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பூண்டி நீரியல் மற்றும் நீர்நிலையியல் ஆய்வுக் கழகத்தின் பவழ ஆண்டு (1944-2019).

பூண்டி நீரியல் ஆய்வுக்கு (1944-1972) முக்கியப் பங்களிப்பை வழங்கிய சில பொறியாளர்கள்.

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(நீரியல் மற்றும் நீர்நிலையியல் ஆய்வுக் கழகத்தின் தொகுப்பு கட்டுரை இவ்விதழில் பக்கம் 12 - 17 வரை கொடுக்கப்பட்டுள்ளது)

பொறியாளர் சங்கம் மற்றும் உதவிப் பொறியாளர் சங்கம்
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பதினோறாவது தலைமைச் சங்கச் செயற்குழு கூட்டம் 14.05.2019 அன்று நமது தலைமைச் சங்க அலுவலகத்தில் நடைபெற்றது.




தமிழ்நாடு பொறியாளர் கூட்டமைப்பின் கூட்டம் 03.05.2019 அன்று நமது தலைமைச் சங்க அலுவலகத்தில் நடைபெற்றது.


☞ உள்ளே...

தலையங்கம்

தகவல் தொடர்பு மற்றும் வலைதள பயன்பாடு:

தமிழக அரசின் பல்வேறு துறைகளில் நமது பொதுப்பணித்துறை முதன்மையானது மட்டுமன்றி 160 ஆண்டுகளுக்கும் மேலான பாரம்பரியமிக்க துறையாக விளங்குகிறது எனில் அது மிகையன்று.

அந்த வகையில் நாட்டின் உள்கட்டமைப்பு வளர்ச்சிக்கு முக்கியக் காரணமாக உள்ள நமது பொறியியல் துறை, கணினி யுகத்திற்கேற்றாற்போல் தம்மை நவீனப்படுத்திக் கொண்டுவருகிறது.

நமது துறையை நன்கு அறிந்தவர்கள், நாம் தொழில்நுட்ப ரீதியாக பல கணினி மென்பொருள்களைப் பயன்படுத்தி பணிபுரிந்து வருவது அறிந்த ஒன்று. அதே நேரத்தில் தகவல் தொடர்பு மற்றும் வலைதளப் பயன்பாட்டில் துறையின் செயல்பாட்டினை மேம்படுத்தும் விதமாக கீழ்க்கண்ட ஏற்பாடுகளும் செய்யப்பட வேண்டும்.

- நம் துறைக்கென உள்ள வலைதளத்தை மேன்மைப்படுத்துதல்.
- பிரிவு அலுவலகம் முதல் தலைமைப் பொறியாளர் அலுவலகம் வரை கணினி மயமாக்கப்பட்டு துறை வலைதளத்தினை பயன்படுத்துவதற்காக அனைத்து அலுவலகத்திற்கும் ஒரு பிரத்யேக பயனாளர் குறியீடு (separate user ID to login the website) வழங்க வேண்டும். இதனால் தேவையற்ற கடிதப் போக்குவரத்து மற்றும் காலதாமதம் தவிர்க்கப்படும். தனியர்களின் சொந்த E-mail முகவரிகள் பயன்படுத்தப்படுவதும் கூகுள் (Google) பொது வலைதளங்கள் பயன்படுத்தப்படுவதும் தவிர்க்கப்படும். துறையின் தகவல்களும் உரிய முறையில் பாதுகாக்கப்படும்.
- வலைதளத்தில் கணினி மயமாக்கப்பட்ட நூலகம் ஏற்படுத்தப்பட்டு துறைசார்ந்த அனைத்து நூல்களும் பதிவேற்றப்பட வேண்டும். உதாரணமாக தமிழ்நாடு கட்டட பயன்பாட்டு வழிமுறை, ஒப்பந்தப் புள்ளி கோருதல், பணி விதிகள் ஆகியவற்றை PDF வடிவில் e-நூலகம் அமைத்திடுதல்.
- பிரிவு அலுவலகம் முதல் தலைமைப் பொறியாளர் அலுவலகம் வரை அனைத்து அலுவலகங்களுக்கும் தகவல் பரிமாற்றத்திற்காக (வருவாய் துறை, Metro, BSNL போன்ற நிறுவனங்களில் உள்ளது போன்று) அரசே அலைபேசிகளை பொதுப்பணித்துறையிலும் அளித்து பொதுமக்களுக்கு வழங்கக்கூடிய சேவையினை எளிமைப்படுத்துதல்.
- மின்னணு உபகரணங்களுடன் கூடிய கதவணைகள் மூலம் அதாவது Dam Spillway Shutters இயக்கத்தினை எளிமைப்படுத்துதல்.
- துறையில் பொறியாளர்களுக்கான தகவல் திரட்டு (Data Base) உருவாக்குவதன் மூலம் தனியரின் பணி வரலாறு (History of Service) பாதுகாக்கப்பட்டு தேவைப்படும் தகவல்கள் எளிதில் பரிமாறிக்கொள்ள வசதி செய்தல். (அதற்கான முயற்சிகள் எடுக்கப்பட்டு வருவதாக அறிகிறோம்.)
- துறை மேம்பாட்டிற்காகவும், பொறியாளர்களின் நலனுக்காகவும், மக்கள் சேவையில் துறையின் பயன்பாடு பன்மடங்கு அதிகரிக்கவும் தகவல் தொடர்பு மற்றும் வலைதள பயன்பாட்டினை அதிகளவில் நடைமுறைப்படுத்த வேண்டும் என்பதே அனைவரின் எதிர்பார்ப்பு.

ஆசிரியர்

17.05.2019

பொதுச் செயலாளர் மடல்

பெருமதிப்பிற்குரியீர், பேரன்பிற்கினியீர், வணக்கம்.

✍ நம் சங்கத்தின் ஒருங்கிணைந்த மாநில மையச் செயற்குழுக் கூட்டம் வருகின்ற **25.05.2019 சனிக்கிழமை, சேலத்தில்** நடைபெற உள்ளது. இதற்கான சுற்றறிக்கை இவ்விதழில் வெளியிடப்பட்டுள்ளது. **ஒருங்கிணைந்த மாநில மையச் செயற்குழு கூட்டத்தில்** கிளைச் சங்கப் பொறுப்பாளர்கள் அனைவரும் தவறாது கலந்துக்கொண்டு ஆக்கப்பூர்வமான தங்களது கருத்துக்களைத் தெரிவிக்குமாறு கேட்டுக்கொள்கிறோம்.

✍ உதவிச் செயற் பொறியாளர் (சிவில்) பதவி உயர்வுப் பட்டியலுக்கான காலிப்பணியிட மதிப்பீடு அரசின் ஒப்புதலுக்காக அனுப்பப்பட்டு அரசின் பரிசீலனையில் உள்ளது. விரைவில் ஒப்புதல் பெற தொடர் நடவடிக்கை எடுக்கப்பட்டுவருகிறது.

மேலும், உதவிச் செயற் பொறியாளர் (சிவில்) காலிப்பணியிடங்களுக்கான பதவி உயர்வு பெயர்ப்பட்டியல் முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து. மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களால் தயாரிக்கப்பட்டு அரசுக்கு அனுப்பும் நிலையில் உள்ளதாக அறிகிறோம். காலிப்பணியிட மதிப்பீட்டிற்கு ஒப்புதல் பெறப்பட்ட உடன் பதவி உயர்வுப் பெயர்ப்பட்டியல் அரசுக்கு விதிகளைப் பின்பற்றி முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து. மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களால் அனுப்பப்பட்டுவிடும் என்றும் எதிர்பார்க்கிறோம்.

✍ 2019-20க்கான செயற் பொறியாளர் காலிப்பணியிட மதிப்பீடு முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து. மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களால் அரசுக்கு அனுப்பப்படவுள்ளது.

✍ பதவி உயர்வுப் பட்டியலில் இடம் பெறவுள்ள உதவிச் செயற் பொறியாளர்கள் மற்றும் செயற் பொறியாளர்கள் அனைவரும் தங்களுடைய கமுக்க அறிக்கையை 31.03.2019 முடிய எதுவும் விடுபடாமல் முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து. மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களின் அலுவலகத்தில் 29.05.2019-க்குள் சேர்க்கும்படி கேட்டுக்கொள்கிறோம்.

✍ கண்காணிப்புப் பொறியாளர் பெயர் பட்டியலில் மீதமுள்ள 11 பேர்களுக்கு தற்போது காலியாக உள்ள பணியிடங்களைக் கணக்கில் கொண்டு பதவி உயர்வு வழங்க முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களையும், அரசினையும் வலியுறுத்தி வருகிறோம். தேர்தல் விதிமுறைகள் நடைமுறையில் உள்ளதால் சற்று காலதாமதமாகிறது என்று தெரிவித்துக்கொள்கிறோம்.

2019-2020ஆம் ஆண்டு கண்காணிப்புப் பொறியாளர்களுக்கான காலிப்பணியிட மதிப்பீடு சுமார் 53 எண்ணிக்கைக்கு முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து. மற்றும்

தலைமைப் பொறியாளர் (பொது), பொபது அவர்களால் அரசுக்கு அனுப்பப்பட்டுள்ளது. அரசின் ஒப்புதல் பெற தொடர் நடவடிக்கை எடுக்கப்பட்டுவருகிறது என்பதை தெரிவித்துக்கொள்கிறோம்.

✍ பதவி உயர்வுப் பட்டியலில் இடம்பெறவுள்ள பொறியாளர்களுக்கு கமுக்க அறிக்கை மற்றும் சான்றிதழ் எழுதும் அலுவலர்களான **செயற் பொறியாளர், கண்காணிப்புப் பொறியாளர், தலைமைப் பொறியாளர்கள்** முன்னுரிமை அளித்து விரைவில் முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களுக்கு அனுப்பிவைக்கும்படி கேட்டுக்கொள்கிறோம்.

✍ தமிழ்நாடு தேர்வாணையத்தின் மூலம் சுமார் 200 (சிவில்) உதவிப் பொறியாளர்கள் மற்றும் 13 (மின்) உதவிப் பொறியாளர்கள் தெரிவு செய்யப்பட உள்ளார்கள். தேர்தல் நடத்தை விதிகள் முடிவுக்கு வந்தவுடன் (27.05.2019க்குப்பின்) அறிவிக்கை வெளியிடப்படும் என்று எதிர்ப்பார்க்கப்படுகிறது.

✍ உதவிச் செயற் பொறியாளர் (மின்) காலிப்பணியிட மதிப்பீடு 13 எண்ணிக்கைக்கானது ஒப்புதலுக்காக அரசு மட்டத்தில் உள்ளது. தேர்தல் நடத்தை விதிகள் முடிவுக்கு வந்தபின் ஒப்புதல் அளிக்கப்பட்டுவிடும் என்று எதிர்பார்க்கப்படுகிறது.

✍ மின் பொறியாளர் பதவி உயர்வுப் பட்டியலில் மீதமுள்ள இரண்டு பொறியாளர்களில், ஒருவருக்கு தற்போதுள்ள ஒரு காலியிடத்திற்கு தேர்தல் நடத்தை விதிகள் முடிவுக்கு வந்தவுடன் பதவி உயர்வு அளிக்கப்பட்டுவிடும் என்று எதிர்பார்க்கப்படுகிறது.

✍ ஒப்பளிக்கப்பட்ட கண்காணிப்புப் பொறியாளர் (மின்) பெயர்ப்பட்டியலில் மீதமுள்ள ஒருவருக்கு இம்மாத இறுதியில் முன்மொழிவு அனுப்பப்பட்டு பதவி உயர்வு வழங்கப்படும் என்று எதிர்பார்க்கப்படுகின்றது.

✍ 2019-2020-ஆம் ஆண்டுக்கான தலைமைப் பொறியாளர் காலிப்பணியிட மதிப்பீடு 17 எண்ணிக்கைக்கு ஒப்புதலளிக்கப்பட்டுள்ளது. தலைமைப் பொறியாளர் பதவி உயர்வு பெயர்ப்பட்டியல் முதன்மைத் தலைமைப் பொறியாளர், நீ,ஆ.து மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களால் தயாரிக்கப்பட்டு அரசின் ஒப்புதலுக்கு அனுப்பப்பட்டுள்ளது. பதவி உயர்வு பட்டியலுக்கு ஒப்புதலும், காலியாக உள்ள தலைமைப் பொறியாளர் பணியிடங்களை நிரப்புவதற்கும் உரிய நடவடிக்கை எடுத்திட முதன்மைத் தலைமைப் பொறியாளர், நீ.ஆ.து., மற்றும் தலைமைப் பொறியாளர் (பொது), பொபது அவர்களையும், அரசினையும் வலியுறுத்தி வருகிறோம். தேர்தல் விதிமுறைகள் நடைமுறையில் உள்ளதால் சற்று காலதாமதமாகிறது என்றும் தெரிவித்துக்கொள்கிறோம்.

✍ 14.05.2019 அன்று பதினோறாவது **தலைமைச் சங்கச் செயற்குழுக் கூட்டம்** நமது சங்க அலுவலகத்தில் நடைபெற்றது. தலைமைச் சங்கச் செயற்குழுக் கூட்ட நடவடிக்கைகள் இவ்விதழின் பிறிதொரு பக்கத்தில் வெளியிட்டுள்ளோம்.

✍ 03.05.2019 அன்று **தமிழ்நாடு பொறியாளர் கூட்டமைப்பின் கூட்டம்** நமது சங்க அலுவலகத்தில் நடைபெற்றது. கூட்டமைப்பின் நடவடிக்கைகள் இவ்விதழின் பிறிதொரு பக்கத்தில் வெளியிட்டுள்ளோம். இக் கூட்டத்தில் **23.06.2019** அன்று **இந்திய பொறியாளர் கூட்டமைப்பின்**, தென்னிந்திய மண்டலக் கூட்டத்தினை **சென்னையில்** சிறப்பாக நடத்துவது தொடர்பாக எடுக்க வேண்டிய நடவடிக்கைகள் குறித்து ஆலோசிக்கப்பட்டது.

✍ தற்போதைய தலைமைச் சங்கப் பொறுப்பாளர்களின் பதவிக் காலம் வரும் ஜூலை மாதத்துடன் முடிவடைகிறது. **புதிய பொறுப்பாளர்களைத்** தேர்ந்தெடுக்க தேர்தல் நடத்துவதற்கு தேர்தல் அலுவலர்கள் நியமிக்கப்படவுள்ளார்கள்.

✍ பொறியாளர் சங்கத்தின் தலைவர் **பொறி.ப.கிருஷ்ணமூர்த்தி** அவர்கள் 31.05.2019 அன்று பொதுப்பணித்துறையில் 32 வருடகால பணிக்குப் பிறகு வயது மூப்பின் காரணமாக ஓய்வுபெற உள்ளார். நமது சங்கத்தின் சார்பாக அவரின் பணியினைப் பாராட்டி **01.06.2019** அன்று பாராட்டுக் கூட்டம் சென்னையில் உள்ள **Institution of Engineers (INDIA)** கட்டடத்தில் நடத்த உள்ளோம். கிளைச் சங்கப் பொறுப்பாளர்கள் மற்றும் பொறியாளர் உறுப்பினர்கள் தவறாது கலந்துக்கொண்டு கூட்டத்தைச் சிறப்பிக்க அன்புடன் கேட்டுக்கொள்கிறோம்.

✍ இந்த ஆண்டு சந்தாத் தொகை இதுவரை செலுத்தாத உறுப்பினர்கள் இனியும் காலந்தாழ்த்தாமல் சந்தாத் தொகையினைச் செலுத்தி சங்கத்தில் உறுப்பினராகும்படி மீண்டும் கேட்டுக்கொள்கிறோம்.

✍ சென்னை, சேப்பாக்கம், C.N.K. சாலையில் உள்ள நமது பொறியாளர் இராமலிங்கம் இல்லம் புதுப்பிக்கப்பட்டுவருகிறது. **பொறியாளர் நண்பர்கள்** தாமாக முன்வந்து பங்களிப்பு செய்து வருகின்றனர். அவர்களுக்கு எங்கள் **நெஞ்சார்ந்த நன்றியினைத்** தெரிவித்துக்கொள்கிறோம். கிளைச் சங்கங்களும், உறுப்பினர்களும் தங்கள் பங்களிப்பைத் தவறாமல் அளிக்கும்படி அன்புடன் கேட்டுக்கொள்கிறோம். மேலும் பொறியாளர் உறுப்பினர்கள் தங்களால் இயன்ற அளவுக்கு தனிப்பட்ட முறையிலும் நன்கொடை வழங்குமாறும் கேட்டுக்கொள்கிறோம். பொறியாளர் இல்லம் விரைவில் பயன்பாட்டிற்கு வர அனைத்து நடவடிக்கைகளும் எடுக்கப்பட்டு வருகின்றது என்பதையும் தெரிவித்துக்கொள்கிறோம்.

✍ பொறியாளர் நலநிதி குறித்த வலைதளம் ஒன்று உருவாக்கப்பட்டு பயனாளிகள் (பொறியாளர் நலநிதி உறுப்பினர்கள்) பயன்பெறும் விதமாக 25.05.2019 அன்று சேலம் ஒருங்கிணைந்த மாநில மையச் செயற்குழு கூட்டத்தில் வெளியிடப்படவுள்ளது, என்பதனையும் மகிழ்ச்சியுடன் தெரிவித்துக்கொள்கிறோம்.

மிக்க அன்புடன்,

பொறிஞர். மு.தனசேகரன்
பொதுச் செயலாளர், உதவிப் பொறியாளர் சங்கம்

பொறிஞர்.க.அன்பு
பொதுச் செயலாளர், பொறியாளர் சங்கம்

சேலம் கிளை:

சேலம் கிளைச் சங்கக் கூட்டம் பொறியாளர் சங்கச் செயலாளர் **பொறி.R.பிரகாசம்**, செயற் பொறியாளர் கட்டடக் (க & ப) கோட்டம், மருத்துவப் பணிகள், சேலம் அவர்கள் தலைமையில் பொறியாளர் தம்பியண்ணன் இல்லத்தில் 15.05.2019 அன்று மாலை 6.00 மணியளவில் தொடங்கியது.

எதிர்வரும் **25.05.2019** அன்று **சேலத்தில்** நடைபெறவிருக்கும் **ஒருங்கிணைந்த மாநில மையச் செயற்குழுக் கூட்டத்தினை** சிறப்பான முறையில் நடத்துவது குறித்து ஆலோசனை மேற்கொள்ளப்பட்டது.

1. ஏற்கனவே இக்கிளைச் சங்கத் தலைவர் பொறுப்பிலிருந்த **பொறி.எஸ்.கண்ணன்**, கண்காணிப்புப் பொறியாளர் அவர்கள் ஓய்வுப் பெற்றததை தொடர்ந்து **பொறி.கு.ராமமூர்த்தி**, கண்காணிப்புப் பொறியாளர் பொபது, கட்டட (க & ப) வட்டம், சேலம் அவர்கள் கிளைச் சங்கத் தலைவராக பொறுப்பேற்க கேட்டுக்கொள்ளப்பட்டது.
2. ஒருங்கிணைந்த மாநில மையச் செயற்குழுக் கூட்டத்தின் முன்னேற்பாடுகளை கவனிக்கும் பொருட்டு உதவிச் செயற் பொறியாளர்கள் மற்றும் உதவிப் பொறியாளர்கள் அடங்கிய குழுக்கள் நியமிக்கப்பட்டு தீர்மானம் நிறைவேற்றப்பட்டது.
3. பொறியாளர் தம்பியண்ணன் இல்லத்தில் நடைபெற்று வரும் பராமரிப்பு மற்றும் குளிர்சாதனங்கள் பொருத்தும் பணிகளை விரைவுபடுத்தி முடிக்கவும் தீர்மானம் நிறைவேற்றப்பட்டது.
4. இறுதியாக **பொறி.M.அழகேசன்**, உதவிப் பொறியாளர் சங்கச் செயலாளர் அவர்களின் நன்றியுரை உடன் கிளைச் சங்கக் கூட்டம் இனிதே நிறைவடைந்தது.

பொறி.M.அழகேசன்,
செயலர், உதவிப் பொறியாளர் சங்கம்

பொறி.R.பிரகாசம்,
செயலர், பொறியாளர் சங்கம்

Promotion and Postings of Executive Engineer (Civil) as Superintending Engineer (Civil) vide G.O. (D) No.12, Public Works (A2) Department dated : 11.01.2019

S.No.	Name of the Engineer	Promotion and Postings
1	**Er.K.Ramamoorthy**	Superintending Engineer, PWD, Buildings (C&M) Circle, Salem

Our Hearty Congratulations to Er.K.Ramamoorthy - Editor

Proceedings of the 11th Parent Executive Committee Meeting of AOE and AEA, TNPWD held on 14.05.2019 in the premises of Association of Engineers & Assistant Engineers' Association, Chepauk, Chennai-5.

Er.P.Krishnamoorthy, President, AOE presided over the meeting and conducted the proceedings. At the outset, the President, AOE welcomed the gathering and requested the General Secretary, AOE, **Er.K.Anbu** to brief the subjects proposed for discussion.

Er.K.Anbu, General Secretary, AOE has briefed the subjects in order.

1) VIIth Pay Commission – Discussion on bringing the pay case immediately after the vacation in the first week of June 2019.
2) Promotion & Court Cases in respect of 2007 batch Assistant Engineers.
3) Promotion panel of Executive Engineer, Superintending Engineer and Chief Engineer.
4) Discussion on forth coming CEC meeting.
5) Participation & contribution via TNEF in INDEF (Southern Region) meeting.
6) Farewell function to Er.P.Krishnamoorthy, President, AOE and Er.K.Anbu, General Secretary, AOE.
7) PRI – Renovation work and collection of fund.
8) Any other Subjects.

The following members participated in the discussion.

Er.K.Murugan, Vice President, AOE
Er.B.Arun, Internal Auditor, AOE
Er.C.Balamurugan, Joint Secry. Publication, AOE
Er.K.Prabakar, Joint Secretary, Legal Affairs, AOE
Er.M.Vasudevan, EC Member, AOE
Er.P.Rajendra Prasad, EC Member, AOE
Er.S.Gopalakrishnan, Treasurer, ENGIBEF, AOE
Er.S.Ramesh Chandran, Internal Auditor, AOE & AEA
Er.J.Venkatachalam, EC Member, AEA
Er.D.Rajeshwar Babu, Treasurer, AOE & AEA
Er.M.Prabakaran, Secretary, OA, AEA
Er.M.Manimaran, Secretary, Legal Affairs, AEA
Er.A.Abdul Khudus, Secretary, Publication, AEA
Er.L.Gayathri, Secretary, PA, AEA

Discussions:

The General Secretary, AOE briefed the status of Pay cases at Hon'ble Supreme Court and High Court of Madras. The appeal filed by Government against the Judgment in WP 29097/2017 which quashed the G.O.Ms.No.328 is expected for hearing after court vacation. All possible efforts are being taken to bring the case after vacation in consultation with the advocate.

Er.M.Dhanasekaran, General Secretary, AEA explained the status of various Court cases related to Assistant Executive Engineer promotion (G.O.Ms.No.155) appointment of Assistant Engineers by transfer (G.O.Ms.No.1), that were taken for hearing under respective Judges between April 2017 to August 2018. He has also assured to take necessary efforts to finalise the cases successfully and find way for early promotion panels.

General Secretary, AEA further detailed about action being taken to get approval for Assistant Executive Engineer estimate of vacancy. He has also briefed about the process of pending CR collections and requested the concerned members to expedite the process.

General Secretary, AOE conveyed that estimate of vacancy for Superintending Engineer has been prepared and sent to Government. The General Secretary has also intimated that about Executive Engineer and Superintending Engineer panels are being processed for sending the same to Government approval.

General Secretary, AOE has also briefed about renovation activities of Poriyaalar Ramalingam Illam such as remodeling of staircase, flooring, bathroom renovations, Electrification, AC fixing, painting, etc. He has assured that newly furnished rooms will be opened to our members in the 3rd week of May 2019.

General Secretary, AOE has discussed about the INDEF (Southern Region) meet to be held on 23.06.2019. All the constituent units of TNEF have been assigned with various tasks like boarding, lodging, hall arrangements etc. to conduct the meeting in a grand manner. It is accepted to undertake catering arrangements for the participants on behalf of TNPWD.

During discussion, Er.K.Murugan, Vice President, AOE has proposed to organise a function to honour our President, AOE Er.P.Krishnamoorthy and General Secretary, AOE Er.K.Anbu, on the eve of their superannuation on 31.05.2019 and 30.06.2019 respectively. All the PEC members have unanimously seconded the proposals appreciating their services.

Er.P.Krishnamoorthy, President, AOE has recalled his collective course of services rendered to our Association, during his 32 years of service.

After the detailed discussion, the following resolutions were passed:

1. Resolved to request Engineer-in-Chief, WRD & Chief Engineer (General), PWD that the Assistant Executive Engineer and Executive Engineer panel may be prepared with subject to the out come of Court case, WP 3617/2017.
2. Resolved to bring the case WP 3617/2017 at the earliest in Hon'ble High Court after court vacation.
3. Resolved to participate and conduct INDEF (Southern Region) meet on behalf of TNEF to be held on 23.06.2019.
4. Resolved to contribute Rs.1 lakh to INDEF for INDEF (Southern Region) meet to be held on 23.06.2019
5. Resolved to organise a function to honour the services of Er.P.Krishnamoorthy, President, AOE and Er.K.Anbu, General Secretary, AOE to our Association on 01.06.2019 and 30.06.2019 respectively.
6. It is resolved to allocate an amount of Rs.2.50 lakhs for organizing the function for the valedictory function of our President, AOE & General Secretary, AOE.
7. It is resolved to fix the tariff for our renovated Poriyaalar Ramalingam Illam in the following basis.

Member & Retired Engineers	**Rs.500/- per bed (A/C)**
Non Member	**Rs.600/- per bed (A/C)**
Monthly rent (Members only)	**Rs.6000/- per bed (for 3 months only) (A/C)**
Dormitory (Members)	**Rs.250/- per bed (Non A/C) 2nd Floor**
Dormitory (Non-Members)	**Rs.350/- per bed (Non A/C) 2nd Floor**

Er.R.Jeyakumar, President, AEA proposed vote of thanks and the meeting came to an end by 8.00 PM.

Er.M.Dhanasekaran
General Secretary,AEA

Er.K.Anbu
General Secretary,AOE

Proceedings of the TNEF Council Meeting conducted at Chennai on 03.05.2019.

The Federal Council meeting of TNEF was conducted on 03.05.2019 by 6.00 P.M. in the premises of Association of Engineers & Assistant Engineers' Association, TNPWD, Chepauk, Chennai – 600 005.

INDEF Chairman Er.C.Debnath, was insisting upon fixing the Date of INDEF (Southern Region) meeting for holding in Chennai and therefore TNEF meeting conducted in AOE & AEA office building at Chepauk, Chennai-5.

Er.S.Ananth, President, TNEF has presided the meeting. Engineers from all the constituent units attended the meeting.

Er.S.Ananth, President, TNEF welcomed the gathering. Er.K.Anbu, General Secretary, TNEF detailed about and recent developments and further actions to be taken on the subjects in the following agenda.

1. Discussion on 7th Pay Case pending in Hon'ble High Court of Madras & Hon'ble Supreme Court.
2. Appointment of senior Advocates for pay case in Supreme Court.
3. Review of Finances of the TNEF and strengthening the Finance Position of the Federation.
4. Conducting Southern Regional Council Meeting of INDEF at Chennai on 23rd June 2019.
5. Rural Development Graduate Engineers' issues.
6. Any other issues.

The following Engineers took part in the discussion:

Er.C.Balamurugan, TNPWD
Er.K.Karunanithi, TNPWD
Er.B.Dhanaseelan, HWD
Er.K.Punithavel, TNPWD
Er.M.Manimaran, TNPWD
Er.R.Jeyakumar, TNPWD
Er.K.Apparsamy, TNEB
Er.M.Prabakaran, TNPWD
Er.E.Thenmozhi, HWD
Er.A.Abdul Khudus, TNPWD
Er.R.Dhanasekar, GCC
Er.K.Jayanthy, GCC
Er.S.Selvam, RD

After detailed discussion, the following resolutions were passed

1. It is resolved to request the Highways Department and Agriculture Department to file the Pay case in Hon'ble High Court of Madras "Vacate Stay" on 3rd June 2019 to bring the case immediately for hearing.
2. It is resolved to support the move of Association of Tamil Nadu Highways Engineers for filing IA in Hon'ble Supreme Court on pay cases to bring the case in Hon'ble Supreme Court earlier.
3. It is resolved to appoint senior counsels with reputations after consulting the respective associations' advocates.
4. It is resolved to opening an account in the name of INDEF (Southern Region) earlier.
5. It is resolved to conduct INDEF (Southern Region) meet at Chennai on 23.06.2019 and to assign various works like boarding, lodging, Catering, Providing gift to the guests and booking rooms, Hall etc. arrangements to all the constituent units of TNEF.
6. It is resolved to collect minimum amount from constituent units for conducting INDEF (Southern Region) meeting on 23.06.2019 at Chennai.
7. It is resolved to conduct an another TNEF meeting for reviewing the progress of works proposal in respect of INDEF (Southern Region) meeting in the month end of May 2019

Er.R.Dhanasekar, GCC, proposed vote of thanks and the meeting came to an end by 8.15 P.M.

Er.K.Anbu,
General Secretary, TNEF

Recollecting the glorious achievements of Institute of Hydraulics & Hydrology, Poondi in this Platinum Jubilee year 1944 – 2019.

The Institute of Hydraulics and Hydrology, Poondi has completed 75 years of its existence. It had played a vital role in the successful implementation of major irrigation projects and suggested valuable remedial measures on problems faced on hydraulic and coastal related matters. On the occasion of its Platinum Jubilee year, it takes pride in recollecting its past glorious achievements from the date of its inception to this date.

Origin:

During British era before the establishment of a separate Research Station for the Madras Presidency, theoretical studies combined with **on the spot observations**, were undertaken with limited scope of determining co-efficient for water discharge, its velocity using current meters etc. But this scattered research activities lacked continuity for want of sufficient water at all times at site resulting in delayed remedial measures. Therefore, the need for establishing a separate Research station for making practical studies with the aid of hydraulic scale model, was felt. This resulted in establishing Irrigation Research Station (IRS) for the Madras Presidency at Poondi as ordered by the Madras Government in G.O.No.440, PWD, dt.14.02.1944.

Location:


ER. T. P. KUTTIAMMU

Even though the orders were issued on 14.02.1944, the Irrigation Research Station came into existence only during mid 1945 after making a detailed study of the various Research Stations in other parts of India as to their functionality and availability of resources to carry out experiments with hydraulic scale models. **Er.T.P.Kuttiammu**, the first Executive Engineer to the newly sanctioned Irrigation Research Station, had been entrusted with the task of above preliminary studies in this regard. In order to ensure continued water supply throughout the year for conducting experiments without interruption, the proposed Irrigation Research Station was ideally located at the down stream adjacent to Poondi Reservoir known as "Sathyamurthy Sagar" named after Sathiyamurthy a well known freedom fighter. The Reservoir built across Kosasthalayar River is in proximity to Madras (now Chennai) at a distance of about 60 kms from PWD Headquarters. The main laboratory was constructed at the Right Flank with static tanks of 2300 m^3 capacity each for ensuring continued water supply even when the water level in the Reservoir fall below the sill of the supply sluices.


ER. J. VISWESWARA RAO

Initial period of formation:

After constructing basic requirements of laboratory buildings, Static tanks and a few outdoor flumes, the Irrigation Research Station came into existence during July 1945 under the leadership of **Er.T.P.Kuttiammu**, Executive Engineer and **Er.J.Visweswara Rao** for joining as its first Assistant Research Officer.

Initially, their studies were confined to experiments in soil mechanics and hydraulics and applied mechanics on the designs of dams, tank weirs and spillways. Gradually, model studies were started on various aspects of spillway design in connection with Tungahbadra dam which was under the jurisdiction of the erstwhile Madras Presidency during British rule. On 20.06.1946, the tests and studies on soil mechanics along with physics, was delinked from this station

and shifted to Madras to function under a separate officer. Hence, the research activity was confined to hydraulic scale physical models exclusively.

Early Infrastructure facilities:

The Irrigation Research Station was established on both side of Kosasthalayar river with an area of 42,000 m^2 on the Right flank and 98,000 m^2 on the Left flank. Most of the infrastructures including Administrative Blocks are located on the Right flank for easy and quick approach requiring frequent usages.

Functions of erstwhile Madras Presidency:

ER. J. I. COILPILLAI

Before the re-organisation of the States during 1952-1953, this Research Station catered to the needs of the entire Madras Presidency which included the erstwhile state of Andhra Pradesh. **Er.T.P.Kuttiammu** continued to be its Executive Engineer except for about three years during which **Er.J.I.Coilpillai** discharged his duties as its Executive Engineer.

More Infrastructure facilities added:

On expansion of research activities more infrastructure facilities were created as detailed below:

a) Two M.B sheds
b) A small workshop with machine shops and smithy.
c) Glass – sided hydraulic flumes
d) Residential quarters for engineers and other staff members
e) New building for Administrative Officers and stores.
f) On the Left flank, a new sluice was constructed through Left Flank Bund for supply of large quantity of water for bigger model tests.
g) A seepage flume with piezometer arrangements were brought into use.
h) Photographic Sections was set up and existing lab was strengthened with more electronic equipments.

Experiments under Madras Presidency:

The first model study at Poondi was successfully conducted for the design of a siphon spillway for the Peddadararapalle Tank. Models of various types of canal drops utilizing the principle of counteracting jets for dissipation of energy were also tested. Hydraulic and Electrical Analogy models were used for studying several cases of sub soil percolation, uplift etc.

More such experimental studies were undertaken subsequently as follows:

a) Scale model of Godavari River @ Polavaram was constructed to check and improve the alignments proposed for the cofferdams for Ramapadasagar Project.
b) Stability of Krishna and Dowlaishwaram anaicuts studied for various possible flow conditions.
c) A number of model studies were conducted in connection with Kistna – Pennar, Lower Bhavani, Tungabhadra and Malampuzha Project.

Some other basic studies were undertaken for designing over flow spillways, siphon, flumes of Canals, aqueducts, infiltration gallaries etc. Solutions were recommended for number of maintenance problems referred to the station.

Participation in International Exhibition:

The Research station participated in the Indian International Engineering Exhibition opened on 11.01.1951 at New Delhi with an one of the important exhibits of a model of Mettur Dam.

Formation of Madras State:

On 01.10.1953, the State of Andhra Pradesh was carved out from Madras Presidency paving the way for the existence of a separate Madras State (now Tamil Nadu) enabling the Irrigation Research Station to concentrate more on the Irrigation Projects of this State. Consequently, Er.J.Visweswara Rao was allotted newly formed Andhra Pradesh State.

Progress after formation of Madras State:

After the formation of new Madras State the Research Station witnessed further expansions in its experimental activities by acquiring more infrastructure facilities on the left flank which is suitable for conducting large hydraulic models for testing.

a) A pump house for pumping water to the models
b) A glass flume of size 0.60m width and 12m long with overhead tank and circulating pump constructed.
c) A work shed for carpenters and shed for storing cement required for constructing models.
d) Inspection Bungalow with two A/c units and annexures were constructed and maintained by the Institute for the benefit of the visiting officials, VIPs and VVIPs.

Major studies in the Madras State:

Some of the important studies with physical models undertaken while marching towards its Silver Jubilee year are as follows.

a) A model for Periyar hydro-electric scheme for improving the Irrigation tunnel for the purpose of power generation.
b) Model-Prototype conformity studies conducted for Lower Bhavani and Amaravathi Projects.
c) Studies on discharge characteristics of spillways of Amaravathy and Vaigai Projects
d) Solutions derived for avoiding caution in Mettur Dam river sluices and for protecting left abutment of Vilangudi bridge.
e) Several important problems encountered while implementing Parambikulam Aliyar Project were solved with the help of hydraulic models.
f) Studies on the design of Breakwater for Tuticorin Harbour Project completed.
g) Design for coolent inlet channel for Ennore Thermal Scheme provided.
h) Discharge characteristics of lower Coloroon Anaicut studied in scale model.

CSIR financed studies:

On observing the successful research studies done by the station, the CSIR started financing certain specific studies on high headed gates etc.

Silver Jubilee Celebration:

The Silver Jubilee of IRS due during 1970, was celebrated on 22.06.1972 under the able leadership of Er.P.Kumarasamy, Executive Engineer with several successful achievements to its credit. The very fact that several **congratulatory messages poured in from several VVIPs** for the souvenir released on the occasion confirms its popularity at National as well as International level. The chief among the VVIPs are Dr.K.L.Rao, the then Union Minister for Irrigation and Power Dr.Y.Nayudamma, Secretary and Director General CSIR, and Dr.M.S.Swaminatuan, the then Secretary and Director General of I.C.A.R. besides Vice-President of India, Chief Minister and State Ministers.

As a part of the celebration, the Viswesvaraya Memorial Endowment lecture was organized. Dr.K.L.Rao inaugurated the lectures and graced the occasion.

Role played by Er.P.Kumarasamy, Executive Engineer for the Silver Jubilee Celebration:


ER. P. KUMARASWAMY

The activities of Irrigation Research Station gained momentum on joining of Er.P.Kumarasamy as its head on 15.07.1970. The Continuous Resistance Electronic Analog Computer developed by him, was of great use for utilization in simulating aquifers. For this achievement, he was awarded the Homi Bhabha Fellowship etc. It was he who sent proposals to Government for upgrading the Station as Institute.

Institute of Hydraulics and Hydrology on upgradation:

The Irrigation Research Station (IRS) was upgraded as Institute of Hydraulics and Hydrology (IHH) as per G.O.Ms.No.781, PWD, dt.10.05.1973. **Er.P.Kumarasamy**, Executive Engineer became its first Director. This paved the way for expansion of research activities with sanction of more manpower and allocation of funds for acquiring some more infrastructures.

Several research projects were sponsored by Central Board of Irrigation and Power and Indian Council of Agricultural Research.

Director post elevated in the cadre of Superintending Engineer:

Considering the importance acquired by the Institute, the post of Director was upgraded in the cadre of Superintending Engineer. Er.P.Kumarasamy on promotion continued as its Director in the cadre of Superintending Engineer with effect from 07.10.1975. Except for a brief spell of about one year between 15.10.1975 and 30.10.1976, during which period he was deputed to BHEL, Trichy and Tuticorin Habour Project, he continued as its Director till his voluntary retirement from Government service on 14.02.1980. He had installed a VHF network in the Institute for collecting important data such as rainfall details, flow details, weather conditions required for Thanjavur Delta studies which was very useful in those days in the absence of the latest modern communication technology subsequently invented.

Director in the cadre of Chief Engineer, PWD:

The role played by the Institute assured greater importance with successful implementation of several irrigation projects in the state based on its studies, therefore its activities expanded necessitating elevation of the post of the Director in the cadre of Chief Engineer, PWD as per G.O.Ms.No.947, PWD, dt.23.06.1981. Some of the subsequent research studies on applied problems are as follows.

a) Flood protection works in Adyar River
b) Studies for suggesting suitable drainage system to Neyveli second lignite mine.
c) Remedial measures against pronounced sea erosion in north of Madras Harbour along Royapuram Coast.
d) Energy dissipation studies for

i) Sothuparai Reservoir Project
ii) Kodaikanal Water Supply Project
iii) Panchava Dam Project (Rajasthan)

e) Evolving optimum design for the proposed Duck bill weir in left bank canal of Sathanur Reservoir Project.
f) Prototype studies of the designs of Automatic falling shutters for Madurantakam High Level Canal.

Sponsored Studies:

Among various studies taken up under Central Board of Irrigation and Power, the Flood moderation and flood control studies of Adyar river was one among them.

Scale model of Madras Basin:

The scale models of Madras Basin and Bhavani catchment have been made to study rainfall run off relationship and the time of concentration of floods.

Coastal erosion studies:

a) Beach erosion problems were studied in Coastal models in trays equipped to generate waves and tides and solutions for shore protection through groynes, sea walls and off shore break water devised.

b) Suitable breakwater have been evolved wherever the problems of sea erosions occurred especially at Royapuram, Chinnamuttam Fishing Harbour etc.

Central Scheme Division:

Research studies were undertaken with Central Scheme finance by forming a separate Division sanctioned in G.O.Ms.No.1080, PWD, dt.31.05.1982 to function under the control of this Institute. This Division mainly concentrated on well irrigation, irrigated agricultural improvement research in Cauvery Delta, flood control studies, coastal studies etc. On stoppage of Central assistance, this Division was wound up on 28.02.2009.

Coastal Process Sub Division:

However, one Sub Division exclusively studying shore line changes in Coastal areas from Chennai to Kanyakumari consisting of Coastal length of 906.9 kms. has been continuing under the control of Hydrology Division of this Institute. The result of such studies are presented annually in the form of a report which is also helpful in finding suitable solution in sea erosion, fishing harbor problem etc.

Sedimentation studies in Reservoir Flanks:

Another important activity of this Institute is, on the spot practical studies of major reservoir as to how their dead storage capacity are lost by way of silt formation over a period of time. Such sedimentation studies are undertaken by the Water Shed Management Board Division, head quartered at Pollachi with five Sub Divisions located at Ooty, Mettur, Madurai, Tirunelveli and Pollachi as per the sanction accorded in G.O.Ms.No.857, PWD, dt.26.05.1973 to function under this Institute. During the initial period of 25 years, sedimentation studies were conducted in 29 reservoirs and the results were shared with the concerned officers of the department under whose custody the reservoir is maintained and operated for follow up action. Based on these studies, desilting in some of the major reservoir, are being undertaken by the concerned Regional Officials.

The sedimentation studies are continuous in nature and more such studies being undertaken by this Division.

Numerical Model studies / Bathymetric system:

Coastal Engineering problems are also studied by means of Software MIKE 21 and LITPACK meant to cross check the data obtained from the physical model studies so as to arrive an unambiguous and accurate result. The integrated Bathymetric system obtained from Ministry of Water Resources, Government of India, is also used for such studies.

Under-utilisation of the Institutes Resources:

The resources acquired and developed were utilized to its full capacity for more than 40 years with nearly one thousand experiments to its credit and the Irrigation / Hydroelectric / Fishing Harbour sectors got benefitted the most. It was then considered

as mandatory to refer any projects to this Institute for studies using physical scale models before embarking on a new Irrigation projects with intention to ensure hassle free execution and to derive maximum benefits as originally envisaged. This procedure was gradually by-passed subsequently which resulted in under-utilization of the resources. Consequently, the post of the Director was downgraded to that of Superintending Engineer as per G.O.Ms.No.684, PWD, dt.18.08.1995.

The Inspection Bungalow also suffers from proper maintenance due to reduction of funds allotment.

Importance of physical model studies:

Even with the advancement of technology on development of software to study the various aspects of hydraulic tests, the physical model studies retains its importance as it is the only and unambiguous and accurate final test result reflecting the actual site condition in a miniature scale model as existing in natural surroundings which could be tested for varying degree of hydraulic conditions so as to rule out any possible adverse and undesired impacts. Such tests on all aspects especially in a state of turbulence is not possible with accuracy by means of software.

Unfortunately, the importance of physical model test does not seem to have been realized by the some of the stake holders either for implementing new irrigation projects or to rectify defects in the existing structures.

Solutions for present day problems:

a) The Madras Basin physical model comprising of Adyar, Cooum and Araniar Basin available on the Left flank, could be utilized with proper modifications for studying the impact of flash floods such as the one which caused unprecended Floods in Chennai during 2015, so as to suggest remedial measures to prevent heavy damages under such a situation in future.
b) Similarly, the models available for conducting studies on coastal erosion, especially for the benefit of Fishing Communities, could be utilized for remedial measures.

Commemoration of Platinum Jubilee:

This Institute surpassed Golden Jubilee during 1994, and Diamond Jubilee during 2004 without any significance due to its dwindling activities on account of under-utilisations by then stake holders leaving those assets unused. The man power also got reduced on the individuals retirement as the need for filling up the posts did not arise for want of sufficient model studies.

Now the Institute has entered the 75th year of its existence with glorious records of its achievements in the past. It is therefore, right time that serious thought is given to regenerate this Institute and utilize its resources in full for the benefit of the State which will be a fitting event in commemoration of the Platinum Jubilee year.

Thiru.P.Gajendran
Mechanic

Significant Contributors other than Engineers to Hydraulic Research at Poondi.

Thiru.D.Seetharaman
Photographer

Compiled by: Er.K.Anbu, Superintending Engineer / Director, IHH, Poondi.
Special thanks to the **individuals** who have supported for this compilation.

TECHNICAL EDUCATION CIRCLE (TEC) SPORTS MEET 2019

It is proud to share that in Technical Education Circle, we have conducted our first annual sports meet on 12th & 13th April of 2019 at TamilNadu Physical Education and Sports University at Melakottaiyur.

22 indoor events and 14 athletic events were conducted in two days. The events were categorized separately for Men and Women as well for seniors (age above 45) and juniors (age below 45). List of games were scheduled to play as below.

INDOOR GAMES	ATHLETIC EVENTS
Chess	100 m Race
Carrom (Singles & Doubles)	200 m Race
Badminton (Singles & Doubles)	Shot put
Table Tennis (Singles & Doubles)	Discus Throw
Tennikoit	Javelin Throw

Totally 9 teams took part in the tournament viz., 1) Tech. Edu. Circle (CE Office), 2) TE Division, Chennai, 3) TE Division Vellore, 4) TE Division, Coimbatore, 5) TE Division, Thanjavur, 6) TE Division, Trichy, 7) TE Division, Madurai, 8) TE Division, Tirunelveli, & 9) Construction Wing (DoTE).

Around 180 staff members from Technical and Non-Technical side have actively participated in all events which include 30 women participants. All winners and runners were awarded with individual trophies and overall championship were also awarded for the best performed team for 1st, 2nd and 3rd positions. Technical Education Circle bagged the 1st position, 2nd position by Chennai Division and the 3rd position by Tirunelveli Division.

Regardless of age and position all ministerial staff and Technical staff members mingled together and played with a team spirit. It was like a get together of all Divisions and we had a wonderful experience on these two days with gush and postivie spirit. It happened only because of our Chief Engineer, Thiru.C.Duraisamy who has been consistently motivating us to conduct this event from the beginning. We thank him for his continues encouragement.

We are very grateful to the Vice-Chancellor of TNPESU who encouraged us in all the way and rendered all facilities to conduct this event at their premises. This event would not be the grand success without the excellent workmanship of Chennai Division. Finally, the Executive Engineer, Technical Education Division, Thanjavur came forward voluntarily and promised for conducting 2nd TEC Sports Meet at Thanjavur next year.

We put forward a request to Engineer-in-Chief, WRD & Chief Engineer (General), PWD to conduct such events in PWD every year and encourage all staff members to participate in the sports events for making them fit by physically and mentally.

- **Er.L.Gayathri**, Assistant Engineer, DoTE

Few of the photos taken during the sports meet 2019

RETIREMENT ON 30.04.2019

1	**பொறி C.துரைசாமி**	தலைமைப் பொறியாளர்
2	**பொறி M.மணி**	சிறப்பு தலைமைப் பொறியாளர்
3.	**பொறி R.ரவி (என்கிற) சங்கரன்**	சிறப்பு தலைமைப் பொறியாளர்
4.	**பொறி M.சிவசாமி**	கண்காணிப்புப் பொறியாளர்
5.	**பொறி P.சுந்தரராமன்**	கண்காணிப்புப் பொறியாளர் / இயக்குநர்
6.	**பொறி J.G.உஷா**	கண்காணிப்புப் பொறியாளர் / இணை இயக்குநர்
7.	**பொறி S.கண்ணன்**	கண்காணிப்புப் பொறியாளர்
8.	**பொறி P.சித்தார்த்தன்**	மின் பொறியாளர்
9.	**பொறி R.சம்பத்**	செயற்பொறியாளர்
10.	**பொறி P.கிருஷ்ணமூர்த்தி**	செயற்பொறியாளர்
11.	**பொறி S.அசோகன்**	உதவிச் செயற்பொறியாளர்
12.	**பொறி M.ராஜகோபால்**	உதவிச் செயற்பொறியாளர்
13.	**பொறி T.சங்கரன்**	உதவிச் செயற்பொறியாளர்

அரசாணை (வாலாயம்) எண்.189, பொதுப்பணித்(எப்1)துறை, நாள் : 30.04.2019

We wish them a happy, peaceful & active retired life - Editor

இரங்கல்

திரு.S.ஜோசப் ராசையா, உதவிப் பொறியாளர், பொபது, கடலரிப்புத் தடுப்பு உபகோட்டம், குழித்துறை, அவர்கள் 20.04.2019 அன்று கன்னியாகுமரியில் காலமானார் என்பதை மிகுந்த வருத்தத்துடன் தெரிவித்துக்கொள்கிறோம். அன்னாரை இழந்து வருந்தும் அவர்தம் குடும்பத்தாருக்கு நம்முடைய ஆழ்ந்த இரங்கலைத் தெரிவித்துக்கொள்கிறோம்.

திருமதி.PNS.லட்சுமிகாந்தம், வயது 74 (**பொறி.PNS.மகேஷ்பாபு,** உதவிச் செயற் பொறியாளர், பொபது, எல்காட் (அயற்பணி), சென்னை, அவர்களின் தாயார் 22.04.2019 அன்று மதுரையில் காலமானார் என்பதை மிகுந்த வருத்தத்துடன் தெரிவித்துக்கொள்கிறோம். தனது தாயாரை இழந்து வருந்தும் **பொறி.PNS.மகேஷ்பாபு** அவர்களுக்கும் அவர்தம் குடும்பத்தாருக்கும் நம்முடைய ஆழ்ந்த இரங்கலைத் தெரிவித்துக்கொள்கிறோம்.

திருமதி.ரா.அச்சம்மாள், வயது 75 (**பொறி.R.சொர்ணகுமார்,** செயற் பொறியாளர், பொபது, தாமிரபரணி வடிநிலக் கோட்டம், திருநெல்வேலி, அவர்களின் அன்புத் தாயார் அவர்கள் 15.05.2019 அன்று திண்டுக்கல் மாவட்டம், T.பண்ணைப்பட்டியில் காலமானார் என்பதை மிகுந்த வருத்தத்துடன் தெரிவித்துக்கொள்கிறோம். தனது தாயாரை இழந்து வருந்தும் **பொறி.R.சொர்ணகுமார்** அவர்களுக்கும் அவர்தம் குடும்பத்தாருக்கும் நம்முடைய ஆழ்ந்த இரங்கலைத் தெரிவித்துக்கொள்கிறோம்.

– **ஆசிரியர்**

சங்கத்தின் கோரிக்கைக் கடிதங்கள்

பரம்பிக்குளம் - ஆழியாறு திட்டம் குண்டடம் பாசனப் பிரிவு உதவிப் பொறியாளர் பொறி.D.பாலசுப்ரமணியன் அவர்களுக்கு கொலை மிரட்டல் விடுவிக்கப்பட்டு, அலுவலகம் தாக்கப்பட்டது. தண்ணீர் திருட்டு - பாதுகாப்பற்ற பணிசூழல் - நடவடிக்கை எடுக்க வேண்டுதல் - தொடர்பாக - அரசு முதன்மைச் செயலாளர், தமிழ்நாடு அரசு பொதுப்பணித்துறை, புனித ஜார்ஜ் கோட்டை, தலைமைச் செயலகம், சென்னை - 600 009 அவர்களுக்கு எழுதிய கடித எண்.**கடித எண்.002/பொ.செ-த.நா.பொ.ச/113-2019 தேதி : 24.04.2019**

ஐயா,

பார்வை :
1. 13.04.2019-ஆம் நாளிட்ட பொறியாளர் மற்றும் உதவிப் பொறியாளர் சங்கம் பொள்ளாச்சிக் கிளையின் - தீர்மான நகல்.
2. பத்திரிக்கைச் செய்திகள்

பரம்பிக்குளம் ஆழியாறு திட்டம், குண்டடம் பாசனப் பிரிவின் **பொறி.D.பாலசுப்ரமணியன்** அவர்கள் பணிபுரிந்து வருகிறார். குண்டடம் பிரிவுக்கு உட்பட்ட வாய்க்கால் தண்ணீர் ஆய்வின் போது, முறைகேடாக குழாய்களை பதியவைத்து தண்ணீர் திருட்டில் ஈடுபட்டவர்களின் குழாய்களை அகற்ற நடவடிக்கை மேற்கொண்டுள்ளார். இதனால் திரு.D.கோகுலகிருஷ்ணன் மற்றும் ருத்ராவதி கிராமத்தைச் சேர்ந்த சுமார் 30 பேர்கள் 11.04.2019 அன்று உதவிப் பொறியாளர் அலுவலகத்திற்குச் சென்று அவரைத் தகாத வார்த்தைகளால் திட்டியதுடன் கொலை மிரட்டலும் விடுத்துள்ளனர்.

இதனால் அவர்களின் மீது 11.04.2019 அன்று காவல் துறையில் புகார் செய்யப்பட்டது. புகாரினைத் தொடர்ந்து 11.04.2019 அன்று இரவு அடையாளம் தெரியாத நபர்களால் குண்டடம் பிரிவு அலுவலகம் மற்றும் அலுவலகக் குடியிருப்பு, வாகனங்கள் ஆகியவை தாக்கப்பட்டன. (பத்திரிகைகளின் நறுக்குச் செய்திகள் இணைக்கப்பட்டுள்ளன)

இது தொடர்பாக பொள்ளாச்சிக் கிளை பொறியாளர் சங்கம் மற்றும் உதவிப் பொறியாளர் சங்கம் மேற்கண்ட அத்துமீறிய செய்கைகளைக் கண்டித்தும், சேதம் விளைவித்தவர்களின் மீது நடவடிக்கை எடுக்கக் கோரியும் மேற்பார்வைப் பொறியாளர் மற்றும் மாவட்ட ஆட்சியர் ஆகியோர்களுக்கு புகார்கள் அனுப்பியுள்ளனர். கோயம்புத்தூர் மற்றும் திருப்பூர் மாவட்ட நிர்வாகத்திற்க்கும், மாவட்ட காவல்துறைக்கும் உரிய நடவடிக்கை எடுக்க தேவையான அறிவுரைகளை வழங்க வேண்டும் என கேட்டுக்கொள்கிறோம்.

பாதுகாப்பு இல்லாத இந்தச் சூழலில் இரவுரோந்து பணிபுரிவது உயிருக்கும், உடமைக்கும் அச்சுறுத்தலாகவே அமையும். எனவே, உரிய காவல் துறையின் பாதுகாப்பின்றி இரவு ரோந்து பணிக்கு எனது சங்க உறுப்பினர்களான பொறியாளர்கள் செல்லமாட்டார்கள் என்பதனை தங்களின் கவனத்திற்கு கொண்டுவருகிறோம்.

இணைப்பு : 1. பொள்ளாச்சிக் கிளையின் தீர்மான நகல்கள்
2. பத்திரிக்கைச் செய்தி குறிப்புகள்

பொறி.க.அன்பு,
பொதுச் செயலாளர், பொறியாளர் சங்கம்

Letter to the The Accountant General (A&E) Anna Salai, Teynampet, Chennai – 600 018 on Appointment requested to discuss our grievances – regarding. vide **Letter No.002/GS-AOE/114-2019 Dt.30.04.2019**

Sir,

Ref: Our letter No.002/GS/AOE/105-2019 dt.21.02.2019 addressed to Additional Chief Secretary to Government, Finance Department

We request to give your appointment to our Association to discuss the following issues.

1. Pay fixation on promotion to the post of Superintending Engineer, PWD in the 7th Pay Commission revised pay scales.

2. Additional charge allowances for Special Chief Engineers holding additional charge to the post of Superintending Engineers.

Your convenient date and time may please be communicated to us for the above discussion.

With kind regards

Yours truly,

Er.K.Anbu,
General Secretary, AOE

ENGIBEF PHASE IV – MODIFIED SCHEME

ENGIBEF No.	Name & Address
891 E	**Er.R.Jayakumar,** AE, PWD, Building (C&M) Section, MW, Dharapuram

We request our member engineers who have not enrolled so far in ENGIBEF Phase IV Modified Scheme, enroll as full-fledged member by remitting the amount through core banking system '**ENGIBEF, SBI, A/C No.10031641514 of PWD Complex Branch (IFSC Code SBIN0006489), Chennai**" **or through branch offices in Cash / Cheque / Demand Draft.**

We solicit your earnest co-operation to enroll in this Scheme & assist the deceased Engineers' family.

"We expect more members to enroll in ENGIBEF PHASE IV – MODIFIED SCHEME"

Er.S.Gopalakrishnan
Treasurer/ENGIBEF

Er.K. Karunanithi
Secretary/ENGIBEF

Letter to the **The Chief Secretary to Government,** Public Works Department, Fort St.George, Secretariat, Chennai – 600 009 on Public Services – PWD – **Thiru.T.Gunaseelan**, Assistant Executive Engineer (formely Assistant Engineer, Public Works Department, Water Resources Organization, Sathanur Sub Project Implementation Sub Division-I, Tiruvannamalai) – Failure of one of the shutters in Mirugandanadhi Reservoir – Disciplinary action under rule 17 (b) of the Tamil Nadu Civil Services (Disciplinary and Appeal) Rules – intiated – reg. vide **Letter No.002/GS-AOE/117-2019 Dt.15.05.2019.**

Sir,

Ref: Representation received from **Er.T.Gunaseelan**, Assistant Executive Engineer, PWD, dated 04.04.2019

We invite a kind attention to the reference cited (copy enclosed), where in **Er.T.Gunaseelan,** Assistant Executive Engineer, PWD, and member of our Association represented that enquiry for the charges framed against him for the failure of one of the shutters of Mirugandanadhi river was not finalised even after 8½ years since the appointment of enquiry officer (Thiru.Kumar Jayanth, IAS) by the Government.

We wish to inform that the individual has represented this issue many times to the above enquiry officer and concerned authorities. But, the enquiry officer has not finalised his report till date.

In this connection, we kindly request our Chief Secretary to Government, to instruct the enquiry officer **Thiru.Kumar Jayant, I.A.S.,** Principal Secretary to Government, Handloom, Handicrafts, Textiles and Khadi Department to finalise the pending report.

With kind regards,

Encl.: Copy of the individual's letter

Yours truly,

Er.K.Anbu,
General Secretary, AOE

அன்புடையீர் வணக்கம்,

நமது பொறியாளர் இராமலிங்கம் இல்லத்தை மறு சீரமைப்புச் செய்வது தொடர்பான ஆலோசனைகளும், விவாதங்களும் பல ஆண்டுகளாக, பல கூட்டங்களில் நடந்து கொண்டிருப்பது நாம் அனைவரும் அறிந்ததே. ஆகையால் அதற்கு செயல் வடிவம் கொடுக்கும் வகையில் நமது பொறியாளர் இல்லத்தை மறு சீரமைப்புச் செய்யும் பணி செவ்வனே நடந்துகொண்டிருக்கிறது என்பதனை மகிழ்ச்சியுடன் பொறியாளர் உறுப்பினர்களுக்கு தெரிவித்துக்கொள்கிறோம்.

நமது நீண்ட நாள் கனவான பொறியாளர் இராமலிங்கம் இல்லத்தை மறுசீரமைக்கும் (Alteration & Modification) பணிகள் தொடங்கி நடைபெற்றுக்கொண்டிருக்கிறது. பொறியாளர் நண்பர்களும் தங்களது பங்களிப்பினை சீரிய முறையில் அளித்து பணிகளை முடிக்க உதவிடுமாறு கேட்டுக்கொள்கிறோம். இதற்கான நிதி உதவிகளை அதிக அளவில் பொறியாளர் உறுப்பினர்கள், கிளைச் சங்கத்தின் பொறுப்பாளர்கள், தலைமைச் சங்கத்தின் பொறுப்பாளர்கள் மற்றும் சங்கத்தின் நல விரும்பிகள் வழங்கிட கேட்டுக்கொள்கிறோம்.

கிளை வாரியாக எதிர்நோக்கப்படும் நிதி உதவிகள் இத்துடன் இணைக்கப்பட்டுள்ளது.

இப்படிக்கு,

பொறி.க.அன்பு
பொதுச் செயலாளர், பொறியாளர் சங்கம்

பெறுநர்,

தலைமைச் சங்க பொறுப்பாளர்கள், அனைத்துக் கிளைச் சங்கப் பொறுப்பாளர்கள் மற்றும் அனைத்துக் கிளைச் சங்க பொறியாளர் உறுப்பினர்கள்,

A/c. Name : AOE PLATINUM JUBILEE BUILDING FUND
Name of the Bank : State Bank of India, **A/c. No : 30695280720,**
IFSC Code : SBIN0006489,Name of the Branch : Chepauk, Chennai – 5
Ph: 044-28515445

RENNOVATION OF PORIYAALAR RAMALINGAM ILLAM, CHENNAI
PROPOSED TARGET FROM THE BRANCHES

S.No.	No. of Branch	Member strength	Expected Amount from Branches in Rs.
1	Chennai	386	7,72,000
2	Coimbatore	90	1,80,000
3	Cuddalore & Villupuram	110	2,20,000
4	Dharmapuri	40	80,000
5	Dindugal	40	80,000
6	Erode	100	2,00,000
7	Kanyakumari	40	80,000
8	Karaikudi	75	1,50,000
9	Madurai	150	3,00,000
10	Pollachi	90	1,80,000
11	Pudukottai	25	50,000
12	Ramanathapuram	40	80,000
13	Salem	90	1,80,000
14	Thanjavur	120	2,40,000
15	Tharamani	90	1,80,000
16	Tirunelveli	120	2,40,000
17	Tiruvannamalai	30	60,000
18	Trichy	150	3,00,000
19	Vellore	40	80,000
20	Virudhunagar	55	1,10,000
	Grand Total		**37,62,000**

Yours truly,

Er.K.Anbu,
General Secretary, AOE

Public (CCMS) Department
Secretariat, Chennai-9

Circular No.5196/CCMS/2019-1, dated : 12.02.2019

Sub : CCMS – Direction of Hon'ble High Court of Madras in W.P.No.5 of 2019 and W.M.P. No.5 of 2019 – To take necessary action on the attested copies of the orders received from the learned counsels / Law Officers without waiting for the certified High Court order by verifying in the Official website www.hcmadras.tn.nic.in – Instructions – Communicated – Reg.

Ref: From the Hon'ble High Court of Madras Order, dated 08.01.2019 in W.P.No.5 of 2019.

I am directed to invite your attention to the reference cited, wherein the High Court of Madras in its order W.P.No.5 of 2019 and W.M.P No.5 of 2019 has instructed among others to immediately implement the orders of the High Court in all court cases on receipt of certified copies of the order/judgement from the learned counsels/law officers concerned, by verifying in the Official website of High Court www.hcmadras.tn.nic.in, without waiting for the certified copy of the judgements from the High Court, for implementation of the Hon'ble High Court orders within the stipulated time.

2. The observation of the Hon'ble High Court of Madras in its Order dated 18.01.2019 in Writ Petition No.5/2019 is as follows:

"In this regard, the judgement/orders signed by the Hon'ble Judges shall be uploaded in the official websites of the Hon'ble High Court of Madras without causing any undue delay and at the earliest possible. The respective learned counsels appearing for the parties to the lis can download the orders/judgement copies from the official website of the Hon'ble High Court of Madras and the copy of the order shall be attested with the Name and Seal of the learned counsel on record along with the enrolment number and communicate the same to all the parties concerned for implementation of the orders / judgements downloaded and printed from the official website of Hon'ble High Court of Madras. The authorities concerned/competent are bound to receive the same and verify the authenticity of the copy of the order with the Official website of the Hon'ble High Court of Madras in (www.hcmadras.tn.nic.in) and thereafter, initiate action for effective implementation without any further delay.

It is clarified that the authorities concerned cannot reject or refuse the printed copy of the downloaded orders/judgements communicated by the respective learned counsels. All concerned officials are directed to acknowledge all such order/judgements and act accordingly. In the event of violation in this regard, the persons aggrieved are at liberty to approach the Court by filing an appropriate application for violation of the Court orders/judgements".

3. I am therefore to request you to follow the instructions of Hon'ble High Court of Madras in the said W.P. scrupulously and to instruct the concerned officials pertaining to your Department and Heads of Department under your control in this regard and to follow the Hon'ble High Court order in letter and spirit.

Yours faithfully,

Chief Secretary to Government

Technical Circular No.AEE/T10/24475-2/2018, dated 23.04.2019

Sub : Building – Pre painted framed window inclusive of Grill model with Glazed shutters and mesh shutters – Instructions issued – Regarding

In order to ensure the safety, durability, to avoid mosquitoes / insects menace and for the aesthetic appearance of windows in Government Buildings, it is instructed to implement and execute the Windows with following specifications.

a) All the windows should be Galvanized Iron Pre Painted Windows inclusive of Grill with framed model.

b) Necessary Mesh Shutter should be provided with a stainless Steel gauge fly mesh and Glass Shutter and fixed Glass portions should be provided with float Glass.

Er.J.Rabinder,
Engineer-in-Chief (Buildings) &
Chief Engineer (Buildings) Chennai Region
Chennai-5.

Technical Circular No.AEE/T10/24475-4/2018, dated 23.04.2019

Sub : Building – Register should be maintained for the maintenance of the Electrical Equipments such as, Fire Fighting & Smoke Detector, Air Conditioner, Lift, Generator set, Geyser and other special Electrical Appliances Instruction issued – Regarding.

It is hereby instructed that, in all the Section Offices the concerned Assistant Engineer / Juion Engineer should maintain a Register and record the complete details of various Electrical Equipments in the respective jurisdiction like Fire Fighting & Smoke Detector, Air Conditioner, Lift, Generator set, Geyser and other special Electrical Appliances: such as Year of Installation, Rate, Company/Firm details, Annual Maintenance Contract details etc., for necessary follow up action for the upkeep of all electrical installations.

Er.J.Rabinder,
Engineer-in-Chief (Buildings) &
Chief Engineer (Buildings) Chennai Region
Chennai-5.

Technical Circular No.AEE/T10/24475/2018-2, dated 29.04.2019

Sub : Building – R.C.C. covered by Gyp board false ceiling permanently – Avoiding plastering with Cement mortar 1:3 and providing Putty – Instructions issued - Regarding

It is learnt that, in certain rooms R.C.C. roof slab covered and providing with Gypboard false ceiling in which R.C.C. roof slab had been plastered using Cement mortar 1:3 ratio as per standard specification.

In this connection, in order to save the cost, it is instructed that, hereafter the R.C.C. slab proposed to be covered by Gyp board false ceiling permanently may not be plastered with Cement mortar 1:3 instead of that, the neat and perfect grinding can be made in all joints and other portion of the R.C.C. slab to have a smooth surface and over that necessary gyp board false ceiling can be made. This will reduce of cost of the plastering in Cement mortar 1:3 over the R.C.C slab. This instructions can be adhered only on the specific cases to the satisfactions of the departmental Engineer incharge.

Er.J.Rabinder,
Engineer-in-Chief (Buildings) &
Chief Engineer (Buildings) Chennai Region
Chennai-5.

Technical Circular Memo No.HDO(A)/45818/2018, dated 30.11.2018

Sub : PWD – Buildings – Technical Circular for furnishing RPB Register instructions – Issued - Regarding

According to Note 1 under Para 100 of Tamil Nadu Public Works Department Code, the expenditure on the construction of Buildings left entirely to the charge of the Public Works Department, should invariably be debited to the Public Works Budget under the respective Head and such Buildings entered in the Register of Public Building irrespective of whether these Buildings are in the Occupation of the Public Works Department or any other Department of the State Government or other agencies permitted by Government.

According to Para 261, the Superintending Engineer or Executive Engineer will keep a Register (in Public Works Department Form No.136) of all Buildings are in-charge of the Department within his jurisdiction, and the Register will also show whether the Buildings are to be maintained under State or other funds. The details of maintenance work carried out for each Building should be entered in the Register along with the expenditure incurred then and there.

Instances have been noticed that the maintenance / special repair estimates are sanctioned / without inclusive of the norms statement which is the basis for the estimate value. Hence so the eligible, norms / expenditure incurred so far, for the Buildings could not be ascertained, while claims / demand for, Maintenance and Repairs works for which budget provision estimate amount requested by the Superintending Engineer along with the priority list. The basis for the budget amount required could not be ascertained on par with the norms already allotted.

In the light of the above, the Superintending Engineers are instructed to update the Register of Public Building duly filling up all the details in the prescribed proforma including the expenditure incurred towards maintenance and special repairs taken up for

the specified building till date and submit a soft copy of the same to the Engineer-in-Chief (Buildings) and Chief Engineer (Buildings), Chennai Region, PWD, Chennai within a month from the date of issue of this instructions.

From the coming financial years the budget proposals have to be submitted to the Government only along with the RPB details of the particular Building based on the prescribed Norms. Otherwise the Maintenance grants will not be allotted. For which a formal orders will also be issued in this regard.

So it is imperative to fulfill the requirements for the Budget proposals, Also the updation of the Basic Records are to be made without fail.

The lapse on the above instructions will be viewed seriously.

(S.Manohar)
Engineer-in-Chief (Buildings) &
Chief Engineer (Buildings), C.R., PWD.

SPECIAL CONTRIBUTION

Sl.No	Name	Amount	Remarks
1	**Er.T.P.Ganesan** Superintending Engineer, PWD, Buildings (C&M) Circle, Chennai-5	50,000	PRI Renovation Work
2	**Er.P.Neelakannan** Asst. Executive Engineer, PWD, P&D Circle, Buildings, Chennai-5	10,000	PRI Renovation Work
3	**Er.T.P.Thirumurthy** Executive Engineer, PWD, Buildings Construction Div.I, MW, Chennai-5	20,000	PRI Renovation Work
4	**Er.M.Vasudevan** Executive Engineer, PWD, Buildings Construction Div.III, MW, Chennai-5	20,000	PRI Renovation Work
5	**Er.R.Pandy** Executive Engineer, PWD, North Presidency Division, Chennai-5	15,000	PRI Renovation Work
6	**Er.S.Shivashanmuga Sundaram** Assistant Executive Engineer, PWD, Bldgs. Constn.Div.I, MW, Chennai-5	10,000	PRI Renovation Work
7	**Er.A.Srinivasan** Assistant Executive Engineer, PWD, Bldgs. Constn.Div.I, MW, Chennai-5	10,000	PRI Renovation Work
8	**Er.S.Muthamil Arasu** Assistant Executive Engineer, PWD, Bldgs. Constn.Div.I, MW, Chennai-5	10,000	PRI Renovation Work
9	**Er.R.Gowthaman** Executive Engineer, PWD, WRD, Sarbanga Basin Division, Namakkal	2,000	PRI Renovation Work

நன்றி!

சென்னை, பொறியாளர் இராமலிங்கம் இல்லத்தின் புதுப்பிக்கும் பணிக்கு தங்களது பங்களிப்பினை வழங்கிய பொறியாளர் உறுப்பினர்களுக்கு நன்றியையும் பாராட்டுகளையும் தெரிவித்துக் கொள்கிறோம். இதேபோன்று இதர பொறியாளர் உறுப்பினர்களும் தங்களால் இயன்ற பங்களிப்பினை தவறாமல் வழங்குமாறு அன்புடன் கேட்டுக்கொள்கிறோம். **- ஆசிரியர்**

Wedding Greetings

Er.K.Anbu, Superintending Engineer / Director, IHH, TNPWD, Poondi & General Secretary, AOE invites our member engineers on the occasion of his **"Daughter's Wedding"**

Selvi.A.Vidhya, M.E., with **Selvan J.Alagiriswamy**, M.Phil., to be held on 13.06.2019 between 10.30 A.M. and 11.30 A.M. at **Vinayaga Towers – The Grand Palace**, No.58, Jermiah Road, Purasawakkam, Chennai-600007 and **Reception** on **14.06.2019** from 6.30 P.M. onwards at **Hotel Abu Saravor Portico**, 926, Poonamallee High Road, Kilpauk, Chennai-600 084.

Bride	Bridegroom	Date & Venue
J.Gayathri, B.E. M.B.A D/o.P.Jeyaram, B.E. F.I.V. Chief Engineer, PWD, WRD, Chennai	**M.N.R.Ramasangu,**B.Tech.M.Sc.(U.K)	**Reception** on Wednesday 05.06.2019 from 7.00 P.M and **Muhurtham** on Thursday 06.06.2019 between 7.35 A.M and 9.00 A.M. at **"IDA Scudder Hall-1"** Vellammal Nagar, Ring Road, Madurai
Dr.C.Sabthami, M.B.B.S. M.D	**Er.M.Manu Prasad,** M.S., (USA) S/o.Er.M.Manmathan, M.E., Joint Chief Engineer, PWD & Er.K.R.Kumari Sheela, M.Tech (Hons) Former Special Chief Engineer, PWD	**Muhurtham** on Thursday 06.06.2019 between 9.00 A.M and 10.30 A.M. at **"PSNA Mahal"** Dindigul Round Road, Dindugal **Reception** on Saturday 08.06.2019 from 6.30 P.M. onwards at **"Hotel Le Royal Meridien"** Guindy, Chennai
M.Sindu Bharathy, B.E. D/o.A.Murugesan, M.E. Executive Engineer, PWD, Thanjavur	**R.Vinodan,** D.M.E.,	**Muhurtham** on Friday 17.05.2019 between 9.00 A.M and 10.30 A.M. at Pattukkottai Taluk, **"Kasangadu Panchayat Thirumana Arangam"** **Reception** on Monday 20.05.2019 from 6.30 P.M onwards at **"Mohammed Ibrahim Mahal"** Kaja Nagar, Trichy
K.A.Swathi, B.E.M.B.A., D/o.Er.R.Anbalagan, B.E., Deputy Superintending Engineer, PWD, Palani	**M.Sudakar,** B.E., M.B.A.,	**Reception** on Wednesday 05.06.2019 from 6.30 P.M and 9.00 P.M and **Muhurtham** on Thursday 06.06.2019 between 9.45 A.M and 9.00 A.M. at **"A.K.A.Thirumana Mandapam"** Near Bye-Pass, Trichy Road, Coimbatore

We wish them a happy & Prosperous Wedded Life ***-Editor***

Strengthening of old Irrigation Masonry Structures – Simple Procedures

Er.A.Veerappan, ME (Struct), FIE, Structural Consultant & State Secretary, Tamil Nadu Senior Engineers Association and Former General Secretary & President of AOE, TNPWD

1. Introduction:

In most of the existing Irrigation Structure which were constructed in olden days are mainly and of masonry structure. Due to climatic changes and seasonal variation in recent days it is noticed heavy intensity rainfall for short duration occurs. Because of this the high velocity run-off happens and requires more stability of the existing structure.

To strengthen the existing olden masonry structure the method is suggested which includes three type of structures.

i. Strengthening of Foundation
ii. Strengthening of Masonry Walls
iii. Strengthening of Masonry Piers / Columns

- Before commencing the work, the surface area of the structures to be strengthened is to be prepared for surface treatment to have proper / better bond between old substrate to the new RC Concrete with the use of bonding agent such as **Nito Zinc Primer / Cerabond** and shear key – dowels in epoxy. The surface may be cleaned by sand blasting or sand paper.

2. Strengthening of Foundation

Due to the increased usage and of higher loads, the foundation (gravity type)is to be strengthened by adding weight or increased area of contact transmitting the loads to the sub soil.

A clear process has been furnished in the enclosed sketch (Fig.1)

i. Excavate the sides of foundation – at 600mm on either side so that the foundation substructure is fully exposed.

ii. Fix Precast RC Beams of M30 Grade – probably of the size 300 x 450 mm or 450 x 600 mm – 6.00 m long as per requirements on both sides along the length of the Foundation.

iii. Introduce Precast Concrete RC Beams of same size in the transverse direction, properly connecting with the longitudinal beams with micro concrete so that a rigid connection is effected. Water curing is done for 3 days.

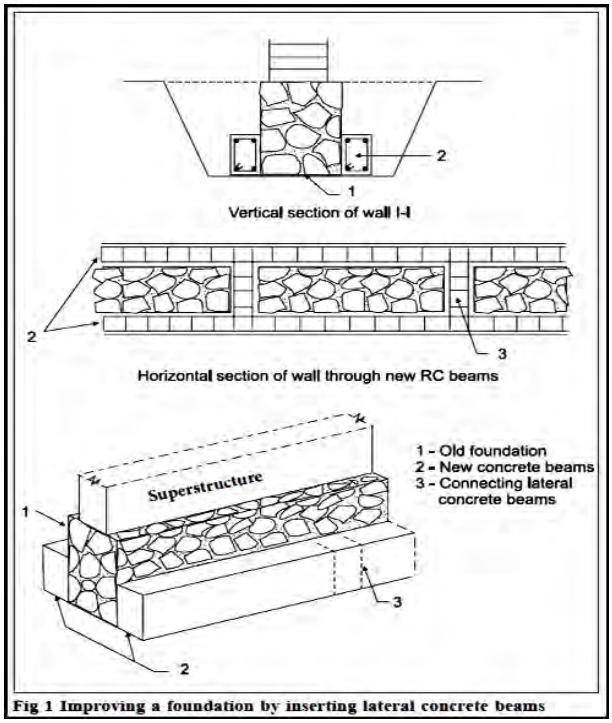

Fig 1 Improving a foundation by inserting lateral concrete beams

iv. Fill up with a mix of Quarry Dust : Gravel Mix 1:3 semi dry, Well compacted with earth rammers.

This way of strengthening of the Foundation facilitates the greater area of contact for the substructure thereby reducing the upward pressure of the foundation.

3. Strengthening of the Masonry Walls

When the existing walls are weak, not able to take up the induced stress, there is necessity to strengthen these walls by external surface **RC Jacketing** as described below.

i. Clean the both sides of wall in the longitudinal direction with sand paper or sand blasting.

ii. Insert dowel bars of 8mm dia to a depth of a at least 50mm and projecting another 50 mm from the wall. Epoxy grout or adhesive mortar is used to insert the dowel bars, which are to be spaced at least 600 x 600 mm net.

iii. Fix the steel welded wire mesh of size no 50 . . 75 x 300 x 4.20 / 3.15 mm @ 2.06 Kg/m2 on

the surface of the walls with the help of dowel bars.

iv. Use Micro Concrete with shotcrete or guniting concrete of M30 Concrete for first 20 mm thick and then another 20 mm after 24 hours.

v. Finish the Cement Concrete surfaces with pressure using a trowel or any other instrument.

vi. Do water curing for 3 days before putting the structure into use.

This will normally increases carrying capacity of the wall by more than 100%, ensuring rigidity and structural stability.

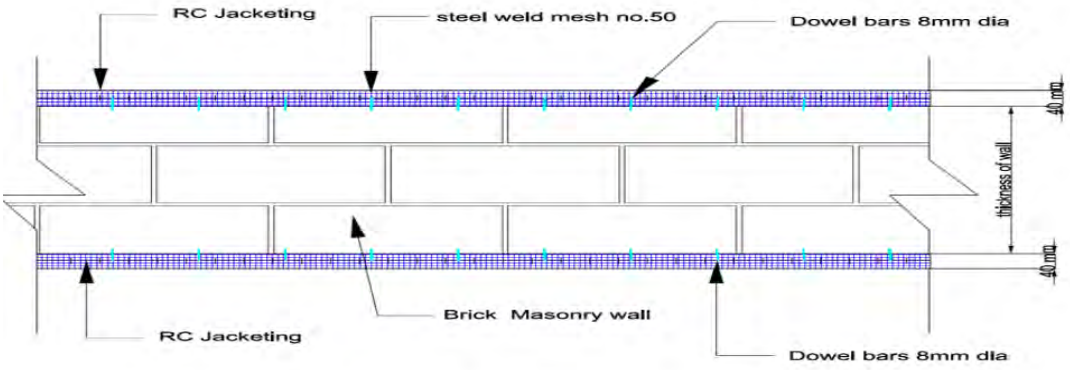

Fig . 2 Retrofitting of Masonry Wall

4. Strengthening the Masonry Piers

This is required to increase the carrying capacity of distressed masonry piers in the irrigation structures. **RC Surface Jacketing** method is the simple and effective method of strengthening the piers, which can be confidently attempted.

i. Clean the surfaces – 4 sides – of the Masonry Pier by sand blasting or rubbing with sand paper.

ii. Insert the dowel bars in a grid of 600 x 600mm into the Masonry 50 mm inside and 50 mm projecting, using adhesive mortar or epoxy grout.

iii. Fix the steel welded wire mesh of size no. 50 75 x 300 x 4.20/ 3.15 mm @ 2.06 Kg/m2 over the external surfaces of the pier with the use of Dowel bars.

iv. Do the shotcreting with micro concrete or guniting with cement concrete – first 20 mm thick and then another 20mm after 24 hrs.

v. Do the water curing at least for 7 days , after which the structure is put into use.

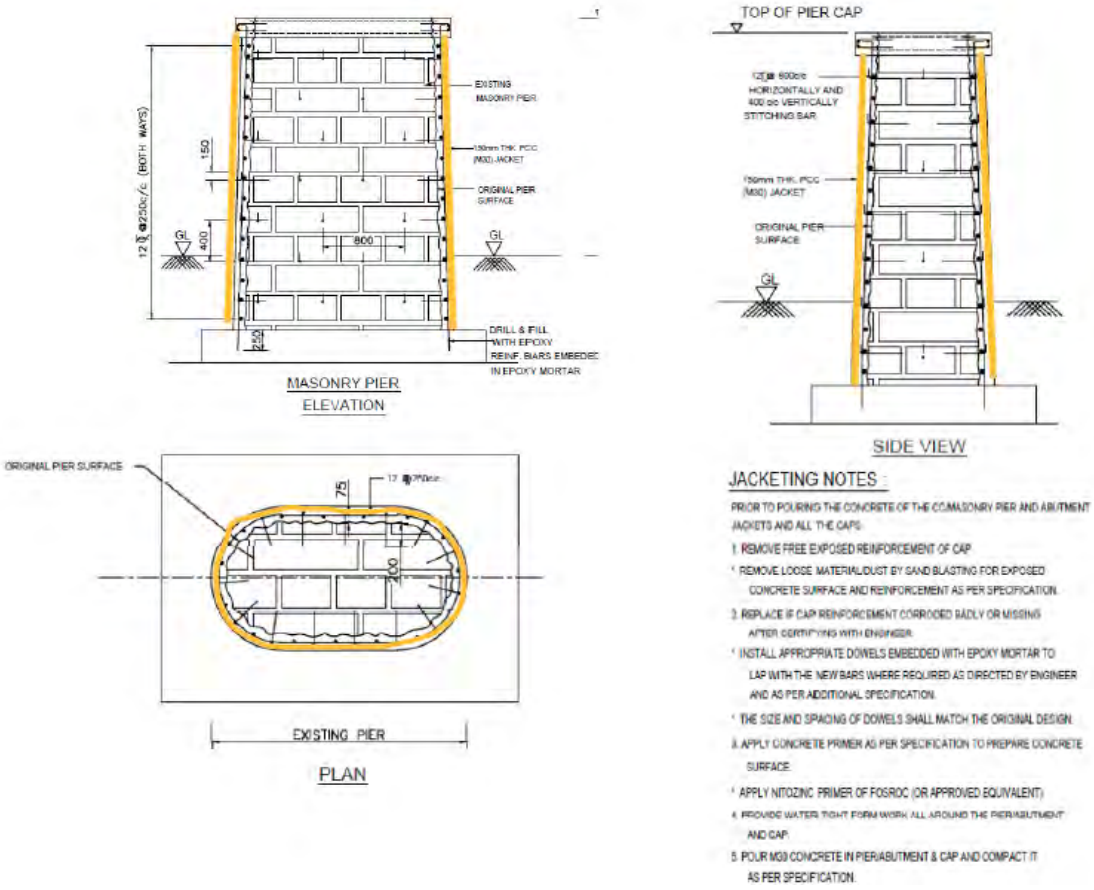

Fig. 3 Strengthening a Pier

5. In all cases, if there is a necessity to support the structure, it can be done with steel props and runners which can be removed after the water curing operation is over.

It is considered as the simplest procedure to strengthen the old Irrigation Masonry structures with less time and less cost. It is hoped that the authorities concerned will take note of it and adopt the same without any hesitation in the best interest of the State.

TECHNICAL ARTICLE

EARTHEN DAM (Part-II)

V.Kishor Kumar, Associate Professor, KCG College of Technology, Chennai.

பொறியாளர் எப்ரல் இதழின் தொடர்ச்சி..

1.EMBANKMENT DESIGN

The design and construction of embankment pose little problem when the underlying subsoil is good bearing stratum. Soft soil conditions, however create several complexities for the designer and field engineer. When faced with the situation of constructing an embankment on a soft subsoil, the following problems are encountered:

- Low shear strength
- Stability of embankment
- High compressibility and settlement of embankment

The design of embankments is based on bearing capacity, settlement and stability considerations. All the conditions have to be satisfied with an adequate margin of safety for each of the factors.

1.1 Embankment Materials

While most soils can be used for earth-fill construction as long as they are insoluble and substantially inorganic, typical rock flours and clays with liquid limits above 80 should generally be avoided. The term “soil” as used herein includes such materials as soft sandstone or other rocks that break down into soil during handling and compaction.

If a fine-grained soil can be brought readily within the range of water contents suitable for compaction and for operation of construction equipment, it can be used for embankment construction. Some slow-drying impervious soils may be unusable as embankment fill because of excessive moisture, and the reduction of moisture content would be impracticable in some climatic areas because of anticipated rainfall during construction.

In other cases, soils may require additional water to approach optimum water content for compaction. Even ponding or sprinkling in borrow areas may be necessary.

The use of fine-grained soils having high water contents may cause high porewater pressures to develop in the embankment under its own weight. Moisture penetration into dry hard borrow material can be aided by ripping or plowing prior to sprinkling or ponding operations.

Other factors being equal, and if a choice is possible, soils having a wide range of grain sizes (well-graded) are preferable to soils having relatively uniform particle sizes, since the former usually are stronger, less susceptible to piping, erosion, and liquefaction, and less compressible.

Embankment soils that undergo considerable shrinkage upon drying should be protected by adequate thicknesses of non-shrinking fine-grained soils to reduce evaporation. Clay soils should not be used as backfill in contact with concrete or masonry structures, except in the impervious zone of an embankment.

1.2 Zoning of embankment

The embankment should be zoned to use as much material as possible from required excavation and from borrow areas with the shortest haul distances and the least waste. Embankment zoning should provide an adequate impervious zone, transition

zones between the core and the shells, seepage control, and stability. Gradation of the materials in the transition zones should meet the filter criteria

(1) In a common type of earth fill embankment, a central impervious core is flanked by much more pervious shells that support the core. The upstream shell affords stability against end of construction, rapid drawdown, earthquake, and other loading conditions. The downstream shell acts as a drain that controls the line of seepage and provides stability under high reservoir levels and during earthquakes. For the most effective control of through seepage and seepage during reservoir drawdown, the permeability should increase progressively from the core out toward each slope.

(2) The core width for a central impervious core-type embankment should be established using seepage and piping considerations, types of material available for the core and shells, the filter design, and seismic considerations.

In general, the width of the core at the base or cutoff should be equal to or greater than 25 percent of the difference between the maximum reservoir and minimum tailwater elevations. The greater the width of the contact area between the impervious fill and rock, the less likely that a leak will develop along this contact surface. A core top width of 10 ft is considered to be the minimum for construction equipment. The maximum core width will usually be controlled by stability and availability of impervious materials.

(3) A dam with a core of moderate width and strong, adequate pervious outer shells may have relatively steep outer slopes, limited primarily by the strength of the foundation and by maintenance considerations.

1.3 Cracking

Cracking develops within zones of tensile stresses within earth dams due to differential settlement, filling of the reservoir, and seismic action. Since cracking cannot be prevented, the design must include provisions to minimize adverse effects. Cracks are of four general types: transverse, horizontal, longitudinal, and shrinkage.

Shrinkage cracks are generally shallow and can be treated from the surface by removing the cracked material and backfilling (Walker 1984, Singh and Sharma 1976, Jansen 1988).

Transverse cracking of the impervious core is of primary concern because it creates flow paths for concentrated seepage through the embankment. Transverse cracking may be caused by tensile stresses related to differential embankment and/or foundation settlement. Differential settlement may occur at steep abutments, at the junction of a closure section, at adjoining structures where compaction is difficult, or over old stream channels or meanders filled with compressible soils.

Horizontal cracking of the impervious core may occur when the core material is much more compressible than the adjacent transition or shell material so that the core material tends to arch across the less compressible adjacent zones resulting in a reduction of the vertical stress in the core. The lower portion of the core may separate out, resulting in a horizontal crack. Arching may also occur if the core rests on highly compressible foundation material. Horizontal cracking is not visible from the outside and may result in damage to the dam before it is detected.

Longitudinal cracking may result from settlement of upstream transition zone or shell due to initial saturation by the reservoir or due to rapid drawdown. It may also be due to differential settlement in adjacent materials or seismic action. Longitudinal cracks do not provide continuous open seepage paths across the core of the dam, as do transverse and horizontal cracks, and therefore pose no threat with regard to piping

through the embankment. However, longitudinal cracks may reduce the overall embankment stability leading to slope failure, particularly if the cracks fill with water.

1.4 Defensive measures.

The primary line of defence against a concentrated leak through the dam core is the downstream filter. Since prevention of cracks cannot be ensured, an adequate downstream filter must be provided (Sherard 1984).

The susceptibility to cracking can be reduced by shaping the foundation and structural interfaces to reduce differential settlement, densely compacting the upstream shell to reduce settlement from saturation, compacting core materials at water contents sufficiently high so that stress-strain behavior is relative plastic, i.e., low deformation moduli, and shear strength, so that cracks cannot remain open (pore pressure and stability must be considered), and staged construction to reduce the effects of settlement of the foundation and the lower parts of the embankment.

As per IS 12169-1987 the following measures are recommended for control of cracking:

a) Use of plastic clay core and rolling the core material at slightly more than optimum moisture content, In case of less plastic clay, 2 to 5 percent bentonite of 200 to 300 liquid limit may be mixed

to increase the plasticity.

b) Use of wider core to reduce the possibility of transverse or horizontal cracks extending through it.

c) Careful selection of fill materials to reduce the differential movement. To restrict the rockfill in lightly loaded outer casings and to use well graded materials in the inner casings on either side of the core.

d) Wide transition zones of properly graded filters of adequate width for handling drainage, if cracks develop.

e) Special treatment. such as preloading, presaturation, removal of weak material, etc, to the foundation and abutment, if warranted.

f) Delaying placement of core material in the crack region till most of the settlement takes place.

R) Arching the dam horizontally between steep abutments.

h) Flattening the downstream slopes to increase slope stability in the event of saturation from crack leakage.

j) Cutting back the steep abutment slopes.

1.5 Embankment Reinforcement

The use of geosynthetics (geotextiles, geogrids, geonets, geomembranes, geocomposites, etc.) in civil engineering has been increasing since the 1970's. Their use in dam construction or repairs are found suitable in various studies (Roth and Schneider 1991; Giroud 1989; Giroud 1990, Giroud 1992). The use of geotextiles to reinforce very soft foundation soils has been utilised to strengthen the soil (Fowler and Koerner 1987, Napolitano 1991).

1.6 Compaction Requirements

(1) General considerations.

(a) The density, permeability, compressibility, and strength of impervious and semi-impervious fill materials are dependent upon water content at the time of compaction. Consequently, the design of an embankment is strongly influenced by the natural water content of borrow materials and by drying or wetting that may be practicable either before or after delivery to the fill. While natural water contents can be

decreased to some extent, some borrow soils are so wet they cannot be used in an embankment unless slopes are flattened.

In general, placement water contents for most projects will fall within the range of 2 percent dry to 3 percent wet of optimum water content as determined by the standard compaction test. A narrower range will be required for soils having compaction curves with sharp peaks.

(b) Soils that are compacted wet of optimum water content exhibit a somewhat plastic type of stress-strain behavior (in the sense that deformation moduli are relatively low and stress-strain curves are rounded) and may develop low "Q" strengths (strength achived when compacted with water content less than the optimum moisture content) and high porewater pressures during construction. Alternatively, soils that are compacted dry of optimum water content exhibit a more rigid stress-strain behavior (high deformation moduli), develop high "Q" strengths and low porewater pressures during construction, and consolidate less than soils compacted wet of optimum water content.

However, soils compacted substantially dry of optimum water content may undergo undesirable settlements upon saturation. Cracks in an embankment would tend to be shallower and more self-healing if compacting is on the wet side of optimum water content than if on the dry side.

(2) Dams on weak, compressible foundations. Where dams are constructed on weak, compressible foundations, the embankment and foundation materials should have stress-strain characteristics as nearly similar as possible. Embankments can be made more plastic and will adjust more readily to settlements if they are compacted wet of the optimum water content. Differences in the stress-strain characteristics of the embankment and foundation may result in progressive failure.

(3) In abutment areas, large differential settlements may take place within the embankment if the abutment slopes are steep or contain discontinuities such as benches or vertical faces. This may induce tension zones and cracking in the upper part of the embankment. It may be necessary to compact soils wet of optimum water content in the upper portion of embankment to eliminate cracking due to differential settlements. Again, shear strength must be taken into account.

(4) Densities obtained from field compaction using conventional tamping or pneumatic rollers and the standard number of passes of lift thickness are about equal to or slightly less than maximum densities for the standard compaction test. This has established the practice of using a range of densities for performance of laboratory tests for design.

The usual assumption is that field densities will not exceed the maximum densities obtained from the standard compaction test nor be less than 95 percent of the maximum densities derived from this test.

(5) Design water contents and densities. The selection of design ranges of water contents and densities requires judgment and experience to balance the interaction of the many factors involved. These include:

(a) Borrow area water contents and the extent of drying or wetting that may be practicable.

(b) The relative significance on embankment design of "Q" versus "R" strengths (strength achieved when compacted with water content more than the optimum moisture content) (i.e., construction versus operating conditions).

(c) Climatic conditions.

(d) The relative importance of foundation strength on stability.

(e) The need to design for cracking and development of tension zones in the upper part of the embankment, especially in impervious zones.

(f) Settlement of compacted materials on saturation.

(g) The type and height of dam.

(h) The influence on construction cost of various ranges of design water contents and densities.

Table 1 General guidelines for embankment sections (cl 5.1.2.3 of IS : 12169-1987)

Sl No	Description	Height up to 5 m		Height above 5 m and up to 10 m		Height above 10 m and up to 15 m
i)	Type of section	Homogeneous section/ Modified homogeneous section		Zoned section/ Modified Homogeneous section/ Homogeneous section		Zoned section/ Modified Homogeneous section/ Homogeneous section
ii)	Slopes	Upstream	Downstream	Upstream	Downstream	Upstream Downstream
	a. Coarse grained soil (GW, GP, SW, SP)	Not suitable		Not suitable		Not suitable foe core Suitable for casing zone
	b. Coarse grained soil (GC, GM, SC, SM)	(H) (V) 2 : 1	(H) (V) 2 : 1	(H) (V) 2 : 1	(H) (V) 2 : 1	Section to be decided based upon the stability analysis in accordance with IS : 7894-1975
	c. Fine grained soil (CL, ML, CI, MI)	(H) (V) 2 : 1	(H) (V) 2 : 1	(H) (V) 2.5 : 1	(H) (V) 2.25 : 1	- do -
	b. Fine grained soil (CH, MH)	(H) (V) 2 : 1	(H) (V) 2 : 1	(H) (V) 3.75 : 1	(H) (V) 2.5 : 1	- do -
iii)	Hearting zone	Not required	--	May be provided		Necessary
	a. Top width		--	3 m		3 m
	b. Top level		--	0.5 m above MWL		0.5 m above MWL
iv)	Rock toe height	Necessary up to 3 m. Above 3 m height, 1 m height of rock toe may be provided		Necessary H/5, where H is the height of embankment		Necessary H/5, where H is the height of embankment
v)	Berms	Not necessary		Not necessary		The berm may be provided as per design. The minimum berm width shall be 3 m. The berm may be provided also on the downstream slope for facilities during maintenance.

2.SLOPE PROTECTION

2.1 General

a. Upstream slopes.

Upstream slopes require more extensive treatment than downstream slopes because they are exposed to wave action. The required upstream slope protection

depends on the expected wind velocities and duration, the size and configuration of the reservoir, the permanent water-surface elevation, and the frequency of the pool elevation.

b. Bedding layers.

Bedding layers beneath riprap should be designed to provide for retention of bedding particles for the overlying riprap and for retention of the material underlying the bedding layer. To satisfy these requirements, multiple bedding layers may be required. The minimum bedding layer thickness should be at least 23 cm. Geotextiles (filter fabrics) should not be used directly beneath riprap on embankment dams.

2.2. Design Considerations for slopes

Slopes flatter than 1 vertical on 1.5 horizontal seldom require slope protection. Embankment slopes of 1 vertical on 6 horizontal and flatter can be traversed easily by construction and maintenance equipment.

a. Classification of embankment slopes for probability of damage.

The possibility of damage to the slope varies with the steepness of the slope, nature of the embankment materials, wind speed, fetch, and exposure time to the wave attach. Guidelines for slope classification based on this exposure concept are as follows:

(l) Upstream slope.

(a) Class I: The zone of an embankment slope with maximum exposure to pool elevations during normal project operation. Generally, the Class 1 zone will extend from an upper pool elevation determined by an annual chance of exceedance of 10 percent plus the appropriate wave runup down to a drawdown pool elevation determined by 10 percent chance of occurrence. The embankment elevations in the multipurpose operating range have a near constant exposure and should be Class I.

(b) Class II: The zone of an embankment slope with infrequent exposure to pools. Generally, this is the zone immediately above or below the Class I zone, and damage to the slopes in this zone is usually a result of rainfall and surface runoff, floods during construction, wave attack during the initial reservoir filling, or erosion due to currents.

For embankment dams with gated outlet works, the zone and below the top of spillway gates plus wave runup or uncontrolled spillway crest plus wave runup, should be Class II. For embankment dams with ungated outlet works, the zone and below the lower of elevation of the uncontrolled spillway crest plus wave runup or elevation obtained by rounding on the top of multipurpose pool the standard project flood and adding wave runup, should be Class II.

(c) Class III: The zone of an embankment slope with rare exposure to pools. The occurrence of pools above the Class II embankment zone is very infrequent and the duration of these pools is usually short. However, the potential for wave erosion to result in a safety hazard increases as the width of embankment narrows. All embankment slopes above the Class II elevations should be Class III.

(2) Downstream slopes.

The embankment slope below the maximum tailwater elevation for the spillway design flood will usually be classified as Class II. In many projects the geographic relationship between the embankment and spillway preclude the necessity for extensive tailwater protection. For projects where large spillway flows discharge near the embankment toe, a hydraulic model test is required to establish the flow velocities and wave heights for which slope protection should be designed.

2.3 Design Considerations for Riprap.

Dumped riprap is the preferred type of upstream slope protection. While the term "dumped riprap" is traditionally used, it is not completely descriptive since some reworking of dumped rocks is generally necessary to obtain good distribution of rock sizes. For riprap up to 60 cm thick, the rock should be well graded from spalls to the maximum size required. For thicker riprap protection, a grizzly should be used to eliminate rock fragments lighter than 22.7 kg. Riprap sizes and thicknesses are determined based on the significant wave height (design wave). The design wave and wave runup will change for different pool levels as a result of variations in the effective fetch distance and applied wind velocity. Riprap in the upstream slope should have a minimum thickness of 30 cm.

2.4 Design Considerations for wind.

Use of the actual wind record from the site is the preferred method for establishing the wind speed-duration curve. For riprap in Class I zone, select the 1 percent wind. For riprap in Class II zone, select a wind between the 10 percent chance and 2 percent chance based on a risk analysis. For riprap in Class III zone, select a wind between 50 percent chance and 10 percent chance based on a risk analysis.

2.4.1 Effective fetch.

For design of riprap in a Class I zone, compute the effective fetch for a pool elevation with a 10 percent chance of exceedance. For design of riprap in the Class II zone, compute the effective fetch for the applicable pool elevation (i.e., top of gates, uncontrolled spillway crest, etc.). If another pool level is used to define the elevation Class I or Class II zones, compute the effective fetch for the higher of the two elevations. Riprap will seldom be required for slopes in the Class III zone, but when riprap is selected for a band along the embankment crest, compute the effective fetch for the maximum surcharge pool.

2.4.2. Design wave

For design of riprap, use the significant wave height (average of the one-third highest waves in a given group). If a vertical wall is part of the design, use a higher wave, i.e., average 1 percent or 10 percent, depending on structure rigidity.

2.4.3. Riprap design.

Determine the size of the riprap and the layer thickness using the rubble-mound revetment design in ACES (see Leenknecht, Szuwalski, and Sherlock 1992). This algorithm will give the stone size, layer thickness, and compute wave runup on a riprap slope with an impervious foundation.

2.4.4. Bedding layers.

The gradation of the bedding material should provide for the retention of bedding particles by the overlying riprap layer and for the retention of the material underlying the bedding layer. If the underlying material has low plasticity, the gradation of the bedding material should conform with the following filter criteria.

$D_{15B} > 5D_{15E}$ (1)

$D_{15B} < 5D_{85E}$ (2)

$D_{85B} > D_{15R}/5$ (3)

where

D_{15B} = the 15 percent passing the size of the bedding

D_{85B} = the 85 percent passing the size of the bedding

D_{15E} = the 15 percent passing the size of the material to be protected

D_{85E} = the 85 percent passing the size of the material to be protected

D_{15R} = the 15 percent passing the size of the riprap

An intermediate filter layer may be required between the bedding and riprap to prevent washout of the bedding. Bedding layers over erosion-resistant clay materials need not be designed to meet the criteria of Equation (1) or Equation (2) but must still satisfy Equation (3). Each design should produce a specification that defines material sources, gradations, and layer thickness to economically provide the riprap and bedding layers required to protect the embankment.

For design of the riprap, IS : 8237-1985* may be referred. A minimum of 300 mm thick riprap over 150 mm thick filter layer may be provided. (IS 12169-1987)

2.4.5. Downstream slope protection.

(l) Where an adequate growth of grass can be maintained, vegetative cover is usually the most desirable type of downstream slope protection. A slope of approximately 1 vertical on 3 horizontal is about the steepest on which mowing and fertilizing equipment can operate efficiently. In arid or semiarid regions where adequate turf protection cannot be maintained, outer embankment zones composed of soils susceptible to erosion (silts and sands) may be protected with gravel or rock spall blankets at least 300 mm thick, have berms with collector ditches provided, and have collector ditches at the embankment toe.

(2) Where the downstream slope is exposed to tailwater, criteria used to establish the required upstream protection should be used for that portion of the slope exposed to wave action. Alternatively, a rock toe may be provided, extending above the maximum tailwater elevation. For details of downstream slope protection, IS : 8237·1985 may be referred.

2.4.6. Alternative slope protection.

Alternative slope protection designs that are functional and cost effective may be used. Factors that influence the selection of slope protection are embankment damage, materials from required excavation, availability and quality of offsite quarries, and turfs.

A greater thickness of quarry-run stone may be an option to relatively expensive graded riprap. Some designers consider the quarry-run stone to have another advantage: its gravel- and sand-size components serve as a filter.

The gravel and sand sizes should be less by volume than the voids among the larger stone. Not all quarry-run stone can be used as riprap; stone that is gap graded or has a large range in maximum to minimum size is unsuitable. Quarry-run stone for riprap should be limited to $D_{85}/D_{15} < 7$.

For Upstream slope.

(a) Class I zone. One alternative to riprap is to use riprap-quality, quarry-run stone dumped in a designated zone within, but not at, the outer slope of the embankment. The dumped rock is spread and then processed by a rock rake operating in a direction perpendicular to the strike of the exterior slope. Rock raking will move the larger stones in the zone contingent to the exterior slope of the embankment.

The quarry-run stone that remains in the dumped zone serves as a bedding. The size of the stone in the outer layer can be partially controlled by the blasting techniques, quarry handling of material, and by the tooth spacing on the rock rake.

The outer zone of large stone should produce a thickness (normal to the slope) greater than the thickness of required layers of riprap protection. Another alternative is to use a well-designed and properly controlled plant-mix, soil-cement layer placed with established and acceptable techniques.

(b) Class II zone. An alternative to riprap is quarry-run stone consisting of stones that may be of less than riprap quality. The quarry-run stone layer thickness is

dependent on material quality and size, but should always be greater than the thickness of required layers of riprap protection.

(c) Class III zone. An alternative to riprap is layers of quarry-run materials or erosion-resistant materials in thicknesses greater than those designed for riprap. Slopes between 1 vertical on 8 horizontal and 1 vertical on 15 horizontal with a maintenance access to the slope may be protected by an erosion-resistant material with minimum thickness of 300 mm normal to the slope.

For Downstream slopes.

The slope is usually protected by a layer of locally available, erosion-resistant material from required excavation or by turf. Designed interceptor ditches across the slope would be provided, where long unbroken surfaces exist or where the intersection of slopes steepen in a downslope direction.

2.4.7. Erosion-resistant granular materials.

Gravels and combination gravel and soft clay are resistant to erosion under many conditions. The resistance of gravels is dependent on the severity of erosion, steepness of the slope, size and shape of the gravels, and quantity and plasticity of fines. Compaction may be required to ensure satisfactory performance of some of these materials.

2.4.8. Erosion-resistant clays.

The performance of a clay is hard to predict, but experience has shown some clays to be very resistant to erosive forces (Arulanandan and Perry 1983). Clay materials with a liquid limit above 40 and that plot above the “A” line would normally qualify as “erosion resistant.”

When clay is used as an erosion-resistant material, an upper liquid limit should be specified. An upper liquid limit is selected to limit the low, long-term shear strength characteristics and changes in volume, expansion, and shrinkage, with changes in climate.

2.4.9. Turfs.

Turfs consisting of grasses suitable to local climate and tolerant to some inundation often provide sufficient resistance to erosion, including upstream Class III zones. A turf protection requires a soil layer that is capable of supporting vegetation. The topsoil and seeding operations should be performed

To facilitate establishment of a turf and mowing the embankment, slopes should not be steeper than 1 vertical on 3 horizontal.

2.5. Stone Quality

Riprap protection requires good quality rock and bedding of sufficient size to meet the design requirements.

Consideration should be given to materials available from required excavations as well as from the nearby quarry sources. Freeze-thaw, wet-dry, specific gravity, absorption, sodium sulphate soundness, and Los Angeles abrasion tests should be formed to determine the durability of the material under the anticipated field conditions.

2.6. Construction

Performance of riprap can only be realized by proper specifications and government inspection to ensure adherence to the specifications. Government inspectors should confirm that the slope protection materials meet the specifications and produce stable layers of interlocking particles.

பொறியாளர் சங்கம் மற்றும் உதவிப் பொறியாளர் சங்கம்

தமிழ்நாடு பொதுப்பணித்துறை, சேப்பாக்கம், சென்னை - 600 005

பொறியாளர் சங்கத் தலைவர்

பொறி.ப.கிருஷ்ணமூர்த்தி அவர்களுக்குப் **பாராட்டு விழா**

அழைப்பிதழ்

பேரன்பிற்கினியீர்! பெருமதிப்பிற்குரியீர்!

- பொறியாளர் சங்கத்தின் மாநிலத் தலைவர் பொறி.ப.கிருஷ்ணமூர்த்தி அவர்கள் பணிமூப்பின் காரணமாக 31.05.2019 அன்று பணியிலிருந்து ஓய்வு பெற உள்ளார்.
- **32 ஆண்டுகளாக நமது சங்கத்திற்கும், துறைக்கும்** அவர் ஆற்றியுள்ள சிறப்பான பணிகளைப் பாராட்டி, நன்றி தெரிவித்திடும் வகையில் பாராட்டு விழா நடைபெற உள்ளது.

Date & Time : 01.06.2019 (Saturday), 10.35 A.M

Venue : Institution of Engineers (INDIA)
First Floor (A/C Hall)
Swamy Sivananda Salai, (Near Doordarshan)
Chepauk, Chennai – 600 005.

- இவ்விழாவில் இந்நாள் தலைமைப் பொறியாளர்கள், முன்னாள் மூத்த பொறியாளர்கள், தோழமைச் சங்கங்களின் பொறுப்பாளர்கள், தலைமைச் சங்கம் மற்றும் கிளைச் சங்கப் பொறுப்பாளர்கள் மற்றும் நல்விழைவாளர்கள் கலந்துக்கொண்டு பாராட்டுரை வழங்க உள்ளனர்.
- தாங்கள் இவ்விழாவில் கலந்துக்கொண்டு மேற்படி விழாவினைச் சிறப்பிக்குமாறு அன்புடன் அழைக்கின்றோம்.

மிக்க அன்புடன்

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CENTRAL EXECUTIVE COMMITTEE MEETING CIRCULAR

Dear Engineer,

The Combined Central Executive Committee Meeting of Association of Engineers and Assistant Engineers Association, TNPWD is proposed to be held at **10.35 AM on 25.05.2019 (Saturday) at Poriyaalar Maaligai, Salem Civil Engineers' Association, 6/1, Omalur Main Road, Salem – 636 009 (Opp.Gandhi Stadium, Near Thina Thanthi)** to discuss the following Subjects.

1) VII Pay Commission – Discussion on bringing the pay case immediately after the vacation and in the first week of June 2019.
2) Promotion & Court Cases in respect of 2007 batch Assistant Engineers.
3) Promotion panel of Executive Engineer, Superintending Engineer and Chief Engineer.
4) Contribution requested for renovation of PRI from all branches and the individuals etc.
5) Membership list 2019
6) Constitution of Chief Election Committee for conducting Election of Office Bearers of AOE & AEA for the year 2019-2021.
7) Action to be taken on sanctioned posts of all temporary posts as permanent posts.
8) Any other Subjects.

All the Central Executive Committee Members of AOE & AEA are requested to make it convenient to attend the above meeting and offer their candid views for the betterment of our Association.

Er.M.DHANASEKARAN,
General Secretary, AEA

Er.K.ANBU,
General Secretary, AOE

To

All Parent body Office bearers of AOE & AEA and President, Secretary & Treasurers of all branches of AOE & AEA.

Note: Those who want accommodation may write to the Secretary, AOE & Secretary, AEA, **Salem Branch** and their addresses and contact numbers are given as below:

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