Cat-2 (2A)&(2B)	Cat-3	Cat-1	Cat-2 (2A)&(2B)	Cat-3	
1	2	3	4	5	6	7	8	9
1) Executive Engineer, NID (North), Nanded								
15	Loni	0	0	22	0	0	21	
16	Nagzari	0	0	32	0	0	31	
17	Dongargaon	0	0	24	0	0	24	
	Private Dams							
18	Harsul	0	9	6	0	13	7	Private
19	Kham	0	42	38	0	12	36	Private
20	Ghanewadi	0	30	20	0	20	21	Private
	Total -	**0**	**149**	**682**	**0**	**119**	**549**	

LOWER DUDHNA PROJECT